

**UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
Washington, D.C. 20549**

**FORM S-1  
REGISTRATION STATEMENT  
UNDER  
THE SECURITIES ACT OF 1933**

**SAGE THERAPEUTICS, INC.**

(Exact name of Registrant as specified in its charter)

Delaware  
(State or other jurisdiction of  
incorporation or organization)

2834  
(Primary Standard Industrial  
Classification Code Number)

27-4486580  
(I.R.S. Employer  
Identification No.)

215 First Street  
Cambridge, Massachusetts 02142  
(617) 299-8380

(Address, including zip code and telephone number, including area code, of Registrant's principal executive offices)

Jeffrey M. Jonas, M.D.  
President and Chief Executive Officer  
Sage Therapeutics, Inc.

215 First Street  
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(617) 299-8380

(Name, address, including zip code and telephone number, including area code, of agent for service)

*Copies to:*

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**Approximate date of commencement of proposed sale to public:** As soon as practicable after this Registration Statement becomes effective.

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, check the following box:

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering:

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering:

If this Form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering:

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act.

Large Accelerated Filer  Accelerated Filer   
Non-Accelerated Filer (Do not check if a smaller reporting company)  Smaller Reporting Company

**CALCULATION OF REGISTRATION FEE**

Title of Each Class of Securities to be Registered	Proposed Maximum Aggregate Offering Price(1)	Amount of Registration Fee(2)
Common Stock, par value \$0.0001 per share		

- (1) Estimated solely for the purpose of calculating the registration fee pursuant to Rule 457(o) under the Securities Act. Includes the offering price of shares that the underwriters have the option to purchase to cover over-allotments, if any.
- (2) Calculated pursuant to Rule 457(o) under the Securities Act based on an estimate of the proposed maximum aggregate offering price.

The Registrant hereby amends this Registration Statement on such date or dates as may be necessary to delay its effective date until the Registrant shall file a further amendment which specifically states that this Registration Statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933 or until the Registration Statement shall become effective on such date as the Commission, acting pursuant to said Section 8(a), may determine.

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The information in this preliminary prospectus is not complete and may be changed. We may not sell these securities until the registration statement filed with the Securities and Exchange Commission is effective. This preliminary prospectus is not an offer to sell these securities and it is not soliciting an offer to buy these securities in any jurisdiction where the offer or sale is not permitted.

Subject to Completion, dated May 9, 2014.

Preliminary prospectus

Shares



Common Stock

This is the initial public offering of shares of common stock of Sage Therapeutics, Inc. We are selling \_\_\_\_\_ shares of common stock.

Prior to this offering, there has been no public market for our common stock. The initial public offering price is expected to be between \$ \_\_\_\_\_ and \$ \_\_\_\_\_ per share.

We have applied to list our common stock on The NASDAQ Global Market under the symbol "SAGE."

We are an "emerging growth company" as that term is used in the Jumpstart Our Business Startups Act of 2012, and, as such, we have elected to take advantage of certain reduced reporting requirements for this prospectus and may elect to comply with certain reduced public company reporting requirements for future filings.

	<u>Per Share</u>	<u>Total</u>
Initial public offering price	\$	\$
Underwriting discounts and commissions <sup>(1)</sup>	\$	\$
Proceeds to Sage Therapeutics, Inc. before expenses	\$	\$

(1) See "Underwriting" beginning on page 152 for additional information regarding underwriting compensation.

We have granted the underwriters an option to purchase up to additional \_\_\_\_\_ shares of common stock to cover over-allotments.

*Investing in our common stock involves a high degree of risk. See "[Risk Factors](#)" beginning on page 11.*

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

The underwriters expect to deliver the shares on or about \_\_\_\_\_, 2014.

**J.P. Morgan**

**Leerink Partners  
Canaccord Genuity**

**Goldman, Sachs & Co.**

Prospectus dated \_\_\_\_\_, 2014

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Until \_\_\_\_\_, 2014, all dealers that effect transactions in these securities, whether or not participating in this offering, may be required to deliver a prospectus. This is in addition to the dealers' obligation to deliver a prospectus when acting as underwriters and with respect to their unsold allotments or subscriptions.

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We and the underwriters have not authorized anyone to provide any information other than that contained in this prospectus or in any free writing prospectus prepared by or on behalf of us or to which we have referred you. We take no responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you. We and the underwriters are not making an offer to sell these securities in any jurisdiction where the offer or sale is not permitted. You should assume that the information appearing in this prospectus is accurate only as of the date on the front cover of this prospectus. Our business, financial condition, results of operations and prospects may have changed since that date.

For investors outside of the United States: We have not, and the underwriters have not, done anything that would permit this offering or possession or distribution of this prospectus in any jurisdiction where action for that purpose is required, other than the United States. Persons outside of the United States who come into possession of this prospectus must inform themselves about, and observe any restrictions relating to, the offering of the shares of common stock and the distribution of this prospectus outside of the United States.

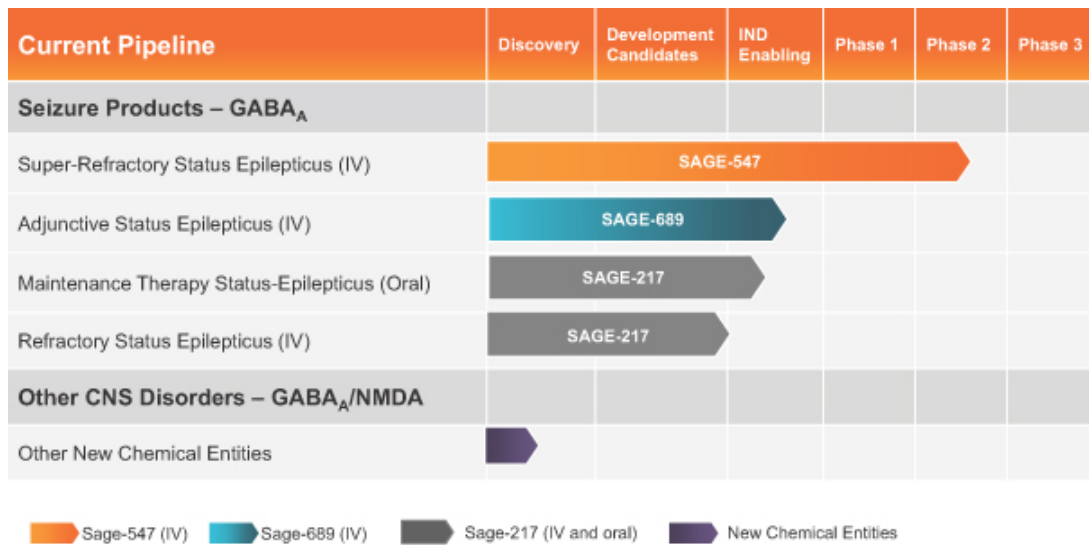
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**PROSPECTUS SUMMARY**

*This summary highlights information contained elsewhere in this prospectus and does not contain all of the information that you should consider in making your investment decision. Before investing in our common stock, you should carefully read this entire prospectus, including our financial statements and the related notes included elsewhere in this prospectus. You should also consider, among other things, the matters described under “Risk Factors” and “Management’s Discussion and Analysis of Financial Condition and Results of Operations,” in each case appearing elsewhere in this prospectus. Unless otherwise stated, all references to “us,” “our,” “SAGE,” “we,” the “Company” and similar designations refer to Sage Therapeutics, Inc.*

**Overview**

We are a biopharmaceutical company committed to developing and commercializing novel medicines to treat life-threatening, rare central nervous system, or CNS, disorders, where there are inadequate or no approved existing therapies. We are targeting CNS indications where patient populations are easily identified, acute treatment is typically initiated in the hospital setting, clinical endpoints are well-defined, and development pathways are feasible. This focus allows us to make highly informed decisions when advancing our product candidates through the development process. Our initial product candidates, which are summarized in the following table, are aimed at treating different stages of status epilepticus, or SE, a life-threatening condition in which the brain is in a state of persistent seizure.



The lead product candidate in our SE program, SAGE-547, is an intravenous, or IV, agent in Phase 1/2 clinical development as an adjunctive therapy, a therapy combined with current therapeutic approaches, for the treatment of super-refractory SE, or SRSE. The current standard of care for SRSE is empiric, and there are no therapies at present that have been specifically approved for this indication. We thus believe there is a significant unmet medical need for SAGE-547.

Our follow-on product candidates, SAGE-689 and SAGE-217, utilize similar mechanistic pathways as SAGE-547 and are designed to have pharmaceutical properties which optimize both their non-clinical profiles and potential clinical profiles for the treatment of different stages of SE.

SAGE was founded in 2010, based on leading research in the areas of brain function and neuroactive steroids, to explore novel approaches to CNS therapeutics. Since our inception, we have continued to expand our know-how of CNS therapeutics through our research and development programs and to pursue intellectual property protection for our proprietary chemistry platform. In addition, we have assembled a world-class management team that together has been a part of the successful discovery, development and commercialization of more than 20 marketed CNS therapies.

### ***Status Epilepticus***

SE is a medical emergency and is treated with aggressive pharmacological approaches. SE is diagnosed when a patient has a seizure lasting longer than five minutes, and is associated with substantial morbidity and mortality. We estimate that in the United States each year there are up to 150,000 cases of SE, of which 30,000 SE patients die. We estimate that there are 35,000 patients with SE in the United States that are hospitalized in the intensive care unit, or ICU, each year. This results in an overall inpatient cost of \$3.8 billion to \$7.0 billion per year in the United States. An SE patient is first treated with benzodiazepines, or BDZs, and if no response then treated with other, second-line, anti-seizure drugs. If the seizure persists after second-line therapy the patient is diagnosed as having refractory SE, or RSE, admitted to the ICU and placed into a medically induced coma. Currently, there are no therapies that have been specifically approved for RSE; however, physicians typically use anesthetic agents to induce the coma and stop the seizure immediately. After a period of 24 hours, an attempt is made to wean the patient from the anesthetic agents to evaluate whether or not the seizure condition has resolved. Unfortunately, not all patients respond to weaning attempts, in which case the patient must be maintained in the medically induced coma. At this point, the patient is diagnosed as having SRSE.

### ***SAGE-547 Clinical Development Program***

Prior to the start of our Phase 1/2 clinical trial of SAGE-547, we compiled evidence which we believe supports the safety and activity of SAGE-547 for treatment of SRSE. Four patients were treated with SAGE-547 by independent centers under emergency-use Investigational New Drug Applications, or INDs. Of note, each individual case of SRSE arose from a presumed different underlying etiology, the patients were of varying ages (2 to 28), and all patients had been placed in a long-duration medically induced coma. In each case SAGE-547 was administered with a target steady state exposure similar to that planned for our ongoing Phase 1/2 clinical trial. Each of the four patients treated with SAGE-547 achieved resolution of SRSE either during the course of or soon after SAGE-547 treatment.

On October 30, 2013, we filed an IND for SAGE-547 for the treatment of SRSE with the U.S. Food and Drug Administration, or FDA, and we received notification allowing us to proceed with our Phase 1/2 clinical trial of SAGE-547 on November 27, 2013. We commenced our Phase 1/2 clinical trial to study safety, tolerability and efficacy of SAGE-547 in adult patients with SRSE in January 2014. This clinical trial is an open-label study in at least ten patients diagnosed with SRSE. Currently, there are four active study sites in the United States, and we plan to open up to 16 additional study sites in the United States to achieve full enrollment of this clinical trial. As of the date of this prospectus, three patients have been enrolled in this trial and treated with SAGE-547. While data collection in these patients is ongoing, all three patients met the key efficacy endpoint, in that each was successfully weaned off his or her anesthetic agent while SAGE-547 was being administered. One patient was subsequently weaned off SAGE-547 without recurrence of SE and subsequently discharged to a rehabilitation facility. The other two patients experienced recurrence of SE upon withdrawal of SAGE-547, providing preliminary evidence of the pharmacologic effect of SAGE-547. In April 2014, the FDA, granted us orphan drug designation for SAGE-547 as a treatment for SE.

### ***Follow-On Product Candidates***

SAGE-689 and SAGE-217, two additional product candidates in our SE program, are currently in IND-enabling toxicology and safety pharmacology testing. SAGE-689 is being developed as an adjunctive second-line therapy for the treatment of SE, and SAGE-217 is being developed as both an IV monotherapy for the treatment of RSE, and as an orally delivered maintenance therapeutic to prevent recurrent seizures in patients whose SE, RSE or SRSE has resolved.

We anticipate that SAGE-217 may also have the potential for use in a broader range of seizure conditions beyond maintenance therapy. In addition, we believe SAGE-217 or other related molecules from our portfolio may be useful in the treatment of a variety of neurological and psychiatric disorders, including, for example, fragile X syndrome, Rett syndrome and Dravet syndrome. With respect to our near-term SE programs, we plan to file an IND for SAGE-689 in the second half of 2014 and to begin a Phase 1 clinical trial thereafter. We are currently conducting IND-enabling studies of SAGE-217, with a plan to file an IND in the first half of 2015.

### ***Understanding the Foundations of Our Approach***

#### ***Neurotransmission***

The CNS is composed of a vast and complex network of different structures and cell types, most of which serve directly or indirectly to provide a means for the nervous system to signal or communicate with other nerve cells in order to regulate and control all brain function. The cell type responsible for this signaling is called a neuron. Chemical or electrical signals can exert their effects on neurons by traveling across a physical gap located between two neurons, called a synapse. Presynaptic neurons transmit signals, whereas postsynaptic neurons react to the signals.

Neurotransmission is the process by which signaling molecules, called neurotransmitters, are released by a presynaptic neuron, travel over the synaptic space and bind to and interact with receptors on a postsynaptic neuron. Synaptic receptors are primarily located inside the synaptic cleft, or the space where the neurons communicate, and have been historically considered to be the most important part of the neuron. However, recent understanding of neurotransmission and brain function has shown there are many extrasynaptic receptors that also respond to neurotransmitters to exert their effects.

#### ***Allosteric modulation***

We are focused on developing drugs based on selective allosteric modulation of key CNS synaptic and extrasynaptic receptors. Molecules that function directly on synaptic or extrasynaptic receptors at the site where the native, or natural, molecule binds to inhibit or activate them are known as orthosteric. Alternatively, allosteric modulators are a class of small molecules very different from classical orthosteric drugs, as they interact at a site different from the native site and allow for fine-tuning of neuronal signals. As a result, our drugs under development are capable of varying degrees of desired activity rather than complete activation or inhibition of the receptor as typically observed with orthosteric drugs. We believe this greater selectivity and modulatory control at extrasynaptic GABA<sub>A</sub> receptors may allow us to develop CNS drugs that offer significant therapeutic and safety advantages over orthosteric drugs.

*Allosteric modulation of extrasynaptic GABA<sub>A</sub> receptors to treat SE*

Our current near-term product candidates are allosteric modulators of both synaptic and extrasynaptic, or existing outside of the synapse, GABA<sub>A</sub> receptors, a characteristic important in distinguishing our approach from current therapies. While altering the level of synaptic GABA<sub>A</sub> receptor activity can be beneficial in stopping seizures, this approach has limitations for the treatment of SE. As SE progresses in many patients, select synaptic GABA<sub>A</sub> receptors are down-regulated, or removed from the neuronal synaptic surface. As a result, drugs that target down-regulated receptors, such as BDZs, often are not effective in stopping SE. In contrast, our product candidates work at both the synaptic and extrasynaptic GABA<sub>A</sub> receptors. Non-clinical studies suggest that these extrasynaptic GABA<sub>A</sub> receptors remain fully active during SE, offering the potential for drugs that impact GABA via the extrasynaptic GABA<sub>A</sub> receptor to alter GABA activity and abate seizure. We believe that by creating compounds that target both these receptors, we may be successful in treating seizures that do not respond to BDZ therapy.

*Allosteric modulation of GABA<sub>A</sub> and NMDA receptors to address other CNS conditions*

Now and in the foreseeable future, our product development pipeline will be focused on allosteric modulation of two important receptor systems in the brain—GABA<sub>A</sub> and NMDA. These receptor systems regulate inhibitory and excitatory neurotransmission, respectively, and are broadly accepted as impacting many psychiatric and neurological disorders. GABA<sub>A</sub> and NMDA receptor systems are widely regarded as validated drug targets for a variety of CNS disorders, with decades of research and multiple approved drugs targeting these receptor systems. Drugs approved to modulate these receptor systems have had safety and efficacy limitations related to their poor pharmaceutical properties and adverse side effects. We believe that we will have the opportunity to develop molecules from our internal portfolio to more effectively address many of these disorders in the future.

*Our proprietary chemistry platform*

Our ability to identify and develop such novel CNS therapies is enabled by our proprietary chemistry platform that is centered on a scaffold of chemically modified endogenous neuroactive steroid compounds. We believe our know-how around the chemistry and activity of allosteric modulators allows us to efficiently design molecules with different characteristics by enabling us to control important properties such as half-life, brain penetration and the types of receptors with which our drugs interact. Therefore, we believe our product candidates will have the potential to bind with targets in the brain with more precision, increased safety and tolerability, and fewer off-target side effects than either current CNS therapies or previous therapies, which have often failed in development.

**Our Strategy**

Our goal is to become a leading biopharmaceutical company focused on development and commercialization of novel proprietary therapies for the treatment of life-threatening, rare CNS disorders.

Key elements of our strategy are to:

- Rapidly advance SAGE-547 as a treatment for SRSE.
- Develop our follow-on SE product candidates, SAGE-689 and SAGE-217, in parallel to SAGE-547.
- Enhance the probability of success in treating SE by developing unique assets with differentiated features.

- ÿ Grow our pipeline more broadly utilizing the strengths of our proprietary chemistry platform and scientific know-how, to lessen our long-term reliance on a single franchise and facilitate long-term growth.
- ÿ Focus our internal development activities on CNS indications where we can make well-informed, rapid go/no-go decisions.
- ÿ Build a commercial capability to bring our CNS therapeutics to physicians and patients for rare target indications.
- ÿ Selectively partner our programs to enhance our value.

#### **Risk Factors**

Our business is subject to many risks and uncertainties of which you should be aware before you decide to invest in our common stock. These risks are discussed more fully under "Risk Factors" in this prospectus. Some of these risks include:

- ÿ We depend heavily on the success of the product candidates within our SE program, of which SAGE-547 is in Phase 1/2 clinical development and SAGE-689 and SAGE-217 are in non-clinical development. We cannot be certain that we will be able to obtain regulatory approval for, or successfully commercialize, any of our product candidates.
- ÿ The number of patients suffering from SE, RSE or SRSE is small and has not been established with precision. If the actual number of patients with SE, RSE or SRSE is smaller than we anticipate, we may encounter difficulties in enrolling patients in our clinical trials, thereby delaying or preventing development of our product candidates, and if any of our product candidates are approved, we believe our revenue and ability to achieve profitability would be materially adversely affected.
- ÿ Positive results from early non-clinical studies and clinical trials of our product candidates are not necessarily predictive of the results of later non-clinical studies and clinical trials of our product candidates. If we cannot replicate the positive results from our earlier non-clinical studies and clinical trials of our product candidates in our later non-clinical studies and clinical trials, we may be unable to successfully develop, obtain regulatory approval for and commercialize our product candidates.
- ÿ Failures or delays in the commencement or completion of our planned clinical trials of our product candidates could result in increased costs to us and could delay, prevent or limit our ability to generate revenue and continue our business.
- ÿ Even though we have obtained orphan drug designation for SAGE-547 as a treatment for SE, there may be limitations to the exclusivity afforded by such designation.
- ÿ We rely, and expect that we will continue to rely, on third parties to conduct any clinical trials for our product candidates. If these third parties do not successfully carry out their contractual duties or meet expected deadlines, we may not be able to obtain regulatory approval for or commercialize our product candidates and our business could be substantially harmed.
- ÿ We are dependent on licensed intellectual property. If we were to lose our rights to licensed intellectual property, we may not be able to continue developing or commercializing our product candidates, if approved.
- ÿ If we are unable to adequately protect our proprietary technology, or to obtain and maintain issued patents that are sufficient to protect our product candidates, others could compete against us more directly, which would have a material adverse impact on our business, results of operations, financial condition and prospects.



Ÿ Our future success depends on our ability to retain our President and Chief Executive Officer and to attract, retain and motivate qualified personnel.

*Implications of being an emerging growth company*

We qualify as an “emerging growth company” as defined in the Jumpstart Our Business Startups Act of 2012, or the JOBS Act. As an emerging growth company, we may take advantage of specified reduced disclosure and other requirements that are otherwise applicable generally to public companies. These provisions include:

- Ÿ two years of audited financial statements in addition to any required unaudited interim financial statements with correspondingly reduced “Management’s Discussion and Analysis of Financial Condition and Results of Operations” disclosure;
- Ÿ reduced disclosure about our executive compensation arrangements;
- Ÿ no non-binding advisory votes on executive compensation or golden parachute arrangements; and
- Ÿ exemption from the auditor attestation requirement in the assessment of our internal control over financial reporting.

We may take advantage of these exemptions for up to five years or such earlier time that we are no longer an emerging growth company. We would cease to be an emerging growth company on the date that is the earliest of (i) the last day of the fiscal year in which we have total annual gross revenues of \$1 billion or more; (ii) the last day of our fiscal year following the fifth anniversary of the date of the completion of this offering; (iii) the date on which we have issued more than \$1 billion in nonconvertible debt during the previous three years; or (iv) the date on which we are deemed to be a large accelerated filer under the rules of the Securities and Exchange Commission, or SEC, which means the market value of our common stock that is held by non-affiliates exceeds \$700 million as of the prior June 30th. We may choose to take advantage of some but not all of these exemptions. We have taken advantage of reduced reporting requirements in this prospectus. Accordingly, the information contained herein may be different than the information you receive from other public companies in which you hold stock. Also, we have irrevocably elected to “opt out” of the exemption for the delayed adoption of certain accounting standards and, therefore, will be subject to the same new or revised accounting standards as other public companies that are not emerging growth companies.

**Corporate History and Information**

We were incorporated under the laws of the state of Delaware in April 2010. Our principal executive office is located at 215 First Avenue, Cambridge, Massachusetts, and our telephone number is (617) 299-8380. Our website address is [www.sagerx.com](http://www.sagerx.com). We do not incorporate the information on or accessible through our website into this prospectus, and you should not consider any information on, or that can be accessed through, our website as part of this prospectus.

We own various U.S. federal trademark registrations and applications and unregistered trademarks, including our corporate logo. All other trademarks or trade names referred to in this prospectus are the property of their respective owners. Solely for convenience, the trademarks and trade names in this prospectus may be referred to without the ® and ™ symbols, but such references should not be construed as any indicator that their respective owners will not assert, to the fullest extent under applicable law, their rights thereto.

**THE OFFERING**

Common stock offered by us	shares
Common stock to be outstanding after this offering	shares
Over-allotment option	We have granted the underwriters an option to purchase a maximum of additional shares of common stock from us. The underwriters can exercise this option at anytime within 30 days from the date of this prospectus.
Use of proceeds	We estimate that we will receive net proceeds from the sale of shares of our common stock in this offering of approximately \$      million, or \$      million if the underwriters fully exercise their option to purchase additional shares, assuming an initial public offering price of \$      per share, the midpoint of the price range set forth on the cover page of this prospectus, and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us. We intend to use the net proceeds from this offering to fund Phase 1/2 clinical development of SAGE-547, to fund IND-enabling activities and Phase 1 clinical development of SAGE-689, to fund IND-enabling activities for SAGE-217, to fund new and ongoing research and development activities and for working capital and other general corporate purposes. See "Use of Proceeds" for additional information.
Risk factors	You should read carefully "Risk Factors" beginning on page 11 and other information included in this prospectus for a discussion of factors that you should consider before deciding to invest in shares of our common stock.
Proposed NASDAQ Global Market symbol	"SAGE"

The number of shares of common stock to be outstanding after this offering is based on 6,156,250 shares of common stock outstanding as of March 31, 2014, which includes 862,397 shares that are subject to repurchase by us and are not considered outstanding for accounting purposes until vested, and excludes:

- 4,853,500 shares of common stock issuable upon exercise of outstanding options as of March 31, 2014 at a weighted average exercise price of \$0.45 per share;
- 2,890,250 shares of common stock reserved for future issuance under our 2011 Stock Option and Grant Plan, or 2011 Stock Option Plan, as of March 31, 2014; and
- shares of our common stock reserved for future issuance under our 2014 Stock Option and Incentive Plan, or 2014 Stock Option, which will become effective upon the completion of this offering.

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Except as otherwise indicated, all information in this prospectus assumes or gives effect to:

- the automatic conversion of all outstanding shares of our redeemable convertible preferred stock into an aggregate of 56,723,904 shares of our common stock upon the completion of this offering;
- no exercise of the outstanding options described above;
- no exercise by the underwriters of their option to purchase up to an additional \_\_\_\_\_ shares of our common stock in this offering;
- our amended and restated certificate of incorporation and our amended and restated by-laws, both of which we will file immediately prior to the completion of this offering; and
- a -for- reverse stock split of our common stock to be effected prior to the completion of this offering.

### SUMMARY FINANCIAL DATA

You should read the following summary financial data together with our financial statements and the related notes appearing at the end of this prospectus and the "Selected Financial Data" and "Management's Discussion and Analysis of Financial Condition and Results of Operations" sections of this prospectus. We have derived the statement of operations data for the years ended December 31, 2012 and 2013 from our audited financial statements included elsewhere in this prospectus. We have derived the statement of operations data for the three months ended March 31, 2013 and 2014 and for the cumulative period from inception (April 16, 2010) through March 31, 2014 and the balance sheet data as of March 31, 2014 from our unaudited consolidated financial statements included elsewhere in this prospectus. The unaudited financial data have been prepared on the same basis as the audited consolidated financial statements and, in management's opinion, include all adjustments, consisting only of normal recurring adjustments, necessary for a fair presentation of the financial information as of and for the periods presented. Our historical results are not necessarily indicative of results that should be expected in the future, and results for the three months ended March 31, 2014 are not necessarily indicative of the results to be expected for the full year ending December 31, 2014.

	Year Ended December 31,		Three Months Ended March 31,		Cumulative Period From Inception (April 16, 2010) to March 31, 2014
	2012	2013	2013	2014	
	(in thousands, except per share data)				
<b>Statement of operations data:</b>					
Operating expenses:					
Research and development	\$ 7,229	\$ 14,357	\$ 2,583	\$ 4,173	\$ 28,268
General and administrative	2,402	3,922	806	1,617	9,146
Total operating expenses	9,631	18,279	3,389	5,790	37,414
Loss from operations	(9,631)	(18,279)	(3,389)	(5,790)	(37,414)
Interest income (expense), net	—	1	—	—	(46)
Other income (expense), net	(1)	(3)	—	—	(5)
Net loss	(9,632)	(18,281)	(3,389)	(5,790)	(37,465)
Accretion of redeemable convertible preferred stock to redemption value	(4)	(7)	—	(326)	(338)
Net loss attributable to common stockholders	<u>\$(9,636)</u>	<u>\$(18,288)</u>	<u>\$(3,389)</u>	<u>\$(6,116)</u>	<u>\$ (37,803)</u>
Net loss per share attributable to common stockholders—basic and diluted <sup>(1)</sup>	<u>\$ (2.74)</u>	<u>\$ (3.89)</u>	<u>\$ (0.76)</u>	<u>\$ (1.17)</u>	
Weighted average common shares outstanding—basic and diluted <sup>(1)</sup>	<u>3,523</u>	<u>4,701</u>	<u>4,475</u>	<u>5,206</u>	
Pro forma net loss per share attributable to common stockholders—basic and diluted (unaudited) <sup>(2)</sup>		<u>\$ (0.61)</u>		<u>\$ (0.11)</u>	
Pro forma weighted average common shares outstanding— basic and diluted (unaudited) <sup>(2)</sup>		<u>29,971</u>		<u>52,839</u>	

	As of March 31, 2014		
	Actual	Pro Forma <sup>(3)</sup>	Pro Forma As Adjusted <sup>(4)</sup>
	(in thousands)		
<b>Balance sheet data:</b>			
Cash and cash equivalents	\$ 55,425	\$ 55,425	\$
Working capital <sup>(5)</sup>	53,572	53,572	
Total assets	56,777	56,777	
Redeemable convertible preferred stock	91,011	—	
Total stockholders' equity (deficit)	(37,358)	53,653	

- (1) See Note 9 to our financial statements for further details on the calculation of basic and diluted net loss per share attributable to common stockholders.
- (2) See Note 9 to our financial statements for further details on the calculation of basic and diluted pro forma net loss per share attributable to common stockholders.
- (3) Pro forma balance sheet data give effect to the automatic conversion of all outstanding shares of our redeemable convertible preferred stock into an aggregate of 56,723,904 shares of our common stock upon the completion of this offering.
- (4) Pro forma as adjusted balance sheet data give effect to the pro forma adjustment described in footnote (3) above as well as the sale by us of \_\_\_\_\_ shares of our common stock in this offering at an assumed initial public offering price of \$ \_\_\_\_\_ per share, the midpoint of the price range set forth on the cover page of this prospectus, after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us. A \$1.00 increase (decrease) in the assumed initial public offering price of \$ \_\_\_\_\_ per share, the midpoint of the price range set forth on the cover page of this prospectus, would increase (decrease) the pro forma as adjusted amount of each of cash and cash equivalents, working capital, total assets and total stockholders' equity by \$ \_\_\_\_\_ million, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us. An increase (decrease) of \_\_\_\_\_ shares in the number of shares offered by us, as set forth on the cover page of this prospectus, would increase (decrease) the pro forma as adjusted amount of each of cash and cash equivalents, working capital, total assets and total stockholders' equity by \$ \_\_\_\_\_ million, assuming the assumed initial public offering price remains the same and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us. A \_\_\_\_\_ share increase in the number of shares offered by us together with a concomitant \$1.00 increase in the assumed initial public offering price of \$ \_\_\_\_\_ per share, the midpoint of the price range set forth on the cover page of this prospectus, would increase the pro forma as adjusted amount of each of cash and cash equivalents, working capital, total assets and total stockholders' equity by \$ \_\_\_\_\_ million after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us. Conversely, a \_\_\_\_\_ share decrease in the number of shares offered by us together with a concomitant \$1.00 decrease in the assumed initial public offering price of \$ \_\_\_\_\_ per share, the midpoint of the price range set forth on the cover page of this prospectus, would decrease the pro forma as adjusted amount of each of cash and cash equivalents, working capital, total assets and total stockholders' equity by \$ \_\_\_\_\_ million after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us. The pro forma as adjusted data above is illustrative only and will be adjusted based on the actual initial public offering price and other terms of our initial public offering determined at pricing.
- (5) We define working capital as current assets less current liabilities.

## RISK FACTORS

*Investing in our common stock involves a high degree of risk. You should carefully consider the following risks and uncertainties, together with all other information in this prospectus, including our financial statements and related notes, before investing in our common stock. Any of the risk factors we describe below could adversely affect our business, financial condition or results of operations. The market price of our common stock could decline if one or more of these risks or uncertainties actually occur, causing you to lose all or part of the money you paid to buy our common stock. Additional risks that we currently do not know about or that we currently believe to be immaterial may also impair our business. Certain statements below are forward-looking statements. See "Cautionary Note Regarding Forward-Looking Statements" in this prospectus.*

### **Risks Related to Product Development, Regulatory Approval and Commercialization**

***We depend heavily on the success of the product candidates within our status epilepticus, or SE, program, of which SAGE-547 is in Phase 1/2 clinical development and SAGE-689 and SAGE-217 are in non-clinical development. We cannot be certain that we will be able to obtain regulatory approval for, or successfully commercialize, any of our product candidates.***

We currently have no drug products for sale and may never be able to develop marketable drug products. Our business depends heavily on the successful non-clinical and clinical development, regulatory approval and commercialization of the product candidates in our lead program in SE, of which only one product candidate, SAGE-547, is in Phase 1/2 clinical development for the treatment of super-refractory SE, or SRSE, and our other product candidates, SAGE-689 and SAGE-217, are in non-clinical development. SAGE-547 will require substantial additional clinical development, testing and regulatory approval before we are permitted to commence its commercialization. Our other product candidates, including SAGE-689 and SAGE-217, are still in non-clinical development stages. The non-clinical studies and clinical trials of our product candidates are, and the manufacturing and marketing of our product candidates will be, subject to extensive and rigorous review and regulation by numerous government authorities in the United States and in other countries where we intend to test and, if approved, market any product candidate. Before obtaining regulatory approvals for the commercial sale of any product candidate, we must demonstrate through non-clinical studies and clinical trials that the product candidate is safe and effective for use in each target indication. Drug development is a long, expensive and uncertain process, and delay or failure can occur at any stage of any of our clinical trials. This process can take many years and may include post-marketing studies and surveillance, which will require the expenditure of substantial resources beyond the proceeds we raise in this offering. Of the large number of drugs in development in the United States, only a small percentage will successfully complete the U.S. Food and Drug Administration, or FDA, regulatory approval process and will be commercialized. Accordingly, even if we are able to obtain the requisite financing to continue to fund our development and non-clinical studies and clinical trials, we cannot assure you that any of our product candidates will be successfully developed or commercialized.

We are not permitted to market our product candidates in the United States until we receive approval of a New Drug Application, or an NDA, from the FDA, or in any foreign countries until we receive the requisite approval from such countries. We have initiated a Phase 1/2 clinical trial to study safety, tolerability and efficacy of SAGE-547 in patients with SRSE. If our Phase 1/2 clinical trial of SAGE-547 is successful, we expect that the FDA will require us to complete at least one pivotal trial in order to submit an NDA for SAGE-547 as a treatment for SRSE patients. However, the FDA may require that we conduct additional pivotal trials before we can submit an NDA for SAGE-547. We have had only limited feedback from the FDA on the design of our ongoing Phase 1/2 clinical trial of SAGE-547 and on what would be required in a pivotal clinical trial of SAGE-547. Before beginning our pivotal

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trial for SAGE-547, we will need to complete our long-term toxicity studies in two animal species, which we anticipate will be completed in the second quarter of 2014. The FDA may also require us to conduct additional non-clinical studies before submitting an NDA for SAGE-547.

Both SAGE-689 and SAGE-217 are in non-clinical development and have yet to begin the clinical development process. We plan to file an Investigational New Drug, or IND, application for SAGE-689 in the second half of 2014 and to begin a Phase 1 clinical trial thereafter.

Obtaining approval of an NDA is a complex, lengthy, expensive and uncertain process, and the FDA may delay, limit or deny approval of any of our product candidates for many reasons, including, among others:

- we may not be able to demonstrate that our product candidates are safe and effective in treating SE, refractory SE, or RSE, or SRSE, as applicable, to the satisfaction of the FDA;
- the results of our non-clinical studies and clinical trials may not meet the level of statistical or clinical significance required by the FDA for marketing approval;
- the FDA may disagree with the number, design, size, conduct or implementation of our non-clinical studies and clinical trials;
- the FDA may require that we conduct additional non-clinical studies and clinical trials;
- the FDA or the applicable foreign regulatory agency may not approve the formulation, labeling or specifications of any of our product candidates;
- the contract research organizations, or CROs, that we retain to conduct our non-clinical studies and clinical trials may take actions outside of our control that materially adversely impact our non-clinical studies and clinical trials;
- the FDA may find the data from non-clinical studies and clinical trials insufficient to demonstrate that our product candidates' clinical and other benefits outweigh their safety risks;
- the FDA may disagree with our interpretation of data from our non-clinical studies and clinical trials;
- the FDA may not accept data generated at our non-clinical studies and clinical trial sites;
- if our NDA, if and when submitted, is reviewed by an advisory committee, the FDA may have difficulties scheduling an advisory committee meeting in a timely manner or the advisory committee may recommend against approval of our application or may recommend that the FDA require, as a condition of approval, additional non-clinical studies or clinical trials, limitations on approved labeling or distribution and use restrictions;
- the FDA may require development of a Risk Evaluation and Mitigation Strategy, or REMS, as a condition of approval or post-approval;
- the FDA or the applicable foreign regulatory agency may determine that the manufacturing processes or facilities of third-party manufacturers with which we contract do not conform to applicable requirements, including current Good Manufacturing Practices, or cGMPs; or
- the FDA or applicable foreign regulatory agency may change its approval policies or adopt new regulations.

Any of these factors, many of which are beyond our control, could jeopardize our ability to obtain regulatory approval for and successfully market our product candidates. Any such setback in our pursuit of regulatory approval would have a material adverse effect on our business and prospects.

***The number of patients suffering from SE, RSE and SRSE is small or has not been established with precision. If the actual number of patients with SE, RSE and SRSE is smaller than we anticipate, we may encounter difficulties in enrolling patients in our clinical trials, thereby delaying or preventing development of our product candidates, and if any of our product candidates are approved, we believe our revenue and ability to achieve profitability would be materially adversely affected.***

There is no precise method of establishing actual number of patients with SE, RSE or SRSE in any geography over any time period. Moreover, SE, RSE and SRSE are acute episode conditions. If we are not able to identify patients at the time of SE, RSE or SRSE onset, we will have difficulty completing our clinical trials. We estimate that the annual incidence of SE, RSE and SRSE in the United States is up to 150,000, 35,000 and 25,000 patients, respectively. If the actual number of patients with SE, RSE or SRSE is lower than we believe, we may experience difficulty in enrolling patients in our clinical trials, thereby delaying development of our product candidates. Further, if any of our product candidates are approved, the markets for our product candidates for these indications would be smaller than we anticipate, which could limit our ability to achieve profitability.

***Favorable results from the emergency-use cases of SAGE-547 do not ensure that clinical trials will be successful and the results in any future emergency-use cases may not be positive and could adversely impact our clinical development plans.***

SAGE-547 has been administered to a small number of patients as part of emergency-use cases, which permitted the administration of SAGE-547 outside of clinical trials. No assurance can be given that positive results observed to date in these emergency-use cases are attributable to SAGE-547, as they were not carried out in the controlled environment of a clinical trial. Further, no assurance can be provided that administration of SAGE-547 to other patients in any future emergency-use cases or otherwise will have positive results. Emergency use is a term that is used to refer to the use of an investigational drug outside of a clinical trial to treat a patient with a serious or immediately life-threatening disease or condition who has no comparable or satisfactory alternative treatment options. Regulators often allow emergency use on a case-by-case basis for an individual patient or for defined groups of patients with similar treatment needs. In the event there are negative results in future emergency-use cases, it could adversely affect or delay our clinical development of SAGE-547.

***If serious adverse events or other undesirable side effects are identified during the use of SAGE-547 in emergency-use cases or in investigator sponsored trials of SAGE-547, it may adversely effect our development of SAGE-547 for SRSE.***

In addition to use in emergency cases as described above, SAGE-547 is currently being tested in an investigator sponsored clinical trial for the treatment of traumatic brain injury, or TBI, by one of our collaborators. If serious adverse events or other undesirable side effects, or unexpected characteristics of SAGE-547 are observed in emergency-use cases or in investigator sponsored clinical trials of SAGE-547, it may adversely affect or delay our clinical development of SAGE-547, or we may need to abandon its development for SRSE entirely, and the occurrence of these events would have a material adverse effect on our business.

***Positive results from early non-clinical studies and clinical trials of our product candidates are not necessarily predictive of the results of later non-clinical studies and clinical trials of our product candidates. If we cannot replicate the positive results from our earlier non-clinical studies and clinical trials of our product candidates in our later non-clinical studies and clinical trials, we may be unable to successfully develop, obtain regulatory approval for and commercialize our product candidates.***

Positive results from our non-clinical studies of our product candidates, and any positive results we may obtain from our early clinical trials of our product candidates, may not necessarily be predictive



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of the results from required later non-clinical studies and clinical trials. Similarly, even if we are able to complete our planned non-clinical studies or clinical trials of our product candidates according to our current development timeline, the positive results from our non-clinical studies and clinical trials of our product candidates may not be replicated in subsequent non-clinical studies or clinical trial results. For example, although the first three patients treated with SAGE-547 in our Phase 1/2 clinical trial met the key efficacy endpoint and have not yet experienced any severe adverse events related to SAGE-547, future patients enrolled and treated with SAGE-547 in this trial may not have the same outcome. Also, our later-stage clinical trials could differ in significant ways from our ongoing Phase 1/2 clinical trial of SAGE-547, which could cause the outcome of these later-stage trials to differ from our earlier stage clinical trials. For example, these differences may include changes to inclusion and exclusion criteria, efficacy endpoints and statistical design. Many companies in the pharmaceutical and biotechnology industries have suffered significant setbacks in late-stage clinical trials after achieving positive results in early-stage development, and we cannot be certain that we will not face similar setbacks. These setbacks have been caused by, among other things, non-clinical findings made while clinical trials were underway or safety or efficacy observations made in non-clinical studies and clinical trials, including previously unreported adverse events. Moreover, non-clinical and clinical data are often susceptible to varying interpretations and analyses, and many companies that believed their product candidates performed satisfactorily in non-clinical studies and clinical trials nonetheless failed to obtain FDA approval. We have not completed any clinical trials for our product candidates yet, and if we fail to produce positive results in our planned non-clinical studies or clinical trials of any of our product candidates, the development timeline and regulatory approval and commercialization prospects for our product candidates, and, correspondingly, our business and financial prospects, would be materially adversely affected.

### ***Failures or delays in the commencement or completion of our planned clinical trials of our product candidates could result in increased costs to us and could delay, prevent or limit our ability to generate revenue and continue our business.***

We have commenced a Phase 1/2 clinical trial of SAGE-547 as a treatment for SRSE and will need to complete at least one additional trial prior to the submission of an NDA for SAGE-547. Successful completion of our clinical trials is a prerequisite to submitting an NDA to the FDA and, consequently, the ultimate approval and commercial marketing of SAGE-547 and our other product candidates. We do not know whether any of our clinical trials will begin or be completed on schedule, if at all, as the commencement and completion of clinical trials can be delayed or prevented for a number of reasons, including, among others:

- the FDA may deny permission to proceed with our planned clinical trials or any other clinical trials we may initiate, or may place a clinical trial on hold;
- delays in filing or receiving approvals of additional INDs that may be required;
- negative results from our ongoing non-clinical studies;
- delays in reaching or failing to reach agreement on acceptable terms with prospective CROs and clinical trial sites, the terms of which can be subject to extensive negotiation and may vary significantly among different CROs and trial sites;
- inadequate quantity or quality of a product candidate or other materials necessary to conduct clinical trials, for example delays in the manufacturing of sufficient supply of finished drug product;
- difficulties obtaining Institutional Review Board, or IRB, approval to conduct a clinical trial at a prospective site or sites;
- challenges in recruiting and enrolling patients to participate in clinical trials, including the small size of the patient population, acute nature of SRSE, the proximity of patients to trial sites,

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eligibility criteria for the clinical trial, the nature of the clinical trial protocol, the availability of approved effective treatments for the relevant disease and competition from other clinical trial programs for similar indications;

- severe or unexpected drug-related side effects experienced by patients in a clinical trial;
- delays in validating any endpoints utilized in a clinical trial;
- the FDA may disagree with our clinical trial design and our interpretation of data from clinical trials, or may change the requirements for approval even after it has reviewed and commented on the design for our clinical trials;
- reports from non-clinical or clinical testing of other CNS therapies that raise safety or efficacy concerns; and
- difficulties retaining patients who have enrolled in a clinical trial but may be prone to withdraw due to rigors of the clinical trials, lack of efficacy, side effects, personal issues or loss of interest.

Clinical trials may also be delayed or terminated as a result of ambiguous or negative interim results. In addition, a clinical trial may be suspended or terminated by us, the FDA, the IRBs at the sites where the IRBs are overseeing a clinical trial, a data and safety monitoring board, or DSMB, overseeing the clinical trial at issue or other regulatory authorities due to a number of factors, including, among others:

- failure to conduct the clinical trial in accordance with regulatory requirements or our clinical protocols;
- inspection of the clinical trial operations or trial sites by the FDA or other regulatory authorities that reveals deficiencies or violations that require us to undertake corrective action, including the imposition of a clinical hold;
- unforeseen safety issues, including any that could be identified in our ongoing non-clinical carcinogenicity studies, adverse side effects or lack of effectiveness;
- changes in government regulations or administrative actions;
- problems with clinical supply materials; and
- lack of adequate funding to continue clinical trials.

***Changes in regulatory requirements, FDA guidance or unanticipated events during our non-clinical studies and clinical trials of our product candidates may occur, which may result in changes to non-clinical studies and clinical trial protocols or additional non-clinical studies and clinical trial requirements, which could result in increased costs to us and could delay our development timeline.***

Changes in regulatory requirements, FDA guidance or unanticipated events during our non-clinical studies and clinical trials may force us to amend non-clinical studies and clinical trial protocols or the FDA may impose additional non-clinical studies and clinical trial requirements. Amendments or changes to our clinical trial protocols would require resubmission to the FDA and IRBs for review and approval, which may adversely impact the cost, timing or successful completion of clinical trials. Similarly, amendments to our non-clinical studies may adversely impact the cost, timing, or successful completion of those non-clinical studies. If we experience delays completing, or if we terminate, any of our non-clinical studies or clinical trials, or if we are required to conduct additional non-clinical studies or clinical trials, the commercial prospects for our product candidates may be harmed and our ability to generate product revenue will be delayed.

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***We rely, and expect that we will continue to rely, on third parties to conduct any clinical trials for our product candidates. If these third parties do not successfully carry out their contractual duties or meet expected deadlines, we may not be able to obtain regulatory approval for or commercialize our product candidates and our business could be substantially harmed.***

We do not have the ability to independently conduct clinical trials. We rely on medical institutions, clinical investigators, contract laboratories and other third parties, such as CROs, to conduct clinical trials on our product candidates. We enter into agreements with third-party CROs to provide monitors for and to manage data for our ongoing clinical trials. We rely heavily on these parties for execution of clinical trials for our product candidates and control only certain aspects of their activities. As a result, we have less direct control over the conduct, timing and completion of these clinical trials and the management of data developed through clinical trials than would be the case if we were relying entirely upon our own staff. Communicating with outside parties can also be challenging, potentially leading to mistakes as well as difficulties in coordinating activities. Outside parties may:

- have staffing difficulties;
- fail to comply with contractual obligations;
- experience regulatory compliance issues;
- undergo changes in priorities or become financially distressed; or
- form relationships with other entities, some of which may be our competitors.

These factors may materially adversely affect the willingness or ability of third parties to conduct our clinical trials and may subject us to unexpected cost increases that are beyond our control. Nevertheless, we are responsible for ensuring that each of our clinical trials is conducted in accordance with the applicable protocol, legal, regulatory and scientific requirements and standards, and our reliance on CROs does not relieve us of our regulatory responsibilities. We and our CROs are required to comply with regulations and guidelines, including current Good Clinical Practices, or cGCPs, for conducting, monitoring, recording and reporting the results of clinical trials to ensure that the data and results are scientifically credible and accurate, and that the trial patients are adequately informed of the potential risks of participating in clinical trials. These regulations are enforced by the FDA, the Competent Authorities of the Member States of the European Economic Area and comparable foreign regulatory authorities for any products in clinical development. The FDA enforces cGCP regulations through periodic inspections of clinical trial sponsors, principal investigators and trial sites. If we or our CROs fail to comply with applicable cGCPs, the clinical data generated in our clinical trials may be deemed unreliable and the FDA or comparable foreign regulatory authorities may require us to perform additional clinical trials before approving our marketing applications. We cannot assure you that, upon inspection, the FDA will determine that any of our clinical trials comply with cGCPs. In addition, our clinical trials must be conducted with product candidates produced under cGMPs regulations and will require a large number of test patients. Our failure or the failure of our CROs to comply with these regulations may require us to repeat clinical trials, which would delay the regulatory approval process and could also subject us to enforcement action up to and including civil and criminal penalties.

Although we do design our clinical trials for our product candidates, CROs conduct all of the clinical trials. As a result, many important aspects of our drug development programs are outside of our direct control. In addition, the CROs may not perform all of their obligations under arrangements with us or in compliance with regulatory requirements, but we remain responsible and are subject to enforcement action that may include civil penalties up to and including criminal prosecution for any violations of FDA laws and regulations during the conduct of our clinical trials. If the CROs do not perform clinical trials in a satisfactory manner, breach their obligations to us or fail to comply with regulatory requirements, the development and commercialization of our product candidates may be delayed or our development program materially and irreversibly harmed. We cannot control the amount

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and timing of resources these CROs devote to our program or our clinical products. If we are unable to rely on clinical data collected by our CROs, we could be required to repeat, extend the duration of, or increase the size of our clinical trials and this could significantly delay commercialization and require significantly greater expenditures.

If any of our relationships with these third-party CROs terminate, we may not be able to enter into arrangements with alternative CROs. If CROs do not successfully carry out their contractual duties or obligations or meet expected deadlines, if they need to be replaced or if the quality or accuracy of the clinical data they obtain is compromised due to the failure to adhere to our clinical protocols, regulatory requirements or for other reasons, any clinical trials such CROs are associated with may be extended, delayed or terminated, and we may not be able to obtain regulatory approval for or successfully commercialize our product candidates. As a result, we believe that our financial results and the commercial prospects for our product candidates in the subject indication would be harmed, our costs could increase and our ability to generate revenue could be delayed.

***We rely completely on third-party suppliers to manufacture our clinical drug supplies for our product candidates, and we intend to rely on third parties to produce non-clinical, clinical and commercial supplies of any future product candidate.***

We do not currently have, nor do we plan to acquire, the infrastructure or capability to internally manufacture our clinical drug supply of our product candidates, or any future product candidates, for use in the conduct of our non-clinical studies and clinical trials, and we lack the internal resources and the capability to manufacture any product candidates on a clinical or commercial scale. For example, SAGE-547 used in the emergency-use cases was manufactured at an academic site, the active pharmaceutical ingredient for SAGE-547 for our Phase 1/2 clinical trial was manufactured at an academic site and SAGE-547 as formulated for our Phase 1/2 clinical trial was manufactured at a third-party manufacturer's site. The facilities used by our contract manufacturers to manufacture the active pharmaceutical ingredient and final drug product must complete a pre-approval inspection by the FDA and other comparable foreign regulatory agencies to assess compliance with applicable requirements, including cGMPs, after we submit our NDA or relevant foreign regulatory submission to the applicable regulatory agency.

We do not control the manufacturing process of, and are completely dependent on, our contract manufacturers to comply with cGMPs for manufacture of both active drug substances and finished drug products. If our contract manufacturers cannot successfully manufacture material that conforms to our specifications and the strict regulatory requirements of the FDA or applicable foreign regulatory agencies, they will not be able to secure and/or maintain regulatory approval for their manufacturing facilities. In addition, we have no direct control over our contract manufacturers' ability to maintain adequate quality control, quality assurance and qualified personnel. Furthermore, all of our contract manufacturers are engaged with other companies to supply and/or manufacture materials or products for such companies, which exposes our manufacturers to regulatory risks for the production of such materials and products. As a result, failure to satisfy the regulatory requirements for the production of those materials and products may affect the regulatory clearance of our contract manufacturers' facilities generally. If the FDA or an applicable foreign regulatory agency determines now or in the future that these facilities for the manufacture of our product candidates are noncompliant, we may need to find alternative manufacturing facilities, which would adversely impact our ability to develop, obtain regulatory approval for or market our product candidates. Our reliance on contract manufacturers also exposes us to the possibility that they, or third parties with access to their facilities, will have access to and may appropriate our trade secrets or other proprietary information.

We do not have long-term supply agreements in place with our contractors, and each batch of our product candidates is individually contracted under a quality and supply agreement. If we engage new contractors, such contractors must complete an inspection by the FDA and other applicable foreign

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regulatory agencies. We plan to continue to rely upon contract manufacturers and, potentially, collaboration partners to manufacture commercial quantities of our product candidates, if approved. Our current scale of manufacturing is adequate to support all of our needs for non-clinical studies and clinical trial supplies.

***Even if we receive marketing approval for our product candidates in the United States, we may never receive regulatory approval to market our product candidates outside of the United States.***

We have not yet selected any markets outside of the United States where we intend to seek regulatory approval to market our product candidates. In order to market any product outside of the United States, however, we must establish and comply with the numerous and varying safety, efficacy and other regulatory requirements of other countries. Approval procedures vary among countries and can involve additional product candidate testing and additional administrative review periods. The time required to obtain approvals in other countries might differ from that required to obtain FDA approval. The marketing approval processes in other countries may implicate all of the risks detailed above regarding FDA approval in the United States as well as other risks. In particular, in many countries outside of the United States, products must receive pricing and reimbursement approval before the product can be commercialized. Obtaining this approval can result in substantial delays in bringing products to market in such countries. Marketing approval in one country does not ensure marketing approval in another, but a failure or delay in obtaining marketing approval in one country may have a negative effect on the regulatory process in others. Failure to obtain marketing approval in other countries or any delay or other setback in obtaining such approval would impair our ability to market our product candidates in such foreign markets. Any such impairment would reduce the size of our potential market, which could have a material adverse impact on our business, results of operations and prospects.

***If we are unable to establish sales and marketing capabilities or enter into agreements with third parties to market and sell our product candidates, we may not be able to generate any revenue.***

We do not currently have an infrastructure for the sales, marketing and distribution of pharmaceutical products. In order to market our product candidates, if approved by the FDA or any other regulatory body, we must build our sales, marketing, managerial and other non-technical capabilities or make arrangements with third parties to perform these services. If we are unable to establish adequate sales, marketing and distribution capabilities, whether independently or with third parties, or if we are unable to do so on commercially reasonable terms, our business, results of operations, financial condition and prospects will be materially adversely affected.

***Even if we receive marketing approval for our product candidates, our product candidates may not achieve broad market acceptance, which would limit the revenue that we generate from their sales.***

The commercial success of our product candidates, if approved by the FDA or other applicable regulatory authorities, will depend upon the awareness and acceptance of our product candidates among the medical community, including physicians, patients and healthcare payors. Market acceptance of our product candidates, if approved, will depend on a number of factors, including, among others:

- the efficacy of our product candidates as demonstrated in clinical trials, and, if required by any applicable regulatory authority in connection with the approval for the applicable indications, to provide patients with incremental health benefits, as compared with other available CNS therapies;

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- limitations or warnings contained in the labeling approved for our product candidates by the FDA or other applicable regulatory authorities;
- the clinical indications for which our product candidates are approved;
- availability of alternative treatments already approved or expected to be commercially launched in the near future;
- the potential and perceived advantages of our product candidates over current treatment options or alternative treatments, including future alternative treatments;
- the willingness of the target patient population to try new therapies and of physicians to prescribe these therapies;
- the strength of marketing and distribution support and timing of market introduction of competitive products;
- publicity concerning our products or competing products and treatments;
- pricing and cost effectiveness;
- the effectiveness of our sales and marketing strategies;
- our ability to increase awareness of our product candidates through marketing efforts;
- our ability to obtain sufficient third-party coverage or reimbursement; or
- the willingness of patients to pay out-of-pocket in the absence of third-party coverage.

If our product candidates are approved but do not achieve an adequate level of acceptance by patients, physicians and payors, we may not generate sufficient revenue from our product candidates to become or remain profitable. Before granting reimbursement approval, healthcare payors may require us to demonstrate that our product candidates, in addition to treating these target indications, also provide incremental health benefits to patients. Our efforts to educate the medical community and third-party payors about the benefits of our product candidates may require significant resources and may never be successful.

***Our product candidates may cause undesirable side effects that could delay or prevent their regulatory approval, limit the commercial profile of an approved label, or result in significant negative consequences following marketing approval, if any.***

Undesirable side effects caused by our product candidates could cause us or regulatory authorities to interrupt, delay or halt non-clinical studies and clinical trials and could result in a more restrictive label or the delay or denial of regulatory approval by the FDA or other regulatory authorities.

Further, clinical trials by their nature utilize a sample of the potential patient population. With a limited number of patients and limited duration of exposure, rare and severe side effects of our product candidates may only be uncovered with a significantly larger number of patients exposed to the product candidate. If our product candidates receive marketing approval and we or others identify undesirable side effects caused by such product candidates (or any other similar products) after such approval, a number of potentially significant negative consequences could result, including:

- regulatory authorities may withdraw or limit their approval of such product candidates;
- regulatory authorities may require the addition of labeling statements, such as a “boxed” warning or a contraindication;
- we may be required to change the way such product candidate are distributed or administered, conduct additional clinical trials or change the labeling of the product candidates;

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- we may be subject to regulatory investigations and government enforcement actions;
- we may decide to remove such product candidates from the marketplace;
- we could be sued and held liable for injury caused to individuals exposed to or taking our product candidates; and
- our reputation may suffer.

We believe that any of these events could prevent us from achieving or maintaining market acceptance of the affected product candidates and could substantially increase the costs of commercializing our product candidates and significantly impact our ability to successfully commercialize our product candidates and generate revenues.

### ***Even if we receive marketing approval for our product candidates, we may still face future development and regulatory difficulties.***

Even if we receive marketing approval for our product candidates, regulatory authorities may still impose significant restrictions on our product candidates, indicated uses or marketing or impose ongoing requirements for potentially costly post-approval studies. Our product candidates will also be subject to ongoing FDA requirements governing the labeling, packaging, storage and promotion of the product and record keeping and submission of safety and other post-market information. The FDA has significant post-marketing authority, including, for example, the authority to require labeling changes based on new safety information and to require post-marketing studies or clinical trials to evaluate serious safety risks related to the use of a drug. The FDA also has the authority to require, as part of an NDA or post-approval, the submission of a REMS. Any REMS required by the FDA may lead to increased costs to assure compliance with new post-approval regulatory requirements and potential requirements or restrictions on the sale of approved products, all of which could lead to lower sales volume and revenue.

Manufacturers of drug products and their facilities are subject to continual review and periodic inspections by the FDA and other regulatory authorities for compliance with cGMPs and other regulations. If we or a regulatory agency discover problems with our product candidates, such as adverse events of unanticipated severity or frequency, or problems with the facility where our product candidates are manufactured, a regulatory agency may impose restrictions on our product candidates, the manufacturer or us, including requiring withdrawal of our product candidates from the market or suspension of manufacturing. If we, our product candidates or the manufacturing facilities for our product candidates fail to comply with applicable regulatory requirements, a regulatory agency may, among other things:

- issue warning letters or untitled letters;
- seek an injunction or impose civil or criminal penalties or monetary fines;
- suspend or withdraw marketing approval;
- suspend any ongoing clinical trials;
- refuse to approve pending applications or supplements to applications submitted by us;
- suspend or impose restrictions on operations, including costly new manufacturing requirements; or
- seize or detain products, refuse to permit the import or export of products, or request that we initiate a product recall.

***Competing therapies could emerge adversely affecting our opportunity to generate revenue from the sale of our product candidates.***

The biopharmaceuticals industry is highly competitive. There are many public and private biopharmaceutical companies, universities, governmental agencies and other research organizations actively engaged in the research and development of products that may be similar to our product candidates or address similar markets. It is probable that the number of companies seeking to develop products and therapies similar to our products will increase.

Currently, there are no therapies specifically approved for RSE or SRSE. However, many products approved for other indications, general anesthetics and anti-seizure drugs, are used off-label for various stages of SE therapy. Additionally, though not indicated, acupuncture, hypothermia, and electroconvulsive therapy are sometimes used prior to withdrawal of care for patients with SRSE.

In the field of neuroactive steroids focused on modulation of GABA<sub>A</sub> or NMDA receptors, our principal competitor is Marinus Pharmaceuticals, Inc., which is developing a reformulated form of Ganaxolone, a known GABA<sub>A</sub> positive allosteric modulator neuroactive steroid, for potential treatment of drug-resistant partial complex seizures and fragile X syndrome.

Many of our potential competitors, alone or with their strategic partners, have substantially greater financial, technical and human resources than we do and significantly greater experience in the discovery and development of product candidates, obtaining FDA and other regulatory approvals of treatments and the commercialization of those treatments. Mergers and acquisitions in the biotechnology and pharmaceutical industries may result in even more resources being concentrated among a smaller number of our competitors. Our commercial opportunity could be reduced or eliminated if our competitors develop and commercialize products that are safer, more effective, have fewer or less severe side effects, are more convenient or are less expensive than any products that we may develop. Our competitors also may obtain FDA or other regulatory approval for their products more rapidly than we may obtain approval for ours, which could result in our competitors establishing a strong market position before we are able to enter the market.

***We may seek to establish collaborations, and, if we are not able to establish them on commercially reasonable terms, we may have to alter our development and commercialization plans.***

Our drug development programs and the potential commercialization of our product candidates will require substantial additional cash to fund expenses. For some of our product candidates, we may decide to collaborate with pharmaceutical and biotechnology companies for the development and potential commercialization of those product candidates.

We face significant competition in seeking appropriate collaborators. Whether we reach a definitive agreement for a collaboration will depend, among other things, upon our assessment of the collaborator's resources and expertise, the terms and conditions of the proposed collaboration and the proposed collaborator's evaluation of a number of factors. Those factors may include the design or results of clinical trials, the likelihood of approval by the FDA or similar regulatory authorities outside the United States, the potential market for the subject product candidate, the costs and complexities of manufacturing and delivering such product candidate to patients, the potential of competing products, the existence of uncertainty with respect to our ownership of technology, which can exist if there is a challenge to such ownership without regard to the merits of the challenge and industry and market conditions generally. The collaborator may also consider alternative product candidates or technologies for similar indications that may be available to collaborate on and whether such a collaboration could be more attractive than the one with us for our product candidate. The terms of any collaborations or other arrangements that we may establish may not be favorable to us.



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We may also be restricted under existing collaboration agreements from entering into future agreements on certain terms with potential collaborators. Collaborations are complex and time-consuming to negotiate and document. In addition, there have been a significant number of recent business combinations among large pharmaceutical companies that have resulted in a reduced number of potential future collaborators.

We may not be able to negotiate collaborations on a timely basis, on acceptable terms, or at all. If we are unable to do so, we may have to curtail the development of the product candidate for which we are seeking to collaborate, reduce or delay its development program or one or more of our other development programs, delay its potential commercialization or reduce the scope of any sales or marketing activities, or increase our expenditures and undertake development or commercialization activities at our own expense. If we elect to increase our expenditures to fund development or commercialization activities on our own, we may need to obtain additional capital, which may not be available to us on acceptable terms or at all. If we do not have sufficient funds, we may not be able to further develop our product candidates or bring them to market and generate product revenue.

In addition, any future collaborations that we enter into may not be successful. The success of our collaboration arrangements will depend heavily on the efforts and activities of our collaborators. Collaborators generally have significant discretion in determining the efforts and resources that they will apply to these collaborations. Disagreements between parties to a collaboration arrangement regarding clinical development and commercialization matters can lead to delays in the development process or commercializing the applicable product candidate and, in some cases, termination of the collaboration arrangement. These disagreements can be difficult to resolve if neither of the parties has final decision-making authority. Collaborations with pharmaceutical or biotechnology companies and other third parties often are terminated or allowed to expire by the other party. Any such termination or expiration would adversely affect us financially and could harm our business reputation.

***We may not be successful in our efforts to identify or discover additional product candidates or we may expend our limited resources to pursue a particular product candidate or indication and fail to capitalize on product candidates or indications that may be more profitable or for which there is a greater likelihood of success.***

The success of our business depends primarily upon our ability to identify, develop and commercialize products based on our proprietary chemistry platform. Although some of our product candidates are in non-clinical and clinical development, our research programs may fail to identify other potential product candidates for clinical development for a number of reasons. Our research methodology may be unsuccessful in identifying potential product candidates or our potential product candidates may be shown to have harmful side effects or may have other characteristics that may make the products unmarketable or unlikely to receive marketing approval.

Because we have limited financial and management resources, we focus on a limited number of research programs and product candidates and are currently focused on our SE program. As a result, we may forego or delay pursuit of opportunities with other product candidates or for other indications that later prove to have greater commercial potential. Our resource allocation decisions may cause us to fail to capitalize on viable commercial drugs or profitable market opportunities. Our spending on current and future research and development programs and product candidates for specific indications may not yield any commercially viable drugs. If we do not accurately evaluate the commercial potential or target market for a particular product candidate, we may relinquish valuable rights to that product candidate through future collaboration, licensing or other royalty arrangements in cases in which it would have been more advantageous for us to retain sole development and commercialization rights to such product candidate.

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If any of these events occur, we may be forced to abandon our development efforts for a program or programs, which would have a material adverse effect on our business and could potentially cause us to cease operations. Research programs to identify new product candidates require substantial technical, financial and human resources. We may focus our efforts and resources on potential programs or product candidates that ultimately prove to be unsuccessful.

***We are subject to healthcare laws and regulations, which could expose us to criminal sanctions, civil penalties, contractual damages, reputational harm and diminished profits and future earnings.***

Although we do not currently have any products on the market, once we begin commercializing our products, we may be subject to additional healthcare statutory and regulatory requirements and enforcement by the federal government and the states and foreign governments in which we conduct our business. Healthcare providers, physicians and others will play a primary role in the recommendation and prescription of our product candidates, if approved. Our future arrangements with third-party payors will expose us to broadly applicable fraud and abuse and other healthcare laws and regulations that may constrain the business or financial arrangements and relationships through which we market, sell and distribute our product candidates, if we obtain marketing approval. Restrictions under applicable federal and state healthcare laws and regulations include the following:

- The federal anti-kickback statute prohibits, among other things, persons from knowingly and willfully soliciting, offering, receiving or providing remuneration, directly or indirectly, in cash or in kind, to induce or reward either the referral of an individual for, or the purchase, order or recommendation of, any good or service, for which payment may be made under federal healthcare programs such as Medicare and Medicaid.
- The federal False Claims Act imposes criminal and civil penalties, including those from civil whistleblower or qui tam actions, against individuals or entities for knowingly presenting, or causing to be presented, to the federal government, claims for payment that are false or fraudulent or making a false statement to avoid, decrease, or conceal an obligation to pay money to the federal government.
- The federal Health Insurance Portability and Accountability Act of 1996, as amended by the Health Information Technology for Economic and Clinical Health Act, imposes criminal and civil liability for executing a scheme to defraud any healthcare benefit program and also imposes obligations, including mandatory contractual terms, with respect to safeguarding the privacy, security and transmission of individually identifiable health information.
- The federal false statements statute prohibits knowingly and willfully falsifying, concealing or covering up a material fact or making any materially false statement in connection with the delivery of or payment for healthcare benefits, items or services.
- The federal transparency requirements, sometimes referred to as the “Sunshine Act,” under the Patient Protection and Affordable Care Act, require manufacturers of drugs, devices, biologics and medical supplies that are reimbursable under Medicare, Medicaid, or the Children’s Health Insurance Program to report to the Department of Health and Human Services information related to physician payments and other transfers of value and physician ownership and investment interests.
- Analogous state laws and regulations, such as state anti-kickback and false claims laws and transparency laws, may apply to sales or marketing arrangements and claims involving healthcare items or services reimbursed by non-governmental third-party payors, including private insurers, and some state laws require pharmaceutical companies to comply with the pharmaceutical industry’s voluntary compliance guidelines and the relevant compliance

guidance promulgated by the federal government in addition to requiring drug manufacturers to report information related to payments to physicians and other healthcare providers or marketing expenditures and drug pricing.

Ensuring that our future business arrangements with third parties comply with applicable healthcare laws and regulations could be costly. It is possible that governmental authorities will conclude that our business practices do not comply with current or future statutes, regulations or case law involving applicable fraud and abuse or other healthcare laws and regulations. If our operations, including anticipated activities to be conducted by our sales team, were found to be in violation of any of these laws or any other governmental regulations that may apply to us, we may be subject to significant civil, criminal and administrative penalties, damages, fines and exclusion from government funded healthcare programs, such as Medicare and Medicaid, any of which could substantially disrupt our operations. If any of the physicians or other providers or entities with whom we expect to do business is found not to be in compliance with applicable laws, they may be subject to criminal, civil or administrative sanctions, including exclusions from government funded healthcare programs.

***The FDA and other regulatory agencies actively enforce the laws and regulations prohibiting the promotion of off-label uses. If we are found to have improperly promoted off-label uses, we may become subject to significant liability.***

The FDA and other regulatory agencies strictly regulate the promotional claims that may be made about prescription products, such as SAGE-547, SAGE-689, and SAGE-217, if approved. In particular, a product may not be promoted for uses that are not approved by the FDA or such other regulatory agencies as reflected in the product's approved labeling. For example, if we receive marketing approval for SAGE-547 as a treatment for SRSE, physicians may nevertheless prescribe SAGE-547 to their patients in a manner that is inconsistent with the approved label. If we are found to have promoted such off-label uses, we may become subject to significant liability. The federal government has levied large civil and criminal fines against companies for alleged improper promotion and has enjoined several companies from engaging in off-label promotion. The FDA has also requested that companies enter into consent decrees or permanent injunctions under which specified promotional conduct is changed or curtailed. If we cannot successfully manage the promotion of our product candidates, if approved, we could become subject to significant liability, which would materially adversely affect our business and financial condition.

***Even if approved, reimbursement policies could limit our ability to sell our product candidates.***

Market acceptance and sales of our product candidates will depend on reimbursement policies and may be affected by healthcare reform measures. Government authorities and third-party payors, such as private health insurers and health maintenance organizations, decide which medications they will pay for and establish reimbursement levels for those medications. Cost containment is a primary concern in the U.S. healthcare industry and elsewhere. Government authorities and these third-party payors have attempted to control costs by limiting coverage and the amount of reimbursement for particular medications. We cannot be sure that reimbursement will be available for our product candidates and, if reimbursement is available, the level of such reimbursement. Reimbursement may impact the demand for, or the price of, our product candidates. If reimbursement is not available or is available only at limited levels, we may not be able to successfully commercialize our product candidates.

In some foreign countries, particularly in Canada and European countries, the pricing of prescription pharmaceuticals is subject to strict governmental control. In these countries, pricing negotiations with governmental authorities can take six to 12 months or longer after the receipt of regulatory approval and product launch. To obtain favorable reimbursement for the indications sought or pricing approval in some countries, we may be required to conduct a clinical trial that compares the

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cost-effectiveness of our product candidates with other available therapies. If reimbursement for our product candidates is unavailable in any country in which we seek reimbursement, if it is limited in scope or amount, if it is conditioned upon our completion of additional clinical trials, or if pricing is set at unsatisfactory levels, our operating results could be materially adversely affected.

### ***Even though we have obtained orphan drug designation for SAGE-547 as a treatment for SE, there may be limits to the regulatory exclusivity afforded by such designation.***

Even though we have obtained orphan drug designation for SAGE 547 for treatment of SE, there are limitations to exclusivity afforded by such designation. In the United States, the company that first obtains FDA approval for a designated orphan drug for the specified rare disease or condition receives orphan drug marketing exclusivity for that drug for a period of seven years. This orphan drug exclusivity prevents the FDA from approving another application, including a full NDA to market the same drug for the same orphan indication, except in very limited circumstances, including when the FDA concludes that the later drug is safer, more effective or makes a major contribution to patient care. For purposes of small molecule drugs, the FDA defines "same drug" as a drug that contains the same active moiety and is intended for the same use as the drug in question. To obtain orphan drug exclusivity for a drug that shares the same active moiety as an already approved drug, it must be demonstrated to the FDA that the drug is safer or more effective than the approved orphan designated drug, or that it makes a major contribution to patient care. In addition, a designated orphan drug may not receive orphan drug exclusivity if it is approved for a use that is broader than the indication for which it received orphan designation. In addition, orphan drug exclusive marketing rights in the United States may be lost if the FDA later determines that the request for designation was materially defective or if the manufacturer is unable to assure sufficient quantity of the drug to meet the needs of patients with the rare disease or condition or if another drug with the same active moiety is determined to be safer, more effective, or represents a major contribution to patient care.

### ***Our future growth may depend, in part, on our ability to penetrate foreign markets, where we would be subject to additional regulatory burdens and other risks and uncertainties.***

Our future profitability may depend, in part, on our ability to commercialize our product candidates in foreign markets for which we may rely on collaboration with third parties. If we commercialize our product candidates in foreign markets, we would be subject to additional risks and uncertainties, including:

- our customers' ability to obtain reimbursement for our product candidates in foreign markets;
- our inability to directly control commercial activities because we are relying on third parties;
- the burden of complying with complex and changing foreign regulatory, tax, accounting and legal requirements;
- different medical practices and customs in foreign countries affecting acceptance in the marketplace;
- import or export licensing requirements;
- longer accounts receivable collection times;
- longer lead times for shipping;
- language barriers for technical training;
- reduced protection of intellectual property rights in some foreign countries;
- the existence of additional potentially relevant third party intellectual property rights;

- foreign currency exchange rate fluctuations; and
- the interpretation of contractual provisions governed by foreign laws in the event of a contract dispute.

Foreign sales of our product candidates could also be adversely affected by the imposition of governmental controls, political and economic instability, trade restrictions and changes in tariffs.

### Risks Related to Our Intellectual Property Rights

***If we are unable to adequately protect our proprietary technology, or obtain and maintain issued patents that are sufficient to protect our product candidates, others could compete against us more directly, which would have a material adverse impact on our business, results of operations, financial condition and prospects.***

We strive to protect and enhance the proprietary technologies that we believe are important to our business, including seeking patents intended to cover our products and compositions, their methods of use and any other inventions that are important to the development of our business. We also rely on trade secrets to protect aspects of our business that are not amenable to, or that we do not consider appropriate for, patent protection.

Our success will depend significantly on our ability to obtain and maintain patent and other proprietary protection for commercially important technology, inventions and know-how related to our business, defend and enforce our patents, should they issue, preserve the confidentiality of our trade secrets and operate without infringing the valid and enforceable patents and proprietary rights of third parties. We also rely on know-how, continuing technological innovation and in-licensing opportunities to develop, strengthen and maintain the proprietary position of our product candidates. Our owned and licensed patent applications relate to SAGE-547, GABA<sub>A</sub> receptor modulators, including genus and species claims to SAGE-689 and NMDA receptor modulators.

We currently have no issued patents covering any of our lead product candidates, SAGE-547, SAGE-689, or SAGE-217. We cannot provide any assurances that any of our pending patent applications will mature into issued patents and, if they do, that such patents will include, claims with a scope sufficient to protect our product candidates or otherwise provide any competitive advantage. For example, the patent applications that may provide coverage for SAGE-547, only cover particular formulations and particular methods of using such formulations to treat seizure conditions, such as SE. As a result, if a patent issues from such patent applications, it would not prevent third-party competitors from creating, making and marketing alternative formulations, that fall outside the scope of our patent claims or practicing alternative methods. There can be no assurance that any such alternative formulations will not be equally effective as our formulation of SAGE-547. Moreover, other parties have developed technologies that may be related or competitive to our approach, and may have filed or may file patent applications and may have received or may receive patents that may overlap or conflict with our patent applications, either by claiming the same methods or formulations or by claiming subject matter that could dominate our patent position. Such third-party patent positions may limit or even eliminate our ability to obtain patent protection for certain inventories.

The patent positions of biotechnology and pharmaceutical companies, including our patent position, involve complex legal and factual questions, and, therefore, the issuance, scope, validity and enforceability of any patent claims that we may obtain cannot be predicted with certainty. Patents, if issued, may be challenged, deemed unenforceable, invalidated, or circumvented. U.S. patents and patent applications may also be subject to interference proceedings, *ex parte* reexamination, or *inter partes* review proceedings, supplemental examination and challenges in district court. Patents may be subjected to opposition, post-grant review, or comparable proceedings lodged in various foreign, both national and regional, patent offices. These proceedings could result in either loss of the patent or

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denial of the patent application or loss or reduction in the scope of one or more of the claims of the patent or patent application. In addition, such proceedings may be costly. Thus, any patents, should they issue, that we may own or exclusively license may not provide any protection against competitors. Furthermore, an adverse decision in an interference proceeding can result in a third party receiving the patent right sought by us, which in turn could affect our ability to develop, market or otherwise commercialize our product candidates.

Furthermore, though a patent, if it were to issue, is presumed valid and enforceable, its issuance is not conclusive as to its validity or its enforceability and it may not provide us with adequate proprietary protection or competitive advantages against competitors with similar products. Even if a patent issues and is held to be valid and enforceable, competitors may be able to design around our patents, such as using pre-existing or newly developed technology. Other parties may develop and obtain patent protection for more effective technologies, designs or methods. We may not be able to prevent the unauthorized disclosure or use of our technical knowledge or trade secrets by consultants, vendors, former employees and current employees. The laws of some foreign countries do not protect our proprietary rights to the same extent as the laws of the United States, and we may encounter significant problems in protecting our proprietary rights in these countries. If these developments were to occur, they could have a material adverse effect on our sales.

Our ability to enforce our patent rights depends on our ability to detect infringement. It is difficult to detect infringers who do not advertise the components that are used in their products. Moreover, it may be difficult or impossible to obtain evidence of infringement in a competitor's or potential competitor's product. Any litigation to enforce or defend our patent rights, even if we were to prevail, could be costly and time-consuming and would divert the attention of our management and key personnel from our business operations. We may not prevail in any lawsuits that we initiate and the damages or other remedies awarded if we were to prevail may not be commercially meaningful.

In addition, proceedings to enforce or defend our patents, if and when issued, could put our patents at risk of being invalidated, held unenforceable, or interpreted narrowly. Such proceedings could also provoke third parties to assert claims against us, including that some or all of the claims in one or more of our patents are invalid or otherwise unenforceable. If any of our patents, if and when issued, covering our product candidates are invalidated or found unenforceable, our financial position and results of operations would be materially and adversely impacted. In addition, if a court found that valid, enforceable patents held by third parties covered our product candidates, our financial position and results of operations would also be materially and adversely impacted.

The degree of future protection for our proprietary rights is uncertain, and we cannot ensure that:

- any of our pending patent applications, if issued, will include claims having a scope sufficient to protect our product candidates or any other products or product candidates;
- any of our pending patent applications will issue as patents at all;
- we will be able to successfully commercialize our product candidates, if approved, before our relevant patents expire;
- we were the first to make the inventions covered by each of our patents and pending patent applications;
- we were the first to file patent applications for these inventions;
- others will not develop similar or alternative technologies that do not infringe our patents;
- others will not use pre-existing technology to effectively compete against us;
- any of our patents, if issued, will be found to ultimately be valid and enforceable;

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- any patents issued to us will provide a basis for an exclusive market for our commercially viable products, will provide us with any competitive advantages or will not be challenged by third parties;
- we will develop additional proprietary technologies or product candidates that are separately patentable; or
- that our commercial activities or products will not infringe upon the patents or proprietary rights of others.

We rely upon unpatented trade secrets, unpatented know-how and continuing technological innovation to develop and maintain our competitive position, which we seek to protect, in part, by confidentiality agreements with our employees and our collaborators and consultants. It is possible that technology relevant to our business will be independently developed by a person that is not a party to such an agreement. Furthermore, if the employees and consultants who are parties to these agreements breach or violate the terms of these agreements, we may not have adequate remedies for any such breach or violation, and we could lose our trade secrets through such breaches or violations. Further, our trade secrets could otherwise become known or be independently discovered by our competitors.

***We may infringe the intellectual property rights of others, which may prevent or delay our product development efforts and stop us from commercializing or increase the costs of commercializing our product candidates, if approved.***

Our success will depend in part on our ability to operate without infringing the intellectual property and proprietary rights of third parties. We cannot assure you that our business, products and methods do not or will not infringe the patents or other intellectual property rights of third parties.

The pharmaceutical industry is characterized by extensive litigation regarding patents and other intellectual property rights. Other parties may allege that our product candidates or the use of our technologies infringes patent claims or other intellectual property rights held by them or that we are employing their proprietary technology without authorization. As we continue to develop and, if approved, commercialize our current product candidates and future product candidates, competitors may claim that our technology infringes their intellectual property rights as part of business strategies designed to impede our successful commercialization. There may be third-party patents or patent applications with claims to materials, formulations, methods of manufacture or methods for treatment related to the use or manufacture of our product candidates. Because patent applications can take many years to issue, third parties may have currently pending patent applications which may later result in issued patents that our product candidates may infringe, or which such third parties claim are infringed by our technologies. The outcome of intellectual property litigation is subject to uncertainties that cannot be adequately quantified in advance. The coverage of patents is subject to interpretation by the courts, and the interpretation is not always uniform. If we are sued for patent infringement, we would need to demonstrate that our product candidates, products or methods either do not infringe the patent claims of the relevant patent or that the patent claims are invalid, and we may not be able to do this. Even if we are successful in these proceedings, we may incur substantial costs and the time and attention of our management and scientific personnel could be diverted in pursuing these proceedings, which could have a material adverse effect on us. In addition, we may not have sufficient resources to bring these actions to a successful conclusion.

Patent and other types of intellectual property litigation can involve complex factual and legal questions, and their outcome is uncertain. Any claim relating to intellectual property infringement that is successfully asserted against us may require us to pay substantial damages, including treble damages

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and attorney's fees if we are found to be willfully infringing another party's patents, for past use of the asserted intellectual property and royalties and other consideration going forward if we are forced to take a license. In addition, if any such claim were successfully asserted against us and we could not obtain such a license, we may be forced to stop or delay developing, manufacturing, selling or otherwise commercializing our product candidates.

Even if we are successful in these proceedings, we may incur substantial costs and divert management time and attention in pursuing these proceedings, which could have a material adverse effect on us. If we are unable to avoid infringing the patent rights of others, we may be required to seek a license, defend an infringement action or challenge the validity of the patents in court, or redesign our products. Patent litigation is costly and time-consuming. We may not have sufficient resources to bring these actions to a successful conclusion. In addition, intellectual property litigation or claims could force us to do one or more of the following:

- cease developing, selling or otherwise commercializing our product candidates;
- pay substantial damages for past use of the asserted intellectual property;
- obtain a license from the holder of the asserted intellectual property, which license may not be available on reasonable terms, if at all; and
- in the case of trademark claims, redesign, or rename, some or all of our product candidates to avoid infringing the intellectual property rights of third parties, which may not be possible and, even if possible, could be costly and time-consuming.

Any of these risks coming to fruition could have a material adverse effect on our business, results of operations, financial condition and prospects.

### ***We may be subject to claims challenging the inventorship or ownership of our patents and other intellectual property.***

We enter into confidentiality and intellectual property assignment agreements with our employees, consultants, outside scientific collaborators, sponsored researchers and other advisors. These agreements generally provide that inventions conceived by the party in the course of rendering services to us will be our exclusive property. However, these agreements may not be honored and may not effectively assign intellectual property rights to us. For example, even if we have a consulting agreement in place with an academic advisor pursuant to which such academic advisor is required to assign any inventions developed in connection with providing services to us, such academic advisor may not have the right to assign such inventions to us, as it may conflict with his or her obligations to assign all such intellectual property to his or her employing institution.

Litigation may be necessary to defend against these and other claims challenging inventorship or ownership. If we fail in defending any such claims, in addition to paying monetary damages, we may lose valuable intellectual property rights, such as exclusive ownership of, or right to use, valuable intellectual property. Such an outcome could have a material adverse effect on our business. Even if we are successful in defending against such claims, litigation could result in substantial costs and be a distraction to management and other employees.



***Obtaining and maintaining our patent protection depends on compliance with various procedural, document submission, fee payment and other requirements imposed by governmental patent agencies, and our patent protection could be reduced or eliminated for non-compliance with these requirements.***

The U.S. Patent and Trademark Office, or U.S. PTO, and various foreign governmental patent agencies require compliance with a number of procedural, documentary, fee payment and other provisions during the patent process. There are situations in which noncompliance can result in abandonment or lapse of a patent or patent application, resulting in partial or complete loss of patent rights in the relevant jurisdiction. In such an event, competitors might be able to enter the market earlier than would otherwise have been the case.

***We may be involved in lawsuits to protect or enforce our patents or the patents of our licensors, which could be expensive, time-consuming and unsuccessful.***

Even if the patent applications we own or license are issued, competitors may infringe these patents. To counter infringement or unauthorized use, we may be required to file infringement claims, which can be expensive and time-consuming. In addition, in an infringement proceeding, a court may decide that a patent of ours or our licensors is not valid, is unenforceable and/or is not infringed, or may refuse to stop the other party from using the technology at issue on the grounds that our patents do not cover the technology in question. An adverse result in any litigation or defense proceedings could put one or more of our patents at risk of being invalidated or interpreted narrowly and could put our patent applications at risk of not issuing.

Interference proceedings provoked by third parties or brought by us may be necessary to determine the priority of inventions with respect to our patents or patent applications or those of our licensors. An unfavorable outcome could require us to cease using the related technology or to attempt to license rights to it from the prevailing party. Our business could be harmed if the prevailing party does not offer us a license on commercially reasonable terms. Our defense of litigation or interference proceedings may fail and, even if successful, may result in substantial costs and distract our management and other employees. We may not be able to prevent, alone or with our licensors, misappropriation of our intellectual property rights, particularly in countries where the laws may not protect those rights as fully as in the United States.

Furthermore, because of the substantial amount of discovery required in connection with intellectual property litigation, there is a risk that some of our confidential information could be compromised by disclosure during this type of litigation. There could also be public announcements of the results of hearings, motions or other interim proceedings or developments. If securities analysts or investors perceive these results to be negative, it could have a material adverse effect on the price of our common stock.

***Issued patents covering our product candidates could be found invalid or unenforceable if challenged in court.***

If we or one of our licensing partners initiated legal proceedings against a third party to enforce a patent, if and when issued, covering one of our product candidates, the defendant could counterclaim that the patent covering our product candidate is invalid and/or unenforceable. In patent litigation in the United States, defendant counterclaims alleging invalidity and/or unenforceability are commonplace. Grounds for a validity challenge include alleged failures to meet any of several statutory requirements, including lack of novelty, obviousness or non-enablement. Grounds for unenforceability assertions include allegations that someone connected with prosecution of the patent withheld relevant information from the U.S. PTO, or made a misleading statement, during prosecution. Third parties may

also raise similar claims before administrative bodies in the United States or abroad, even outside the context of litigation. Such mechanisms include re-examination, post grant review and equivalent proceedings in foreign jurisdictions, e.g., opposition proceedings. Such proceedings could result in revocation or amendment of our patents in such a way that they no longer cover our product candidates or competitive products. The outcome following legal assertions of invalidity and unenforceability is unpredictable. With respect to validity, for example, we cannot be certain that there is no invalidating prior art, of which we and the patent examiner were unaware during prosecution. If a defendant were to prevail on a legal assertion of invalidity and/or unenforceability, we would lose at least part, and perhaps all, of the patent protection on our product candidates. Such a loss of patent protection would have a material adverse impact on our business.

***We will not seek to protect our intellectual property rights in all jurisdictions throughout the world and we may not be able to adequately enforce our intellectual property rights even in the jurisdictions where we seek protection.***

Filing, prosecuting and defending patents on product candidates in all countries and jurisdictions throughout the world would be prohibitively expensive, and our intellectual property rights in some countries outside the United States could be less extensive than those in the United States, assuming that rights are obtained in the United States. In addition, the laws of some foreign countries do not protect intellectual property rights to the same extent as federal and state laws in the United States. Consequently, we may not be able to prevent third parties from practicing our inventions in all countries outside the United States, or from selling or importing products made using our inventions in and into the United States or other jurisdictions. The statutory deadlines for pursuing patent protection in individual foreign jurisdictions are based on the priority date of each of our patent applications. For the patent families related to SAGE-547, SAGE-689 and SAGE-217, as well as for most of the patent families that we own or license, the relevant statutory deadlines have not yet expired. Thus, for each of the patent families that we believe provide coverage for our lead product candidates, we will need to decide whether and where to pursue protection outside the United States.

Competitors may use our technologies in jurisdictions where we do not pursue and obtain patent protection to develop their own products and further, may export otherwise infringing products to territories where we have patent protection, but enforcement is not as strong as that in the United States. These products may compete with our products and our patents or other intellectual property rights may not be effective or sufficient to prevent them from competing. Even if we pursue and obtain issued patents in particular jurisdictions, our patent claims or other intellectual property rights may not be effective or sufficient to prevent third parties from so competing.

The laws of some foreign countries do not protect intellectual property rights to the same extent as the laws of the United States. Many companies have encountered significant problems in protecting and defending intellectual property rights in certain foreign jurisdictions. The legal systems of some countries, particularly developing countries, do not favor the enforcement of patents and other intellectual property protection, especially those relating to biotechnology. This could make it difficult for us to stop the infringement of our patents, if obtained, or the misappropriation of our other intellectual property rights. For example, many foreign countries have compulsory licensing laws under which a patent owner must grant licenses to third parties. In addition, many countries limit the enforceability of patents against third parties, including government agencies or government contractors. In these countries, patents may provide limited or no benefit. Patent protection must ultimately be sought on a country-by-country basis, which is an expensive and time-consuming process with uncertain outcomes. Accordingly, we may choose not to seek patent protection in certain countries, and we will not have the benefit of patent protection in such countries.

Many companies have encountered significant problems in protecting and defending intellectual property rights in foreign jurisdictions. The legal systems of certain countries, particularly certain

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developing countries, do not favor the enforcement of patents and other intellectual property protection, particularly those relating to biopharmaceuticals, which could make it difficult for us to stop the infringement of our patents or marketing of competing products in violation of our proprietary rights generally. Proceedings to enforce our patent rights in foreign jurisdictions could result in substantial costs and divert our efforts and attention from other aspects of our business, could put our patents at risk of being invalidated or interpreted narrowly, could put our patent applications at risk of not issuing and could provoke third parties to assert claims against us. We may not prevail in any lawsuits that we initiate and the damages or other remedies awarded, if any, may not be commercially meaningful. Accordingly, our efforts to enforce our intellectual property rights around the world may be inadequate to obtain a significant commercial advantage from the intellectual property that we develop or license.

***We are dependent on licensed intellectual property. If we were to lose our rights to licensed intellectual property, we may not be able to continue developing or commercializing our product candidates, if approved. If we breach any of the agreements under which we license the use, development and commercialization rights to our product candidates or technology from third parties or, in certain cases, we fail to meet certain development deadlines, we could lose license rights that are important to our business.***

We are a party to a number of license agreements under which we are granted rights to intellectual property that are important to our business and we expect that we may need to enter into additional license agreements in the future. Our existing license agreements impose, and we expect that future license agreements will impose on us, various development, regulatory and/or commercial diligence obligations, payment of milestones and/or royalties and other obligations. If we fail to comply with our obligations under these agreements, or we are subject to a bankruptcy, the licensor may have the right to terminate the license, in which event we would not be able to market products covered by the license. Our business could suffer, for example, if any current or future licenses terminate, if the licensors fail to abide by the terms of the license, if the licensed patents or other rights are found to be invalid or unenforceable, or if we are unable to enter into necessary licenses on acceptable terms. See “Business—Licenses” for a description of our license agreements, which includes a description of the termination provisions of these agreements.

As we have done previously, we may need to obtain licenses from third parties to advance our research or allow commercialization of our product candidates, and we cannot provide any assurances that third-party patents do not exist that might be enforced against our current product candidates or future products in the absence of such a license. We may fail to obtain any of these licenses on commercially reasonable terms, if at all. Even if we are able to obtain a license, it may be non-exclusive, thereby giving our competitors access to the same technologies licensed to us. In that event, we may be required to expend significant time and resources to develop or license replacement technology. If we are unable to do so, we may be unable to develop or commercialize the affected product candidates, which could materially harm our business and the third parties owning such intellectual property rights could seek either an injunction prohibiting our sales, or, with respect to our sales, an obligation on our part to pay royalties and/or other forms of compensation.

Licensing of intellectual property is of critical importance to our business and involves complex legal, business and scientific issues. Disputes may arise between us and our licensors regarding intellectual property subject to a license agreement, including:

- the scope of rights granted under the license agreement and other interpretation-related issues;
- whether and the extent to which our technology and processes infringe on intellectual property of the licensor that is not subject to the licensing agreement;
- our right to sublicense patent and other rights to third parties under collaborative development relationships;

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- our diligence obligations with respect to the use of the licensed technology in relation to our development and commercialization of our product candidates, and what activities satisfy those diligence obligations; and
- the ownership of inventions and know-how resulting from the joint creation or use of intellectual property by our licensors and us and our partners.

If disputes over intellectual property that we have licensed prevent or impair our ability to maintain our current licensing arrangements on acceptable terms, we may be unable to successfully develop and commercialize the affected product candidates.

We have entered into several licenses to support our various programs. We completed an exclusive license agreement with Washington University, or WU, under certain patent families that comprise a variety of small molecule allosteric modulators of GABA<sub>A</sub> receptors and for which we have the worldwide right to develop and commercialize. A patent family that discloses and claims SAGE-689 is licensed to us under this agreement. We are obligated to pay WU certain clinical/regulatory milestones and single-digit royalties on products developed from this technology. Termination of our license agreement with WU would have a material adverse impact on our ability to develop and commercialize SAGE-689.

We have also entered into an exclusive license agreement with CyDex Pharmaceuticals, Inc., or CyDex, a wholly owned subsidiary of Ligand Pharmaceuticals, Inc., to use its Captisol technology to develop SAGE-547 for the field of use, which includes all fields for the treatment, prevention or diagnosis of any disease or symptom in humans or animals. We are obligated to pay CyDex certain clinical/regulatory milestones and single-digit royalties on SAGE-547. In addition, we entered into a supply agreement with CyDex, pursuant to which they supply us with Captisol to formulate SAGE-547. Absent an alternative agreement by the parties, our rights under our exclusive license agreement terminate in the event that the supply agreement terminates. Currently, our SAGE-547 product candidate in clinical development is formulated in Captisol. Termination of our license agreement with CyDex would have a material adverse impact on our ability to develop and commercialize SAGE-547 in its current formulation.

We also entered into a non-exclusive license with The Regents of the University of California, or the Regents. Pursuant to this agreement the Regents granted us a non-exclusive, non-transferable license under all personal property rights of the Regents covering the tangible personal property in an IND application package owned by the Regents, or the Data, and a specified quantity of cGMP grade allopregnanolone, or the Material, to (i) use the Data for reference or incorporation in our IND for SAGE-547 for the treatment of SRSE and (ii) use the Material or modifications of the Material to develop a pharmaceutical formulation for clinical trials for SE and/or post-partum depression. This agreement requires us to pay milestone payments in connection with the first derived product, which would include SAGE-547, that meets the relevant milestones and we must also pay single-digit royalties for each derived product for a period of 15 years following the first commercial sale of such derived product. Termination of our license agreement with the Regents would have a material adverse impact on our ability to develop and commercialize derived products, which would include SAGE-547.

We may enter into additional license(s) to third-party intellectual property that are necessary or useful to our business. Our current licenses and any future licenses that we may enter into impose various royalty payment, milestone, and other obligations on us. For example, as is the case for the Washington University license, the licensor may retain control over patent prosecution and maintenance under a license agreement, in which case, we may not be able to adequately influence patent prosecution or prevent inadvertent lapses of coverage due to failure to pay maintenance fees. If

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we fail to comply with any of our obligations under a current or future license agreement, our licensor(s) may allege that we have breached our license agreement and may accordingly seek to terminate our license with them. In addition, future licensor(s) may decide to terminate our license at will. Termination of any of our current or future licenses could result in our loss of the right to use the licensed intellectual property, which could materially adversely affect our ability to develop and commercialize a product candidate or product, if approved, as well as harm our competitive business position and our business prospects.

In addition, if our licensors fail to abide by the terms of the license, if the licensors fail to prevent infringement by third parties, if the licensed patents or other rights are found to be invalid or unenforceable, or if we are unable to enter into necessary licenses on acceptable terms our business could suffer.

***Some intellectual property which we have licensed may have been discovered through government funded programs and thus may be subject to federal regulations such as “march-in” rights, certain reporting requirements, and a preference for U.S. industry. Compliance with such regulations may limit our exclusive rights, subject us to expenditure of resources with respect to reporting requirements, and limit our ability to contract with non-U.S. manufacturers.***

Some of the intellectual property rights we have licensed may have been generated through the use of U.S. government funding and may therefore be subject to certain federal regulations. For example, some of the intellectual property rights licensed to us under the license agreements with WU and the Regents may have been generated using U.S. government funds. As a result, the U.S. government may have certain rights to intellectual property embodied in our current or future product candidates pursuant to the Bayh-Dole Act of 1980, or Bayh-Dole Act. These U.S. government rights in certain inventions developed under a government-funded program include a non-exclusive, non-transferable, irrevocable worldwide license to use inventions for any governmental purpose. In addition, the U.S. government has the right to require us to grant exclusive, partially exclusive, or non-exclusive licenses to any of these inventions to a third party if it determines that: (i) adequate steps have not been taken to commercialize the invention; (ii) government action is necessary to meet public health or safety needs; or (iii) government action is necessary to meet requirements for public use under federal regulations (also referred to as “march-in rights”). The U.S. government also has the right to take title to these inventions if we fail, or the applicable licensor fails, to disclose the invention to the government and fail to file an application to register the intellectual property within specified time limits. In addition, the U.S. government may acquire title to these inventions in any country in which a patent application is not filed within specified time limits. Intellectual property generated under a government funded program is also subject to certain reporting requirements, compliance with which may require us, or the applicable licensor, to expend substantial resources. In addition, the U.S. government requires that any products embodying the subject invention or produced through the use of the subject invention be manufactured substantially in the United States. The manufacturing preference requirement can be waived if the owner of the intellectual property can show that reasonable but unsuccessful efforts have been made to grant licenses on similar terms to potential licensees that would be likely to manufacture substantially in the United States or that under the circumstances domestic manufacture is not commercially feasible. This preference for U.S. manufacturers may limit our ability to contract with non-U.S. product manufacturers for products covered by such intellectual property.

We currently do not plan to apply for additional U.S. government funding, but if we do, and we discover compounds or drug candidates as a result of such funding, intellectual property rights to such discoveries may be subject to the applicable provisions of the Bayh-Dole Act.

***If we do not obtain additional protection under the Hatch-Waxman Amendments and similar foreign legislation by extending the patent terms and obtaining data exclusivity for our product candidates, our business may be materially harmed.***

Depending upon the timing, duration and specifics of FDA marketing approval of our product candidates, one or more of the U.S. patents we own or license may be eligible for limited patent term restoration under the Drug Price Competition and Patent Term Restoration Act of 1984, referred to as the Hatch-Waxman Amendments. The Hatch-Waxman Amendments permit a patent restoration term of up to five years as compensation for patent term lost during product development and the FDA regulatory review process. However, we may not be granted an extension because of, for example, failing to apply within applicable deadlines, failing to apply prior to expiration of relevant patents or otherwise failing to satisfy applicable requirements. For example, we may not be granted an extension if the active ingredient of SAGE-547, allopregnanolone, is used in another drug company's product candidate and that product candidate is the first to obtain FDA approval. Moreover, the applicable time period or the scope of patent protection afforded could be less than we request. If we are unable to obtain patent term extension or restoration or the term of any such extension is less than we request, our competitors may obtain approval of competing products following our patent expiration, and our ability to generate revenues could be materially adversely affected.

***Changes in U.S. patent law could diminish the value of patents in general, thereby impairing our ability to protect our products.***

As is the case with other biotechnology companies, our success is heavily dependent on intellectual property, particularly patents. Obtaining and enforcing patents in the biotechnology industry involve both technological and legal complexity, and is therefore costly, time-consuming and inherently uncertain. In addition, the United States has recently enacted and is currently implementing wide-ranging patent reform legislation: the Leahy-Smith America Invents Act. The America Invents Act includes a number of significant changes to U.S. patent law. These include provisions that affect the way patent applications will be prosecuted and may also affect patent litigation. It is not yet clear what, if any, impact the America Invents Act will have on the operation of our business. However, the America Invents Act and its implementation could increase the uncertainties and costs surrounding the prosecution of our patent applications and the enforcement or defense of any patents that may issue from our patent applications, all of which could have a material adverse effect on our business and financial condition.

In addition, recent U.S. Supreme Court rulings have narrowed the scope of patent protection available in certain circumstances and weakened the rights of patent owners in certain situations. The full impact of these decisions is not yet known. For example, on March 20, 2012 in *Mayo Collaborative Services, DBA Mayo Medical Laboratories, et al. v. Prometheus Laboratories, Inc.*, the Court held that several claims drawn to measuring drug metabolite levels from patient samples and correlating them to drug doses were not patentable subject matter. The decision appears to impact diagnostics patents that merely apply a law of nature via a series of routine steps and it has created uncertainty around the ability to obtain patent protection for certain inventions. Additionally, on June 13, 2013 in *Association for Molecular Pathology v. Myriad Genetics, Inc.*, the Court held that claims to isolated genomic DNA are not patentable, but claims to complementary DNA molecules are patent eligible because they are not a natural product. The effect of the decision on patents for other isolated natural products is uncertain. However, on March 4, 2014, the U.S. PTO issued a memorandum to patent examiners providing guidance for examining claims that recite laws of nature, natural phenomena or natural products under the Myriad and Prometheus decisions. This guidance did not limit the application of Myriad to DNA but, rather, applied the decision to other natural products.

In addition to increasing uncertainty with regard to our ability to obtain future patents, this combination of events has created uncertainty with respect to the value of patents, once obtained.

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Depending on these and other decisions by the U.S. Congress, the federal courts and the U.S. PTO, the laws and regulations governing patents could change in unpredictable ways that would weaken our ability to obtain new patents or to enforce any patents that may issue in the future.

### ***We may be subject to damages resulting from claims that we or our employees have wrongfully used or disclosed alleged trade secrets of their former employers.***

Our employees have been previously employed at other biotechnology or pharmaceutical companies, including our competitors or potential competitors. We also engage advisors and consultants who are concurrently employed at universities or who perform services for other entities. Although we are not aware of any claims currently pending against us, we may be subject to claims that we or our employees, advisors or consultants have inadvertently or otherwise used or disclosed intellectual property, including trade secrets or other proprietary information, of a former employer or other third party. We have and may in the future also be subject to claims that an employee, advisor or consultant performed work for us that conflicts with that person's obligations to a third party, such as an employer, and thus, that the third party has an ownership interest in the intellectual property arising out of work performed for us. Litigation may be necessary to defend against these claims. Even if we are successful in defending against these claims, litigation could result in substantial costs and be a distraction to management. If we fail in defending such claims, in addition to paying money claims, we may lose valuable intellectual property rights or personnel. A loss of key personnel or their work product could hamper or prevent our ability to commercialize our product candidates, which would materially adversely affect our commercial development efforts.

### ***Numerous factors may limit any potential competitive advantage provided by our intellectual property rights.***

The degree of future protection afforded by our intellectual property rights is uncertain because intellectual property rights have limitations, and may not adequately protect our business, provide a barrier to entry against our competitors or potential competitors, or permit us to maintain our competitive advantage. Moreover, if a third party has intellectual property rights that cover the practice of our technology, we may not be able to fully exercise or extract value from our intellectual property rights. The following examples are illustrative:

- others may be able to develop and/or practice technology that is similar to our technology or aspects of our technology but that is not covered by the claims of patents, should such patents issue from our patent applications;
- we might not have been the first to make the inventions covered by a pending patent application that we own;
- we might not have been the first to file patent applications covering an invention;
- others may independently develop similar or alternative technologies without infringing our intellectual property rights;
- pending patent applications that we own or license may not lead to issued patents;
- patents, if issued, that we own or license may not provide us with any competitive advantages, or may be held invalid or unenforceable, as a result of legal challenges by our competitors;
- third parties may compete with us in jurisdictions where we do not pursue and obtain patent protection;
- we may not be able to obtain and/or maintain necessary or useful licenses on reasonable terms or at all;
- third parties may assert an ownership interest in our intellectual property and, if successful, such disputes may preclude us from exercising exclusive rights over that intellectual property;

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• we may not develop or in-license additional proprietary technologies that are patentable; and

• the patents of others may have an adverse effect on our business.

Should any of these events occur, they could significantly harm our business and results of operations.

### **General Company-Related Risks**

***We will need to develop and expand our company, and we may encounter difficulties in managing this development and expansion, which could disrupt our operations.***

As of the date of this prospectus, we had 21 full-time employees and no part-time employees, and in connection with becoming a public company, we expect to increase our number of employees and the scope of our operations. To manage our anticipated development and expansion, we must continue to implement and improve our managerial, operational and financial systems, expand our facilities and continue to recruit and train additional qualified personnel. Also, our management may need to divert a disproportionate amount of its attention away from its day-to-day activities and devote a substantial amount of time to managing these development activities. Due to our limited resources, we may not be able to effectively manage the expansion of our operations or recruit and train additional qualified personnel. This may result in weaknesses in our infrastructure, give rise to operational mistakes, loss of business opportunities, loss of employees and reduced productivity among remaining employees. The physical expansion of our operations may lead to significant costs and may divert financial resources from other projects, such as the development of our product candidates. If our management is unable to effectively manage our expected development and expansion, our expenses may increase more than expected, our ability to generate or increase our revenue could be reduced and we may not be able to implement our business strategy. Our future financial performance and our ability to commercialize our product candidates, if approved, and compete effectively will depend, in part, on our ability to effectively manage the future development and expansion of our company.

***Our future success depends on our ability to retain our President and Chief Executive Officer and to attract, retain and motivate qualified personnel.***

We are highly dependent on Dr. Jeffrey M. Jonas, our President and Chief Executive Officer. We have entered into an employment agreement with Dr. Jonas, but he may terminate his employment with us at any time. Although we do not have any reason to believe that we will lose the services of Dr. Jonas in the foreseeable future, the loss of his services might impede the achievement of our research, development and commercialization objectives. We also do not have any key-man life insurance on Dr. Jonas. We rely on consultants and advisors, including scientific and clinical advisors, to assist us in formulating our development and commercialization strategy. Our consultants and advisors may be employed by employers other than us and may have commitments under consulting or advisory contracts with other entities that may limit their availability to us and may not be subject to our standard non-compete agreements. Recruiting and retaining qualified scientific personnel and sales and marketing personnel will also be critical to our success. We may not be able to attract and retain these personnel on acceptable terms given the competition among numerous pharmaceutical and biotechnology companies for similar personnel. We also experience competition for the hiring of scientific personnel from universities and research institutions. Failure to succeed in clinical trials may make it more challenging to recruit and retain qualified scientific personnel.



***Our employees may engage in misconduct or other improper activities, including violating applicable regulatory standards and requirements or engaging in insider trading, which could significantly harm our business.***

We are exposed to the risk of employee fraud or other misconduct. Misconduct by employees could include intentional failures to comply with the regulations of the FDA and applicable non-U.S. regulators, provide accurate information to the FDA and applicable non-U.S. regulators, comply with healthcare fraud and abuse laws and regulations in the United States and abroad, report financial information or data accurately or disclose unauthorized activities to us. In particular, sales, marketing and business arrangements in the healthcare industry are subject to extensive laws and regulations intended to prevent fraud, misconduct, kickbacks, self-dealing and other abusive practices. These laws and regulations restrict or prohibit a wide range of pricing, discounting, marketing and promotion, sales commission, customer incentive programs and other business arrangements. Employee misconduct could also involve the improper use of, including trading on, information obtained in the course of clinical trials, which could result in regulatory sanctions and serious harm to our reputation. We have adopted a code of conduct, but it is not always possible to identify and deter employee misconduct, and the precautions we take to detect and prevent this activity may be ineffective in controlling unknown or unmanaged risks or losses or in protecting us from governmental investigations or other actions or lawsuits stemming from a failure to comply with these laws or regulations. If any such actions are instituted against us, and we are not successful in defending ourselves or asserting our rights, those actions could have a significant impact on our business, including the imposition of significant fines or other sanctions.

***We face potential product liability exposure, and, if claims are brought against us, we may incur substantial liability.***

The use of our product candidates in clinical trials and the sale of our product candidates, if approved, exposes us to the risk of product liability claims. Product liability claims might be brought against us by patients, healthcare providers or others selling or otherwise coming into contact with our product candidates. For example, we may be sued if any product we develop allegedly causes injury or is found to be otherwise unsuitable during product testing, manufacturing, marketing or sale. Any such product liability claims may include allegations of defects in manufacturing, defects in design, a failure to warn of dangers inherent in the product, including as a result of interactions with alcohol or other drugs, negligence, strict liability and a breach of warranties. Claims could also be asserted under state consumer protection acts. If we become subject to product liability claims and cannot successfully defend ourselves against them, we could incur substantial liabilities. In addition, regardless of merit or eventual outcome, product liability claims may result in, among other things:

- withdrawal of patients from our clinical trials;
- substantial monetary awards to patients or other claimants;
- decreased demand for our product candidates or any future product candidates following marketing approval, if obtained;
- damage to our reputation and exposure to adverse publicity;
- increased FDA warnings on product labels;
- litigation costs;
- distraction of management's attention from our primary business;
- loss of revenue; and
- the inability to successfully commercialize our product candidates or any future product candidates, if approved.

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We maintain product liability insurance coverage for our clinical trials with a \$10 million annual aggregate coverage limit. Nevertheless, our insurance coverage may be insufficient to reimburse us for any expenses or losses we may suffer. Moreover, in the future, we may not be able to maintain insurance coverage at a reasonable cost or in sufficient amounts to protect us against losses, including if insurance coverage becomes increasingly expensive. If and when we obtain marketing approval for our product candidates, we intend to expand our insurance coverage to include the sale of commercial products; however, we may not be able to obtain this product liability insurance on commercially reasonable terms. Large judgments have been awarded in class action lawsuits based on drugs that had unanticipated side effects. The cost of any product liability litigation or other proceedings, even if resolved in our favor, could be substantial, particularly in light of the size of our business and financial resources. A product liability claim or series of claims brought against us could cause our stock price to decline and, if we are unsuccessful in defending such a claim or claims and the resulting judgments exceed our insurance coverage, our financial condition, business and prospects could be materially adversely affected.

***We will incur increased costs as a result of operating as a public company, and our management team will be required to devote substantial time to new compliance initiatives.***

As a public company, and particularly after we are no longer an “emerging growth company,” we will incur significant legal, accounting and other expenses that we did not incur as a private company. In addition, the Sarbanes-Oxley Act of 2002 and rules subsequently implemented by the Securities and Exchange Commission and The NASDAQ Stock Market have imposed various requirements on public companies, including establishment and maintenance of effective disclosure and financial controls and corporate governance practices. Our management and other personnel will need to devote a substantial amount of time to these compliance initiatives. Moreover, these rules and regulations will increase our legal and financial compliance costs and will make some activities more time-consuming and costly.

Pursuant to Section 404 of the Sarbanes-Oxley Act of 2002, or Section 404, we will be required to furnish a report by our management on our internal control over financial reporting, including an attestation report on internal control over financial reporting issued by our independent registered public accounting firm. However, while we remain an emerging growth company, we will not be required to include an attestation report on internal control over financial reporting issued by our independent registered public accounting firm. To achieve compliance with Section 404 within the prescribed period, we will be engaged in a process to document and evaluate our internal control over financial reporting, which is both costly and challenging. In this regard, we will need to continue to dedicate internal resources, potentially engage outside consultants and adopt a detailed work plan to assess and document the adequacy of internal control over financial reporting, continue steps to improve control processes as appropriate, validate through testing that controls are functioning as documented and implement a continuous reporting and improvement process for internal control over financial reporting. Despite our efforts, there is a risk that neither we nor our independent registered public accounting firm will be able to conclude within the prescribed timeframe that our internal control over financial reporting is effective as required by Section 404. This could result in an adverse reaction in the financial markets due to a loss of confidence in the reliability of our financial statements.

***In order to satisfy our obligations as a public company, we will need to hire additional qualified accounting and financial personnel with appropriate public company experience.***

As a newly public company, we will need to establish and maintain effective disclosure and financial controls and make changes in our corporate governance practices. We will need to hire additional accounting and financial personnel with appropriate public company experience and technical accounting knowledge, and it may be difficult to recruit and maintain such personnel. Even if

we are able to hire appropriate personnel, our existing operating expenses and operations will be impacted by the direct costs of their employment and the indirect consequences related to the diversion of management resources from product development efforts.

***Our ability to use our net operating loss carryforwards and certain tax credit carryforwards may be subject to limitation.***

As of December 31, 2013, we had federal and state net operating loss carryforwards of \$24.0 million and \$23.7 million, respectively, which begin to expire in 2031. As of December 31, 2013, we also had federal and state research and development tax credit carryforwards of \$0.3 million and \$0.2 million, respectively, which begin to expire in 2031 and 2027, respectively. Under Section 382 of the Internal Revenue Code of 1986, as amended, or the Code, changes in our ownership may limit the amount of our net operating loss carryforwards and research and development tax credit carryforwards that could be utilized annually to offset our future taxable income, if any. This limitation would generally apply in the event of a cumulative change in ownership of our company of more than 50% within a three-year period. Any such limitation may significantly reduce our ability to utilize our net operating loss carryforwards and research and development tax credit carryforwards before they expire. The completion of this offering, together with private placements and other transactions that have occurred since our inception, may trigger such an ownership change pursuant to Section 382. Any such limitation, whether as the result of this offering, prior private placements, sales of our common stock by our existing stockholders or additional sales of our common stock by us after this offering, could have a material adverse effect on our results of operations in future years. We have not completed a study to assess whether an ownership change for purposes of Section 382 has occurred, or whether there have been multiple ownership changes since our inception, due to the significant costs and complexities associated with such study.

***Unfavorable global economic conditions could adversely affect our business, financial condition or results of operations.***

Our results of operations could be adversely affected by general conditions in the global economy and in the global financial markets. The recent global financial crisis caused extreme volatility and disruptions in the capital and credit markets. A severe or prolonged economic downturn, such as the recent global financial crisis, could result in a variety of risks to our business, including, weakened demand for our product candidates and our ability to raise additional capital when needed on acceptable terms, if at all. A weak or declining economy could also strain our suppliers, possibly resulting in supply disruption, or cause our customers to delay making payments for our services. Any of the foregoing could harm our business and we cannot anticipate all of the ways in which the current economic climate and financial market conditions could adversely impact our business.

***We or the third parties upon whom we depend may be adversely affected by earthquakes or other natural disasters and our business continuity and disaster recovery plans may not adequately protect us from a serious disaster.***

Earthquakes or other natural disasters could severely disrupt our operations, and have a material adverse effect on our business, results of operations, financial condition and prospects. If a natural disaster, power outage or other event occurred that prevented us from using all or a significant portion of our headquarters, that damaged critical infrastructure, such as the manufacturing facilities of our third-party contract manufacturers, or that otherwise disrupted operations, it may be difficult or, in certain cases, impossible for us to continue our business for a substantial period of time. The disaster recovery and business continuity plans we have in place may prove inadequate in the event of a serious disaster or similar event. We may incur substantial expenses as a result of the limited nature of our disaster recovery and business continuity plans, which, particularly when taken together with our lack of earthquake insurance, could have a material adverse effect on our business.

***Our internal computer systems, or those of our third-party CROs or other contractors or consultants, may fail or suffer security breaches, which could result in a material disruption of our product candidates' development programs.***

Despite the implementation of security measures, our internal computer systems and those of our third-party CROs and other contractors and consultants are vulnerable to damage from computer viruses, unauthorized access, natural disasters, terrorism, war and telecommunication and electrical failures. While we have not experienced any such system failure, accident, or security breach to date, if such an event were to occur and cause interruptions in our operations, it could result in a material disruption of our programs. For example, the loss of clinical trial data for our product candidates could result in delays in our regulatory approval efforts and significantly increase our costs to recover or reproduce the data. To the extent that any disruption or security breach results in a loss of or damage to our data or applications or other data or applications relating to our technology or product candidates, or inappropriate disclosure of confidential or proprietary information, we could incur liabilities and the further development of our product candidates could be delayed.

***We may acquire businesses or products, or form strategic alliances, in the future, and we may not realize the benefits of such acquisitions.***

We may acquire additional businesses or products, form strategic alliances or create joint ventures with third parties that we believe will complement or augment our existing business. If we acquire businesses with promising markets or technologies, we may not be able to realize the benefit of acquiring such businesses if we are unable to successfully integrate them with our existing operations and company culture. We may encounter numerous difficulties in developing, manufacturing and marketing any new products resulting from a strategic alliance or acquisition that delay or prevent us from realizing their expected benefits or enhancing our business. We cannot assure you that, following any such acquisition, we will achieve the expected synergies to justify the transaction.

### **Risks Related to Our Financial Position and Need for Capital**

***We are a development stage biopharmaceutical company with a limited operating history and have not generated any revenue from product sales. We have incurred significant operating losses since our inception and anticipate that we will incur continued losses for the foreseeable future.***

We are a development stage company with a limited operating history on which to base your investment decision. Biopharmaceutical product development is a highly speculative undertaking and involves a substantial degree of risk. We were incorporated in April 2010. Our operations to date have been limited primarily to organizing and staffing our company, raising capital and conducting research and development activities for our product candidates. We have never generated any revenue from product sales. We have not obtained regulatory approvals for any of our product candidates.

We have funded our operations to date through proceeds from sales of redeemable convertible preferred stock and, to a lesser extent, the issuance of convertible notes. From our inception through March 31, 2014, we had received net proceeds of \$90.7 million from such transactions. As of March 31, 2014, our cash and cash equivalents were \$55.4 million. We have incurred net losses in each year since our inception, and we have a deficit accumulated during the development stage of \$37.5 million as of March 31, 2014. Our net losses were \$9.6 million and \$18.3 million for the years ended December 31, 2012 and 2013, respectively, and \$5.8 million for the three months ended March 31, 2014. Substantially all of our operating losses have resulted from costs incurred in connection with our research and development programs and from general and administrative costs associated with our operations. We expect to incur increasing levels of operating losses over the next

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several years and for the foreseeable future. Our prior losses, combined with expected future losses, have had and will continue to have an adverse effect on our stockholders' deficit and working capital. We expect our research and development expenses to significantly increase in connection with our clinical trials of our product candidates. In addition, if we obtain marketing approval for our product candidates, we will incur significant sales, marketing and outsourced-manufacturing expenses. Once we are a public company, we will incur additional costs associated with operating as a public company. As a result, we expect to continue to incur significant and increasing operating losses for the foreseeable future. Because of the numerous risks and uncertainties associated with developing pharmaceutical products, we are unable to predict the extent of any future losses or when we will become profitable, if at all. Even if we do become profitable, we may not be able to sustain or increase our profitability on a quarterly or annual basis.

Our ability to become profitable depends upon our ability to generate revenue. To date, we have not generated any revenue from our lead product candidates, SAGE-547, SAGE-689 and SAGE-217, and we do not know when, or if, we will generate any revenue. We do not expect to generate significant revenue unless and until we obtain marketing approval of, and begin to sell, SAGE-547, SAGE-689 or SAGE-217. Our ability to generate revenue depends on a number of factors, including, but not limited to, our ability to:

- initiate and successfully complete clinical trials that meet their clinical endpoints;
- initiate and successfully complete all safety studies required to obtain U.S. and foreign marketing approval for our product candidates;
- commercialize our product candidates, if approved, by developing a sales force or entering into collaborations with third parties; and
- achieve market acceptance of our product candidates in the medical community and with third-party payors.

Absent our entering into a collaboration or partnership agreement, we expect to incur significant sales and marketing costs as we prepare to commercialize our product candidates. Even if we initiate and successfully complete pivotal clinical trials of our product candidates, and our product candidates are approved for commercial sale, and despite expending these costs, our product candidates may not be a commercially successful drug. We may not achieve profitability soon after generating product sales, if ever. If we are unable to generate product revenue, we will not become profitable and may be unable to continue operations without continued funding.

***Even if this offering is successful, we will need to raise additional funding, which may not be available on acceptable terms, or at all. Failure to obtain this necessary capital when needed may force us to delay, limit or terminate our product development efforts or other operations.***

We are currently advancing our product candidates through non-clinical and clinical development. Developing small molecule products is expensive, and we expect our research and development expenses to increase substantially in connection with our ongoing activities, particularly as we advance our product candidate in clinical trials. Depending on the status of regulatory approval or, if approved, commercialization of our product candidates, as well as the progress we make in selling our product candidates, we may require additional capital to fund operating needs thereafter. We may also need to raise additional funds sooner if we choose to pursue additional indications and/or geographies for our product candidates or otherwise expand more rapidly than we presently anticipate.

As of March 31, 2014, our cash and cash equivalents were \$55.4 million. We estimate that the net proceeds from this offering will be approximately \$       million, assuming an initial public offering price of \$       per share, the midpoint of the price range set forth on the cover page of this prospectus, after deducting estimated underwriting discounts and commissions and offering expenses payable by us. We expect that the net proceeds from this offering and our existing cash and cash equivalents will

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be sufficient to fund our current operations for at least the next 12 months. However, our operating plan may change as a result of many factors currently unknown to us, and we may need to seek additional funds sooner than planned, through public or private equity or debt financings, government or other third-party funding, marketing and distribution arrangements and other collaborations, strategic alliances and licensing arrangements or a combination of these approaches. In any event, we will require additional capital to obtain regulatory approval for, and to commercialize, our product candidates. Raising funds in the current economic environment may present additional challenges. Even if we believe we have sufficient funds for our current or future operating plans, we may seek additional capital if market conditions are favorable or if we have specific strategic considerations.

Any additional fundraising efforts may divert our management from their day-to-day activities, which may adversely affect our ability to develop and commercialize our product candidates. In addition, we cannot guarantee that future financing will be available in sufficient amounts or on terms acceptable to us, if at all. Moreover, the terms of any financing may adversely affect the holdings or the rights of our stockholders and the issuance of additional securities, whether equity or debt, by us, or the possibility of such issuance, may cause the market price of our shares to decline. The sale of additional equity or convertible securities would dilute all of our stockholders. The incurrence of indebtedness would result in increased fixed payment obligations and we may be required to agree to certain restrictive covenants, such as limitations on our ability to incur additional debt, limitations on our ability to acquire, sell or license intellectual property rights and other operating restrictions that could adversely impact our ability to conduct our business. We could also be required to seek funds through arrangements with collaborative partners or otherwise at an earlier stage than otherwise would be desirable and we may be required to relinquish rights to some of our technologies or product candidate or otherwise agree to terms unfavorable to us, any of which may have a material adverse effect on our business, operating results and prospects.

If we are unable to obtain funding on a timely basis, we may be required to significantly curtail, delay or discontinue one or more of our research or development programs or the commercialization of any product candidate or be unable to expand our operations or otherwise capitalize on our business opportunities, as desired, which could materially affect our business, financial condition and results of operations.

### ***Raising additional capital may cause dilution to our existing stockholders, restrict our operations or require us to relinquish rights.***

We may seek additional capital through a combination of private and public equity offerings, debt financings, collaborations and strategic and licensing arrangements. To the extent that we raise additional capital through the sale of common stock or securities convertible or exchangeable into common stock, your ownership interest in our company will be diluted. In addition, the terms of any such securities may include liquidation or other preferences that materially adversely affect your rights as a stockholder. Debt financing, if available, would increase our fixed payment obligations and may involve agreements that include covenants limiting or restricting our ability to take specific actions, such as incurring additional debt, making capital expenditures or declaring dividends. If we raise additional funds through collaboration, strategic partnerships and licensing arrangements with third parties, we may have to relinquish valuable rights to our product candidates, our intellectual property, future revenue streams or grant licenses on terms that are not favorable to us.

### ***If you purchase our common stock in this offering, you will incur immediate and substantial dilution in the book value of your shares.***

You will suffer immediate and substantial dilution in the net tangible book value of the common stock you purchase in this offering. Assuming an initial public offering price of \$            per share, the midpoint of the price range set forth on the cover page of this prospectus, purchasers of common stock

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in this offering will experience immediate dilution of \$ \_\_\_\_\_ per share in net tangible book value of the common stock. In addition, investors purchasing common stock in this offering will contribute \_\_\_\_\_ % of the total amount invested by stockholders since inception but will only own \_\_\_\_\_ % of the shares of common stock outstanding. In the past, we issued securities to acquire common stock at prices significantly below the initial public offering price. To the extent these outstanding securities are ultimately exercised, investors purchasing common stock in this offering will sustain further dilution. See "Dilution" for a more detailed description of the dilution to new investors in the offering.

### **Risks Related to Our Common Stock**

#### ***Market volatility may affect our stock price and the value of your investment.***

Following this offering, the market price for our common stock is likely to be volatile, in part because our common stock has not been previously traded publicly. In addition, the market price of our common stock may fluctuate significantly in response to a number of factors, most of which we cannot control, including, among others:

- plans for, progress of or results from non-clinical studies and clinical trials of our product candidates;
- the failure of the FDA to approve our product candidates;
- announcements of new products, technologies, commercial relationships, acquisitions or other events by us or our competitors;
- the success or failure of other CNS therapies;
- regulatory or legal developments in the United States and other countries;
- failure of our product candidates, if approved, to achieve commercial success;
- fluctuations in stock market prices and trading volumes of similar companies;
- general market conditions and overall fluctuations in U.S. equity markets;
- variations in our quarterly operating results;
- changes in our financial guidance or securities analysts' estimates of our financial performance;
- changes in accounting principles;
- our ability to raise additional capital and the terms on which we can raise it;
- sales of large blocks of our common stock, including sales by our executive officers, directors and significant stockholders;
- additions or departures of key personnel;
- discussion of us or our stock price by the press and by online investor communities; and
- other risks and uncertainties described in these risk factors.

#### ***An active trading market for our common stock may not develop, and you may not be able to resell your shares at or above the initial public offering price.***

Prior to this offering, there has been no public market for shares of our common stock. Although we anticipate that our common stock will be approved for listing on The NASDAQ Global Market, an active trading market for our shares may never develop or be sustained following this offering. The initial public offering price of our common stock will be determined through negotiations between us and the underwriters. This initial public offering price may not be indicative of the market price of our common stock after this offering. In the absence of an active trading market for our common stock, investors may not be able to sell their common stock at or above the initial public offering price or at the time that they would like to sell.

***We have a significant stockholder, which will limit your ability to influence corporate matters and may give rise to conflicts of interest.***

A fund affiliated with Third Rock Ventures, or TRV, is our largest stockholder. As of April 30, 2014, TRV beneficially owned approximately 58.5% of our common stock. Following this offering, we anticipate that TRV will beneficially own approximately % of our common stock. Accordingly, TRV exerts and will continue to exert significant influence over us and any action requiring the approval of the holders of our common stock, including the election of directors and amendments to our organizational documents, such as increases in our authorized shares of common stock and approval of significant corporate transactions. Furthermore, the interests of TRV may not always coincide with your interests or the interests of other stockholders and TRV may act in a manner that advances its best interests and not necessarily those of other stockholders, including seeking a premium value for its common stock, which might affect the prevailing market price for our common stock.

***Our executive officers, directors, principal stockholders and their affiliates will continue to exercise significant control over our company after this offering, which will limit your ability to influence corporate matters and could delay or prevent a change in corporate control.***

Immediately following the completion of this offering, and disregarding any shares of common stock that they purchase in this offering, the existing holdings of our executive officers, directors, principal stockholders and their affiliates, including investment funds affiliated with ARCH Venture Fund VII, L.P., or ARCH, TRV, and entities affiliated with Fidelity Investment, or Fidelity, will represent beneficial ownership, in the aggregate, of approximately % of our outstanding common stock, assuming no exercise of the underwriters' option to acquire additional common stock in this offering and assuming we issue the number of shares of common stock as set forth on the cover page of this prospectus. As a result, these stockholders, if they act together, will be able to influence our management and affairs and control the outcome of matters submitted to our stockholders for approval, including the election of directors and any sale, merger, consolidation, or sale of all or substantially all of our assets. These stockholders acquired their shares of common stock for substantially less than the price of the shares of common stock being acquired in this offering, and these stockholders may have interests, with respect to their common stock, that are different from those of investors in this offering and the concentration of voting power among these stockholders may have an adverse effect on the price of our common stock. In addition, this concentration of ownership might adversely affect the market price of our common stock by:

- delaying, deferring or preventing a change of control of us;
- impeding a merger, consolidation, takeover or other business combination involving us; or
- discouraging a potential acquirer from making a tender offer or otherwise attempting to obtain control of us.

See "Principal Stockholders" in this prospectus for more information regarding the ownership of our outstanding common stock by our executive officers, directors, principal stockholders and their affiliates.

***Sales of a substantial number of shares of our common stock in the public market could cause our stock price to fall.***

If our existing stockholders sell, or indicate an intention to sell, substantial amounts of our common stock in the public market after the lock-up and other legal restrictions on resale discussed in this prospectus lapse, the market price of our common stock could decline. Based upon the number of shares of common stock, on an as-converted basis, outstanding as of March 31, 2014, upon the completion of this offering, we will have outstanding a total of \_\_\_\_\_ shares of common stock,



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assuming no exercise of the underwriters' option to purchase additional shares. Of these shares, as of the date of this prospectus, approximately \_\_\_\_\_ shares of our common stock, plus any shares sold upon exercise of the underwriters' option to purchase additional shares, will be freely tradable, without restriction, in the public market immediately following this offering, assuming that current stockholders do not purchase shares in this offering. The representatives of the underwriters, however, may, in their sole discretion, permit our officers, directors and other stockholders who are subject to these lock-up agreements to sell shares prior to the expiration of the lock-up agreements.

The lock-up agreements pertaining to this offering will expire 180 days from the date of this prospectus. After the lock-up agreements expire, based upon the number of shares of common stock, on an as-converted basis, outstanding as of March 31, 2014, up to an additional \_\_\_\_\_ shares of common stock will be eligible for sale in the public market, \_\_\_\_\_ of which shares are held by directors, executive officers and other affiliates and will be subject to Rule 144 under the Securities Act of 1933, as amended, or the Securities Act.

In addition, as of March 31, 2014, \_\_\_\_\_ shares of common stock that are either subject to outstanding options or reserved for future issuance under our equity incentive plans will become eligible for sale in the public market to the extent permitted by the provisions of various vesting schedules, the lock-up agreements and Rule 144 and Rule 701 under the Securities Act. If these additional shares of common stock are sold, or if it is perceived that they will be sold, in the public market, the market price of our common stock could decline.

After this offering, the holders of approximately \_\_\_\_\_ shares of our common stock will be entitled to rights with respect to the registration of their shares under the Securities Act, subject to the lock-up agreements described above. Registration of these shares under the Securities Act would result in the shares becoming freely tradable without restriction under the Securities Act, except for shares purchased by affiliates. Any sales of securities by these stockholders could have a material adverse effect on the market our common stock.

***We have broad discretion in how we use the proceeds of this offering and may not use these proceeds effectively, which could affect our results of operations and cause our stock price to decline.***

We will have considerable discretion in the application of the net proceeds of this offering. We intend to use the net proceeds from this offering to fund the costs of our Phase 1/2 clinical development of SAGE-547, to fund the IND-enabling activities and Phase 1 clinical activity for SAGE-689, to fund the IND-enabling activities for SAGE-217 and to fund new and ongoing research and development activities, working capital and other general corporate purposes, which may include funding for the hiring of additional personnel, capital expenditures and the costs of operating as a public company. As a result, investors will be relying upon management's judgment with only limited information about our specific intentions for the use of the balance of the net proceeds of this offering. We may use the net proceeds for purposes that do not yield a significant return or any return at all for our stockholders. In addition, pending their use, we may invest the net proceeds from this offering in a manner that does not produce income or that loses value.

***After the completion of this offering, we may be at an increased risk of securities class action litigation.***

Historically, securities class action litigation has often been brought against a company following a decline in the market price of its securities. This risk is especially relevant for us because biotechnology and pharmaceutical companies have experienced significant stock price volatility in recent years. If we were to be sued, it could result in substantial costs and a diversion of management's attention and resources, which could harm our business.

***Anti-takeover provisions in our charter documents and under Delaware law could make an acquisition of us, even one that may be beneficial to our stockholders, more difficult and may prevent attempts by our stockholders to replace or remove our current management.***

Provisions in our amended and restated certificate of incorporation and amended and restated bylaws may delay or prevent an acquisition of us or a change in our management. These provisions include a classified board of directors, a prohibition on actions by written consent of our stockholders and the ability of our board of directors to issue preferred stock without stockholder approval. In addition, because we are incorporated in Delaware, we are governed by the provisions of Section 203 of the Delaware General Corporation Law, which limits the ability of stockholders owning in excess of 15% of our outstanding voting stock to merge or combine with us. Although we believe these provisions collectively provide for an opportunity to obtain greater value for stockholders by requiring potential acquirers to negotiate with our board of directors, they would apply even if an offer rejected by our board were considered beneficial by some stockholders. In addition, these provisions may frustrate or prevent any attempts by our stockholders to replace or remove our current management by making it more difficult for stockholders to replace members of our board of directors, which is responsible for appointing the members of our management.

***We are an “emerging growth company,” and as a result of the reduced disclosure and governance requirements applicable to emerging growth companies, our common stock may be less attractive to investors.***

We are an “emerging growth company,” as defined in the JOBS Act, and we intend to take advantage of certain exemptions from various reporting requirements that are applicable to other public companies that are not emerging growth companies including, but not limited to, not being required to comply with the auditor attestation requirements of Section 404, reduced disclosure obligations regarding executive compensation in our periodic reports and proxy statements, and exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and stockholder approval of any golden parachute payments not previously approved. If we choose not to comply with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act, our auditors will not be required to attest to the effectiveness of our internal control over financial reporting. As a result, investors may become less comfortable with the effectiveness of our internal controls and the risk that material weaknesses or other deficiencies in our internal controls go undetected may increase. If we choose to provide reduced disclosures in our periodic reports and proxy statements while we are an emerging growth company, investors would have access to less information and analysis about our executive compensation, which may make it difficult for investors to evaluate our executive compensation practices. We cannot predict if investors will find our common stock less attractive because we will rely on these exemptions. If some investors find our common stock less attractive as a result, there may be a less active trading market for our common stock and our stock price may be more volatile. We may take advantage of these reporting exemptions until we are no longer an “emerging growth company.” We will remain an “emerging growth company” until the earlier of (a) the last day of the fiscal year following the fifth anniversary of the completion of this offering, (b) the last day of the fiscal year in which we have total annual gross revenue of at least \$1.0 billion, (c) the date on which we are deemed to be a large accelerated filer, which means the market value of our common stock that is held by non-affiliates exceeds \$700 million as of the prior June 30<sup>th</sup>, and (d) the date on which we have issued more than \$1.0 billion in non-convertible debt during the prior three-year period.

***We do not intend to pay dividends on our common stock and, consequently, your ability to achieve a return on your investment will depend on appreciation in the price of our common stock.***

We have never declared or paid any cash dividend on our common stock and do not currently intend to do so in the foreseeable future. We currently anticipate that we will retain future earnings for the development, operation and expansion of our business and do not anticipate declaring or paying

any cash dividends in the foreseeable future. Therefore, the success of an investment in shares of our common stock will depend upon any future appreciation in their value. There is no guarantee that shares of our common stock will appreciate in value or even maintain the price at which you purchased them.

***If securities or industry analysts do not publish or cease publishing research or reports or publish misleading, inaccurate or unfavorable research about us, our business or our market, our stock price and trading volume could decline.***

The trading market for our common stock will be influenced by the research and reports that securities or industry analysts publish about us, our business, our market or our competitors. We do not currently have and may never obtain research coverage by securities and industry analysts. If no or few securities or industry analysts cover our company, the trading price and volume of our stock would likely be negatively impacted. If we obtain securities or industry analyst coverage and if one or more of the analysts who covers us downgrades our stock or publishes inaccurate or unfavorable research about our business, or provides more favorable relative recommendations about our competitors, our stock price would likely decline. If one or more of these analysts ceases coverage of us or fails to publish reports on us regularly, demand for our stock could decrease, which could cause our stock price or trading volume to decline.

## CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus, including the sections entitled “Prospectus Summary,” “Risk Factors,” “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and “Business,” contains forward-looking statements that are based on our management’s belief and assumptions and on information currently available to our management. Although we believe that the expectations reflected in these forward-looking statements are reasonable, these statements relate to our strategy, future operations, future financial position, future revenue, projected costs, prospects, plans, objectives of management and expected market growth, and involve known and unknown risks, uncertainties and other factors that may cause our actual results, levels of activity, performance or achievements to be materially different from any future results, levels of activity, performance or achievements expressed or implied by these forward-looking statements. Forward-looking statements in this prospectus include, but are not limited to, statements about:

- our use of the net proceeds from this offering;
- the accuracy of our estimates regarding expenses, future revenues and capital requirements;
- our ability to achieve orphan drug designation for our product candidates;
- our plans to develop and commercialize our product candidates, initially as treatments for SE, RSE and SRSE;
- our ability to advance our product candidates into clinical trials, including pivotal clinical trials, and successfully complete such clinical trials;
- regulatory developments in the United States and foreign countries;
- the performance of our third-party manufacturers and CROs;
- our ability to obtain and maintain intellectual property protection for our proprietary assets;
- the size of the potential markets for our product candidates and our ability to serve those markets;
- the rate and degree of market acceptance of our product candidates for any indication once approved;
- our ability to obtain additional financing;
- the success of competing products that are or become available for the indications that we are pursuing; and
- the loss of key scientific or management personnel.

In some cases, you can identify forward-looking statements by terminology such as “may,” “will,” “should,” “expects,” “intends,” “plans,” “anticipates,” “believes,” “estimates,” “predicts,” “potential,” “continue” or the negative of these terms or other comparable terminology. These statements are only predictions. You should not place undue reliance on forward-looking statements because they involve known and unknown risks, uncertainties and other factors, which are, in some cases, beyond our control and which could materially affect results. Factors that may cause actual results to differ materially from current expectations include, among other things, those listed under “Risk Factors” and elsewhere in this prospectus. If one or more of these risks or uncertainties occur, or if our underlying assumptions prove to be incorrect, actual events or results may vary significantly from those implied or projected by the forward-looking statements. No forward-looking statement is a guarantee of future performance. You should read this prospectus and the documents that we reference in this prospectus and have filed with the SEC as exhibits to the registration statement, of which this prospectus is a part, completely and with the understanding that our actual future results may be materially different from any future results expressed or implied by these forward-looking statements.

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The forward-looking statements in this prospectus represent our views as of the date of this prospectus. We anticipate that subsequent events and developments will cause our views to change. However, while we may elect to update these forward-looking statements at some point in the future, we have no current intention of doing so except to the extent required by applicable law. You should, therefore, not rely on these forward-looking statements as representing our views as of any date subsequent to the date of this prospectus.

## USE OF PROCEEDS

We estimate that our net proceeds from the sale of shares of our common stock in this offering will be approximately \$        million, or \$        million if the underwriters exercise in full their option to purchase additional shares, assuming an initial public offering price of \$        per share, the midpoint of the price range set forth on the cover page of this prospectus, and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us.

A \$1.00 increase (decrease) in the assumed initial public offering price of \$        per share, the midpoint of the price range set forth on the cover page of this prospectus, would increase (decrease) the net proceeds to us from this offering by \$        million, assuming the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us. An increase (decrease) of        shares in the number of shares offered by us, as set forth on the cover page of this prospectus, would increase (decrease) our net proceeds from this offering by \$        million, assuming no change in the assumed initial public offering price per share and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us. A        share increase in the number of shares offered by us together with a concomitant \$1.00 increase in the assumed initial public offering price of \$        per share, the midpoint of the price range set forth on the cover page of this prospectus, would increase the net proceeds to us from this offering by \$        million after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us. Conversely, a        share decrease in the number of shares offered by us together with a concomitant \$1.00 decrease in the assumed initial public offering price of \$        per share, the midpoint of the price range set forth on the cover page of this prospectus, would decrease the net proceeds to us from this offering by \$        million after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us.

We intend to use the net proceeds from this offering, plus, if needed, cash on hand, as follows:

- approximately \$        million to fund the costs of our Phase 1/2 clinical development of SAGE-547;
- approximately \$        million to fund the IND-enabling activities and Phase 1 clinical development of SAGE-689;
- approximately \$        million to fund the IND-enabling activities for SAGE-217; and
- the remaining proceeds, if any, to fund new and ongoing research and development activities, working capital and other general corporate purposes, which may include funding for the hiring of additional personnel, capital expenditures and the costs of operating as a public company.

Based on our current plans, we believe our cash, cash equivalents and short-term investments, together with the net proceeds to us from this offering, will be sufficient to fund our operations for at least the next 12 months.

This expected use of the net proceeds from this offering represents our intentions based upon our current plans and business conditions. As of the date of this prospectus, we cannot predict with certainty all of the particular uses for the net proceeds to be received upon the completion of this offering or the amounts that we will actually spend on the uses set forth above. The amounts and timing of our actual expenditures and the extent of clinical development may vary significantly depending on numerous factors, including the progress of our development efforts, the status of and results from non-clinical studies and any ongoing clinical trials or clinical trials we may commence in the future, as well as any collaborations that we may enter into with third parties for our product candidates and any unforeseen cash needs. As a result, our management will retain broad discretion over the allocation of the net proceeds from this offering.

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Pending our use of the net proceeds from this offering, we intend to invest the net proceeds in a variety of capital preservation investments, including short-term, investment-grade, interest-bearing instruments and U.S. government securities.

## **DIVIDEND POLICY**

We have never declared or paid dividends on our capital stock. We do not anticipate paying any dividends on our capital stock in the foreseeable future. We currently intend to retain all available funds and any future earnings to fund the development and growth of our business. Any future determination to declare dividends will be subject to the discretion of our board of directors and will depend on various factors, including applicable laws, our results of operations, financial condition, future prospects and any other factors deemed relevant by our board of directors. Investors should not purchase our common stock with the expectation of receiving cash dividends.



## CAPITALIZATION

The following table sets forth our cash and cash equivalents and our capitalization as of March 31, 2014:

• on an actual basis;

• on a pro forma basis, giving effect to the automatic conversion of all outstanding shares of our redeemable convertible preferred stock into an aggregate of 56,723,904 shares of our common stock upon the completion of this offering; and

• on a pro forma as adjusted basis, giving effect to the pro forma adjustments listed above as well as the sale by us of \_\_\_\_\_ shares of our common stock in this offering at an assumed initial public offering price of \$ \_\_\_\_\_ per share, the midpoint of the price range set forth on the cover page of this prospectus, after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us.

The pro forma as adjusted information below is illustrative only, and our capitalization following the completion of this offering will be adjusted based on the actual initial public offering price and other terms of this offering determined at pricing. You should read this table in conjunction with the sections of this prospectus entitled “Selected Financial Data” and “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and with our financial statements and related notes included elsewhere in this prospectus.

	As of March 31, 2014		
	Actual	Pro Forma	Pro Forma As Adjusted <sup>(1)</sup>
	(in thousands, except share and per share data)		
Cash and cash equivalents	\$ 55,425	\$ 55,425	\$
Redeemable convertible preferred stock (Series A, B and C), \$0.0001 par value; 56,723,905 shares authorized and 56,723,904 shares issued and outstanding, actual; no shares authorized, issued or outstanding, pro forma and pro forma as adjusted	91,011		
<b>Stockholders' equity (deficit):</b>			
Preferred stock, \$0.0001 par value; no shares, issued or outstanding, actual; _____ shares authorized and no shares issued or outstanding, pro forma and pro forma as adjusted	—	—	—
Common stock, \$0.0001 par value; 70,623,905 shares authorized, 6,156,250 shares issued and outstanding, actual; _____ shares authorized, 62,880,154 shares issued and outstanding, pro forma; _____ shares authorized, _____ shares issued and outstanding, pro forma as adjusted	1	6	
Additional paid-in capital	106	91,112	
Deficit accumulated during the development stage	(37,465)	(37,465)	
Total stockholders' equity (deficit)	(37,358)	53,653	
<b>Total capitalization</b>	<b>\$ 53,653</b>	<b>\$ 53,653</b>	<b>\$</b>

(1) A \$1.00 increase (decrease) in the assumed initial public offering price of \$ \_\_\_\_\_ per share, the midpoint of the price range set forth on the cover page of this prospectus, would increase (decrease) each of cash and cash equivalents, total stockholders' equity and total capitalization on a pro forma as adjusted basis by \$ \_\_\_\_\_ million, assuming the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us. An increase (decrease) of \_\_\_\_\_ shares in the number of shares offered by us, as set forth on the cover page of this prospectus, would increase (decrease) our net proceeds from this offering by \$ \_\_\_\_\_ million, assuming the assumed initial public offering price remains the same and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us. A \_\_\_\_\_ share increase in the number of shares offered by us together with a concomitant \$1.00 increase in the assumed initial public offering price of \$ \_\_\_\_\_ per share, the midpoint of the price range set forth on the cover page of this prospectus, would increase each of cash and cash equivalents, total stockholders' equity and total capitalization by \$ \_\_\_\_\_ million after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us. Conversely, a \_\_\_\_\_ share decrease in the number of shares offered by us together with a concomitant \$1.00 decrease in the assumed initial public offering price of \$ \_\_\_\_\_ per share, the midpoint of the price range set forth on the cover page of this prospectus, would decrease each of cash and cash equivalents, total stockholders' equity and total capitalization by \$ \_\_\_\_\_ million after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us.

The number of common shares shown as outstanding on an actual, pro forma and pro forma as adjusted basis in the table above is based on 6,156,250 shares of common stock outstanding as of March 31, 2014, which includes 862,397 shares that are subject to repurchase by us and are not considered outstanding for accounting purposes until vested, and excludes:

- 4,853,500 shares of common stock issuable upon the exercise of outstanding options as of March 31, 2014 at a weighted average exercise price of \$0.45 per share;
- 2,890,250 shares of common stock reserved for future issuance under our 2011 Stock Option Plan as of March 31, 2014; and
- \_\_\_\_\_ shares of our common stock reserved for future issuance under our 2014 Stock Option, which will become effective upon the completion of this offering.

## DILUTION

If you invest in our common stock in this offering, your ownership interest will be diluted immediately to the extent of the difference between the initial public offering price per share you will pay in this offering and the pro forma as adjusted net tangible book value per share of our common stock immediately after this offering.

Our historical net tangible book value (deficit) as of March 31, 2014 was \$(38.2) million, or \$(6.21) per share of common stock. Our historical net tangible book value (deficit) is the amount of our total tangible assets less our total liabilities and redeemable convertible preferred stock, which is not included within stockholders' equity (deficit). Historical net tangible book value per share is our historical net tangible book value (deficit) divided by the number of shares of common stock outstanding as of March 31, 2014.

Our pro forma net tangible book value as of March 31, 2014 was \$52.8 million, or \$0.84 per share of common stock. Pro forma net tangible book value represents total tangible assets less total liabilities, after giving effect to the automatic conversion of all outstanding shares of our redeemable convertible preferred stock into an aggregate of 56,723,904 shares of our common stock upon the completion of this offering. Pro forma net tangible book value per share represents pro forma net tangible book value divided by the pro forma number of shares of our common stock outstanding as of March 31, 2014, after giving effect to the automatic conversion of all outstanding shares of our redeemable convertible preferred stock into an aggregate of 56,723,904 shares of common stock upon the completion of this offering.

After giving effect to the sale by us of \_\_\_\_\_ shares of common stock in this offering at an assumed initial public offering price of \$ \_\_\_\_\_ per share, the midpoint of the price range set forth on the cover page of this prospectus, and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us, our pro forma as adjusted net tangible book value as of March 31, 2014 would have been \$ \_\_\_\_\_ million, or \$ \_\_\_\_\_ per share. This represents an immediate increase in pro forma as adjusted net tangible book value of \$ \_\_\_\_\_ per share to existing stockholders and an immediate dilution of \$ \_\_\_\_\_ per share to new investors purchasing common stock in this offering at the initial public offering price. Dilution per share to new investors is determined by subtracting pro forma as adjusted net tangible book value per share after this offering from the assumed initial public offering price per share paid by new investors. The following table illustrates this dilution on a per share basis:

Assumed initial public offering price per share	\$
Historical net tangible book value (deficit) per share as of March 31, 2014	\$(6.21)
Increase per share attributable to the conversion of all shares of redeemable convertible preferred stock outstanding	<u>7.05</u>
Pro forma net tangible book value per share as of March 31, 2014	0.84
Increase in pro forma as adjusted net tangible book value per share attributable to new investors purchasing shares in this offering	<u>          </u>
Pro forma as adjusted net tangible book value per share after this offering	<u>          </u>
Dilution per share to new investors participating in this offering	<u><u>\$</u></u>

A \$1.00 increase (decrease) in the assumed initial public offering price of \$ \_\_\_\_\_ per share, the midpoint of the price range set forth on the cover page of this prospectus, would increase (decrease) the pro forma as adjusted net tangible book value per share after this offering by \$ \_\_\_\_\_ per share and would increase (decrease) the dilution per share to new investors participating in this offering by \$ \_\_\_\_\_ per share, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us. An increase of \_\_\_\_\_ shares in the

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number of shares offered by us, as set forth on the cover page of this prospectus, would increase the pro forma as adjusted net tangible book value per share after this offering by \$ [redacted] and decrease the dilution per share to new investors participating in this offering by \$ [redacted], assuming the assumed initial public offering price remains the same and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us. A decrease of [redacted] shares in the number of shares offered by us, as set forth on the cover page of this prospectus, would decrease the pro forma as adjusted net tangible book value per share after this offering by \$ [redacted] and increase the dilution per share to new investors participating in this offering by \$ [redacted], assuming the assumed initial public offering price remains the same and after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us. A [redacted] share increase in the number of shares offered by us together with a concomitant \$1.00 increase in the assumed initial public offering price of \$ [redacted] per share, the midpoint of the price range set forth on the cover page of this prospectus, would increase the pro forma as adjusted net tangible book value per share after this offering by \$ [redacted] million after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us. Conversely, a [redacted] share decrease in the number of shares offered by us together with a concomitant \$1.00 decrease in the assumed initial public offering price of \$ [redacted] per share, the midpoint of the price range set forth on the cover page of this prospectus, would decrease the pro forma as adjusted net tangible book value per share after this offering by \$ [redacted] million after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us. The information discussed above is illustrative only and will be adjusted based on the actual initial public offering price and other terms of this offering determined at pricing.

If the underwriters exercise their option to purchase additional shares in full, the pro forma as adjusted net tangible book value per share after this offering would be \$ [redacted] per share, representing an increase in pro forma as adjusted net tangible book value per share to existing stockholders of \$ [redacted] per share and immediate dilution in pro forma as adjusted net tangible book value per share to new investors purchasing shares in this offering of \$ [redacted] per share, assuming an initial public offering price of \$ [redacted] per share, the midpoint of the price range set forth on the cover page of this prospectus.

The following table summarizes, as of March 31, 2014, on a pro forma as adjusted basis described above, the number of shares of our common stock, the total consideration and the average price per share (i) paid to us by existing stockholders and (ii) to be paid by new investors purchasing shares of common stock in this offering at an assumed initial public offering price of \$ [redacted] per share, the midpoint of the price range set forth on the cover page of this prospectus, before deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us.

	Shares Purchased		Total Consideration		Average Price Per Share
	Number	Percent	Amount	Percent	
Existing stockholders		%	\$	%	\$
New investors					\$
Total		%	\$	%	

The table above assumes no exercise of the underwriters' option to purchase additional shares in this offering. If the underwriters' option to purchase additional shares is exercised in full, the number of shares of our common stock held by existing stockholders would be reduced to [redacted] % of the total number of shares of our common stock outstanding after this offering, and the number of shares of common stock held by new investors participating in the offering would be increased to [redacted] % of the total number of shares of our common stock outstanding after this offering.

The above discussion and tables are based on 6,156,250 shares of common stock outstanding as of March 31, 2014 (which includes 862,397 shares that are subject to repurchase by us and are not

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considered outstanding for accounting purposes until vested) and also give effect to the automatic conversion of all outstanding shares of our redeemable convertible preferred stock into an aggregate of 56,723,904 shares of common stock upon the completion of this offering. The discussion and tables above assume no exercise of any outstanding stock options. As of March 31, 2014, there were 4,853,500 shares of common stock issuable upon exercise of outstanding options at a weighted average exercise price of \$0.45 per share. The tables above also exclude 2,890,250 shares of common stock reserved for issuance under our 2011 Stock Option Plan as of March 31, 2014 and                      shares of our common stock reserved for future issuance under our 2014 Stock Option Plan, which will become effective upon the completion of this offering.

To the extent that outstanding options are exercised, you will experience further dilution. In addition, we may choose to raise additional capital due to market conditions or strategic considerations even if we believe we have sufficient funds for our current or future operating plans. To the extent that additional capital is raised through the sale of equity or convertible debt securities, the issuance of these securities may result in further dilution to our stockholders.

## SELECTED FINANCIAL DATA

You should read the following selected financial data together with our financial statements and the related notes appearing at the end of this prospectus and the "Management's Discussion and Analysis of Financial Condition and Results of Operations" section of this prospectus. We have derived the statement of operations data for the years ended December 31, 2012 and 2013 and the balance sheet data as of December 31, 2012 and 2013 from our audited financial statements included elsewhere in this prospectus. We have derived the statement of operations data for the three months ended March 31, 2013 and 2014 and for the cumulative period from inception (April 16, 2010) through March 31, 2014 and the balance sheet data as of March 31, 2014 from our unaudited consolidated financial statements included elsewhere in this prospectus. The unaudited financial data have been prepared on the same basis as the audited consolidated financial statements and, in management's opinion, include all adjustments, consisting only of normal recurring adjustments, necessary for a fair presentation of the financial information as of and for the periods presented. Our historical results are not necessarily indicative of the results that should be expected in the future, and results for the three months ended March 31, 2014 are not necessarily indicative of the results to be expected for the full year ending December 31, 2014.

	Year Ended December 31,		Three Months Ended March 31,		Cumulative Period From Inception (April 16, 2010) to March 31, 2014
	2012	2013	2013	2014	
(in thousands, except per share data)					
<b>Statement of operations data:</b>					
Operating expenses:					
Research and development	\$ 7,229	\$ 14,357	\$ 2,583	\$ 4,173	\$ 28,268
General and administrative	2,402	3,922	806	1,617	9,146
Total operating expenses	<u>9,631</u>	<u>18,279</u>	<u>3,389</u>	<u>5,790</u>	<u>37,414</u>
Loss from operations	(9,631)	(18,279)	(3,389)	(5,790)	(37,414)
Interest income (expense), net	—	1	—	—	(46)
Other income (expense), net	(1)	(3)	—	—	(5)
Net loss	(9,632)	(18,281)	(3,389)	(5,790)	(37,465)
Accretion of redeemable convertible preferred stock to redemption value	(4)	(7)	—	(326)	(338)
Net loss attributable to common stockholders	<u>\$ (9,636)</u>	<u>\$ (18,288)</u>	<u>\$ (3,389)</u>	<u>\$ (6,116)</u>	<u>\$ (37,803)</u>
Net loss per share attributable to common stockholders—basic and diluted <sup>(1)</sup>	<u>\$ (2.74)</u>	<u>\$ (3.89)</u>	<u>\$ (0.76)</u>	<u>\$ (1.17)</u>	
Weighted average common shares outstanding—basic and diluted <sup>(1)</sup>	<u>3,523</u>	<u>4,701</u>	<u>4,745</u>	<u>5,206</u>	
Pro forma net loss per share attributable to common stockholders—basic and diluted (unaudited) <sup>(2)</sup>		<u>\$ (0.61)</u>		<u>\$ (0.11)</u>	
Pro forma weighted average common shares outstanding—basic and diluted (unaudited) <sup>(2)</sup>		<u>29,971</u>		<u>52,839</u>	

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	As of December 31,		As of
	2012	2013	March 31, 2014
	(in thousands)		
<b>Balance sheet data:</b>			
Cash and cash equivalents	\$ 2,802	\$ 8,066	\$ 55,425
Working capital <sup>(3)</sup>	1,407	6,092	53,572
Total assets	2,995	8,532	56,777
Redeemable convertible preferred stock	14,970	37,709	91,011
Total stockholders' deficit	(13,394)	(31,536)	(37,358)

- (1) See Note 9 to our financial statements for further details on the calculation of basic and diluted net loss per share attributable to common stockholders.
- (2) See Note 9 to our financial statements for further details on the calculation of basic and diluted pro forma net loss per share attributable to common stockholders.
- (3) We define working capital as current assets less current liabilities.

## MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

*You should read the following discussion and analysis of financial condition and results of operations together with the section entitled "Selected Financial Data" and our financial statements and related notes included elsewhere in this prospectus. This discussion and other parts of this prospectus contain forward-looking statements that involve risks and uncertainties, such as statements regarding our plans, objectives, expectations, intentions and projections. Our actual results could differ materially from those discussed in these forward-looking statements. Factors that could cause or contribute to such differences include, but are not limited to, those discussed in the "Risk Factors" section of this prospectus.*

### Overview

We are a biopharmaceutical company committed to developing and commercializing novel medicines to treat life-threatening, rare central nervous system, or CNS, disorders, where there are inadequate or no approved existing therapies. We are targeting CNS indications where patient populations are easily identified, acute treatment is typically initiated in the hospital setting, clinical endpoints are well-defined, and development pathways are feasible. This focus allows us to make highly informed decisions when advancing our product candidates through the development process. Our initial product candidates are aimed at treating different stages of status epilepticus, or SE, a life-threatening condition in which the brain is in a state of persistent seizure.

The lead product candidate in our SE program, SAGE-547, is an intravenous, or IV, agent in Phase 1/2 clinical development as an adjunctive therapy, a therapy combined with current therapeutic approaches, for the treatment of super-refractory SE, or SRSE. The current standard of care for SRSE is empiric, and there are no therapies at present that have been specifically approved for this indication. We thus believe there is a significant unmet medical need for SAGE-547.

SE is diagnosed when a patient has a seizure lasting longer than five minutes, and is associated with substantial morbidity and mortality. We estimate that in the United States each year there are up to 150,000 cases of SE, of which 30,000 SE patients die. We estimate that there are 35,000 patients with SE in the United States that are hospitalized in the intensive care unit, or ICU, each year. An SE patient is first treated with benzodiazepines, or BDZs, and if no response then treated with other, second-line, anti-seizure drugs. If the seizure persists after second-line therapy the patient is diagnosed as having refractory SE, or RSE, admitted to the ICU and placed into a medically induced coma. Currently, there are no therapies that have been specifically approved for refractory SE, or RSE; however, physicians typically use anesthetic agents to induce the coma and stop the seizure immediately. After a period of 24 hours, an attempt is made to wean the patient from the anesthetic agents to evaluate whether or not the seizure condition has resolved. Unfortunately, not all patients respond to weaning attempts, in which case the patient must be maintained in the medically induced coma. At this point, the patient is diagnosed as having SRSE.

Prior to the start of our Phase 1/2 clinical trial of SAGE-547, we compiled evidence which we believe supports the safety and activity of SAGE-547 for treatment of SRSE. Four patients were treated with SAGE-547 by independent centers under emergency-use Investigational New Drug Applications, or INDs. Each of the four patients treated with SAGE-547 achieved resolution of SRSE either during the course of or soon after SAGE-547 treatment. On October 30, 2013, we filed an IND for SAGE-547 for the treatment of SRSE with the U.S. Food and Drug Administration, or FDA, and we received notification allowing us to proceed with our Phase 1/2 clinical trial of SAGE-547 on November 27, 2013. We commenced our Phase 1/2 clinical trial to study safety, tolerability and



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efficacy of SAGE-547 in adult patients with SRSE in January 2014. This clinical trial is an open-label study in at least ten patients diagnosed with SRSE. Currently, there are four active study sites in the United States, and we plan to open up to 16 additional study sites in the United States to achieve full enrollment of this clinical trial. As of the date of this prospectus, three patients have been enrolled in this trial and treated with SAGE-547. While data collection in these patients is ongoing, all three patients met the key efficacy endpoint, in that each was successfully weaned off his or her anesthetic agent while SAGE-547 was being administered. In April 2014, the FDA granted us orphan drug designation for SAGE-547 as a treatment for SE.

SAGE-689 and SAGE-217, two additional product candidates in our SE program, are currently in IND-enabling toxicology and safety pharmacology testing. SAGE-689 is being developed as an adjunctive second-line therapy for the treatment of SE, and SAGE-217 is being developed as both an IV monotherapy for the treatment of RSE, and as an orally delivered maintenance therapeutic to prevent recurrent seizures in patients whose SE, RSE or SRSE has resolved.

We anticipate that SAGE-217 may also have the potential for use in a broader range of seizure conditions beyond maintenance therapy. In addition, we believe SAGE-217 or other related molecules from our portfolio may be useful in the treatment of a variety of neurological and psychiatric disorders, including, for example, fragile X syndrome, Rett syndrome and Dravet syndrome. With respect to our near-term SE programs, we plan to file an IND for SAGE-689 in the second half of 2014 and to begin a Phase 1 clinical trial thereafter. We are currently conducting IND-enabling studies of SAGE-217, with a plan to file an IND in the first half of 2015.

SAGE was founded in 2010, based on leading research in the areas of brain function and neuroactive steroids, to explore novel approaches to CNS therapeutics. Since our inception, we have continued to expand our know-how of CNS therapeutics through our research and development programs and to pursue intellectual property protection for our proprietary chemistry platform. In addition, we have assembled a world-class management team that together has been a part of the successful discovery, development and commercialization of more than 20 marketed CNS therapies.

Since our inception in April 2010, we have devoted substantially all of our resources to organizing and staffing our company, business planning, raising capital, identifying and developing our product candidates, preparing to conduct clinical studies of our product candidates, providing general and administrative support for these operations and protecting our intellectual property. We have funded our operations to date through sales of redeemable convertible preferred stock and, to a lesser extent, the issuance of convertible notes. From our inception through March 31, 2014, we had received net proceeds of \$90.7 million from such transactions.

We are a development stage company and have not generated any revenue. We have incurred net losses in each year since our inception, and we have a deficit accumulated during the development stage of \$37.5 million as of March 31, 2014. Our net losses were \$9.6 million and \$18.3 million for the years ended December 31, 2012 and 2013, respectively, and \$5.8 million for the three months ended March 31, 2014. These losses have resulted principally from costs incurred in connection with research and development activities and general and administrative costs associated with our operations. We expect to incur significant expenses and increasing operating losses for the foreseeable future.

We expect that our expenses will increase substantially in connection with our ongoing activities, as we:

- advance clinical development of SAGE-547, our lead product candidate in our SE program, including completing the Phase 1/2 clinical trial currently underway and commencing other clinical trials thereafter;
- advance development of SAGE-689, the first follow-on product candidate in our SE program, including filing an Investigational New Drug Application, or IND, in the second half of 2014 and conducting a Phase 1 clinical trial thereafter;

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- advance development of SAGE-217, the second follow-on product candidate in our SE program, including completing the IND-enabling toxicology and safety pharmacology testing currently underway;
- continue our research and development efforts for other drug candidates in the treatment of CNS disorders;
- continue to engage contract manufacturing organizations, or CMOs, to manufacture our clinical study materials and to develop large-scale manufacturing capabilities;
- seek regulatory approvals for our product candidates;
- add personnel, including personnel to support our product development and future commercialization;
- add operational, financial and management information systems;
- maintain, leverage and expand our intellectual property portfolio; and
- operate as a public company.

As a result, we will need additional financing to support our continuing operations. Until such time that we can generate significant revenue from product sales, if ever, we expect to finance our operations through a combination of public or private equity or debt financings or other sources, which may include collaborations with third parties. Arrangements with collaborators or others may require us to relinquish rights to certain of our technologies or product candidates. In addition, we may never successfully complete development of any of our product candidates, obtain adequate patent protection for our technology, obtain necessary regulatory approval for our product candidates or achieve commercial viability for any approved product candidates. Adequate additional financing may not be available to us on acceptable terms, or at all. Our inability to raise capital as and when needed would have a negative impact on our financial condition and our ability to pursue our business strategy. We will need to generate significant revenue to achieve profitability, and we may never do so.

We expect that our existing cash and cash equivalents as of March 31, 2014 together with anticipated net proceeds from this offering, will enable us to fund our operating expenses and capital expenditures requirements for at least the next 12 months. See “—Liquidity and Capital Resources.”

### **Financial Operations Overview**

#### **Revenue**

We have not generated any revenue from product sales since our inception and do not expect to generate any revenue from the sale of products in the near future. If our development efforts result in clinical success and regulatory approval or collaboration agreements with third parties for our product candidates, we may generate revenue from those product candidates.

#### **Operating Expenses**

Our operating expenses since inception have consisted primarily of research and development activities and general and administrative costs.

##### *Research and Development Expenses*

Research and development expenses, which consist primarily of costs associated with our product research and development efforts, are expensed as incurred. Research and development expenses consist primarily of:

- personnel costs, including salaries, related benefits, stock-based compensation and related travel expenses for employees engaged in scientific research and development functions;

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- expenses incurred under agreements with contract research organizations, or CROs, and investigative sites that conduct our non-clinical studies and clinical trials;
- expenses associated with manufacturing clinical study materials and developing external manufacturing capabilities;
- costs of outside consultants, including their fees, stock-based compensation and related travel expenses;
- other expenses related to our non-clinical studies and expenses related to our regulatory activities; and
- payments made under our third-party licensing agreements.

Costs for certain development activities are recognized based on an evaluation of the progress to completion of specific tasks using information and data provided to us by our vendors and our clinical sites.

We have been developing SAGE-547, SAGE-689 and SAGE-217 and focusing on other research and development programs related to exploratory efforts, target validation, and lead optimization for our earlier-validated programs. Our direct research and development expenses are tracked on a program-by-program basis and consist primarily of external costs, such as fees paid to investigators, central laboratories, CROs and CMOs in connection with our non-clinical studies and clinical trials; third-party license fees related to our product candidates; fees paid to outside consultants who perform work on our programs; and costs related to manufacturing or purchasing clinical trial materials. We do not allocate employee related costs and other indirect costs to specific research and development programs because these costs are deployed across multiple product programs under research and development and, as such, are separately classified as unallocated research and development expenses.

The following table summarizes our research and development expenses by program:

	Year Ended December 31,		Three Months Ended March 31,		Cumulative Period From Inception (April 16, 2010) to March 31, 2014
	2012	2013	2013	2014	
			(in thousands)		
SAGE-547	\$ 125	\$ 3,918	\$ 400	\$ 1,174	\$ 5,217
SAGE-689	1,047	2,772	792	860	5,024
SAGE-217	—	1,129	—	667	1,796
Other research and development programs	3,495	3,388	771	273	8,338
Unallocated expenses	<u>2,562</u>	<u>3,150</u>	<u>620</u>	<u>1,199</u>	<u>7,893</u>
Total research and development expenses	<u>\$7,229</u>	<u>\$14,357</u>	<u>\$2,583</u>	<u>\$ 4,173</u>	<u>\$ 28,268</u>

Research and development activities are central to our business. Product candidates in later stages of clinical development generally have higher development costs than those in earlier stages of clinical development, primarily due to the increased size and duration of later-stage clinical trials. We expect that our research and development expenses will continue to increase in the foreseeable future as we initiate clinical trials for certain product candidates and pursue later stages of clinical development of our product candidates.

We cannot determine with certainty the duration and completion costs of the current or future clinical trials of our product candidates or if, when, or to what extent we will generate revenue from the

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commercialization and sale of any of our product candidates that obtain regulatory approval. We may never succeed in achieving regulatory approval for any of our product candidates. The duration, costs, and timing of clinical trials and development of our product candidates will depend on a variety of factors, including:

- the scope, rate of progress, and expense of our ongoing as well as any additional non-clinical studies, clinical trials and other research and development activities;
- future clinical trial results;
- uncertainties in clinical trial enrollment rate or design;
- significant and changing government regulation; and
- the timing and receipt of any regulatory approvals.

A change in the outcome of any of these variables with respect to the development of a product candidate could mean a significant change in the costs and timing associated with the development of that product candidate. For example, if the FDA or another regulatory authority were to require us to conduct clinical trials beyond those that we currently anticipate will be required for the completion of clinical development of a product candidate, or if we experience significant delays in enrollment in any of our clinical trials, we could be required to expend significant additional financial resources and time on the completion of clinical development.

### *General and Administrative Expenses*

General and administrative expenses consist primarily of personnel costs, consisting of salaries, related benefits, stock-based compensation and related travel expenses of our executive, finance, business and corporate development and other administrative functions. General and administrative expenses also include facilities and other expenses, including rent, depreciation, maintenance of facilities, insurance and supplies; and professional fees for auditing, tax and legal services, including legal expenses to pursue patent protection of our intellectual property.

We anticipate that our general and administrative expenses will increase in the future as we increase our headcount to support the expected growth in our research and development activities and the potential commercialization of our product candidates. We also anticipate increased expenses associated with being a public company, including costs related to audit, legal, regulatory and tax-related services associated with maintaining compliance with exchange listing and SEC requirements, director and officer insurance premiums, and investor relations costs. Additionally, if and when we believe that a regulatory approval of the first product candidate appears likely, we anticipate an increase in payroll and related expenses as a result of our preparation for commercial operations, especially as it relates to the sales and marketing of our product candidates.

### **Other Income (Expense)**

*Interest income (expense), net.* Interest income (expense), net consists of interest earned on our cash and cash equivalents and interest expense on prior debt. Our interest income has not been significant due to low interest earned on invested balances. We anticipate that our interest income will increase in the future due to increased balances from the net proceeds of \$53.0 million we received from our Series B and Series C preferred stock financings in the first quarter of 2014 and from the anticipated net proceeds from this offering.

Interest expense consisted of interest incurred on our outstanding convertible promissory notes at the stated interest rates. As of September 30, 2011, all of our outstanding convertible promissory notes and accrued interest had been converted into shares of our redeemable convertible preferred stock. As a result, we no longer incur interest expense related to this debt.

*Other income (expense), net.* Other income (expense), net consists of the realized and unrealized net gains and losses from foreign currency-denominated vendor payables.

### **Critical Accounting Policies and Significant Judgments and Estimates**

Our financial statements are prepared in accordance with generally accepted accounting principles in the United States of America. The preparation of our financial statements and related disclosures requires us to make estimates and assumptions that affect the reported amount of assets, liabilities, revenue, costs and expenses, and related disclosures. We believe that the estimates and assumptions involved in the accounting policies described below may have the greatest potential impact on our financial statements and, therefore, consider these to be our critical accounting policies. We evaluate our estimates and assumptions on an ongoing basis. Our actual results may differ from these estimates under different assumptions and conditions.

While our significant accounting policies are described in more detail in the notes to our financial statements appearing elsewhere in this prospectus, we believe that the following accounting policies are those most critical to the judgments and estimates used in the preparation of our financial statements.

#### **Accrued Research and Development Expenses**

As part of the process of preparing our financial statements, we are required to estimate our accrued research and development expenses. This process involves reviewing open contracts and purchase orders, communicating with our personnel to identify services that have been performed on our behalf and estimating the level of service performed and the associated costs incurred for the services when we have not yet been invoiced or otherwise notified of the actual costs. The majority of our service providers invoice us in arrears for services performed, on a pre-determined schedule or when contractual milestones are met; however, some require advanced payments. We make estimates of our accrued expenses as of each balance sheet date in our financial statements based on facts and circumstances known to us at that time. Examples of estimated accrued research and development expenses include fees paid to:

- CROs in connection with performing research and development services on our behalf;
- investigative sites or other providers in connection with clinical trials;
- vendors in connection with non-clinical development activities; and
- vendors related to product manufacturing, development and distribution of clinical supplies.

We base our expenses related to clinical trials on our estimates of the services received and efforts expended pursuant to contracts with multiple CROs that conduct and manage non-clinical studies and clinical trials on our behalf. The financial terms of these agreements are subject to negotiation, vary from contract to contract and may result in uneven payment flows. There may be instances in which payments made to our vendors will exceed the level of services provided and result in a prepayment of the clinical expense. Payments under some of these contracts depend on factors such as the successful enrollment of patients and the completion of clinical trial milestones. In accruing service fees, we estimate the time period over which services will be performed, enrollment of patients, number of sites activated and level of effort to be expended in each period. If the actual timing of the performance of services or the level of effort varies from our estimate, we adjust the accrual or prepaid accordingly. Although we do not expect our estimates to be materially different from amounts actually incurred, our understanding of the status and timing of services performed relative to the actual status and timing of services performed may vary and may result in us reporting expenses that are too high or too low in any particular period. To date, we have not made any material adjustments to our prior estimates of accrued research and development expenses.

### Stock-Based Compensation

We measure stock-based awards granted to our employees and nonemployee directors at fair value on the date of grant and recognize the corresponding compensation expense of those awards, net of estimated forfeitures, over the requisite service period, which is generally the vesting period of the respective award. Generally, we issue stock options and restricted stock with only service-based vesting conditions and record the expense for these awards using the straight-line method. We have historically granted stock options with exercise prices equivalent to the fair value of our common stock as of the date of grant.

We measure stock-based awards granted to nonemployee consultants at the fair value of the award on the date at which the related service is complete. Compensation expense is recognized over the period during which services are rendered by such nonemployee consultants until completed. At the end of each financial reporting period prior to the completion of the service, the fair value of these awards is re-measured using, for options, the then-current fair value of our common stock and updated assumptions in the Black-Scholes option-pricing model and using, for restricted stock, the then-current fair value of our common stock.

The fair value of each stock option grant is estimated using the Black-Scholes option-pricing model. We historically have been a private company and lack company-specific historical and implied volatility information. Therefore, we estimate our expected volatility based on the historical volatility of our publicly traded peer companies and expect to continue to do so until such time as we have adequate historical data regarding the volatility of our traded stock price. The expected term of our options has been determined utilizing the "simplified" method for awards that qualify as "plain-vanilla" options, while the expected term of our options granted to consultants and nonemployees has been determined based on the contractual term of the options. The risk-free interest rate is determined by reference to the U.S. Treasury yield curve in effect at the time of grant of the award for time periods approximately equal to the expected term of the award. Expected dividend yield is based on the fact that we have never paid cash dividends and do not expect to pay any cash dividends in the foreseeable future.

The assumptions we used to determine the fair value of stock options granted to employees and directors are as follows, presented on a weighted average basis (we did not grant any stock options to employees or directors during the year ended December 31, 2012 or during the three months ended March 31, 2013):

	Year Ended December 31, 2013	Three Months Ended March 31, 2014
Risk-free interest rate	1.66%	1.98%
Expected term (in years)	6.04	5.98
Expected volatility	99.89%	99.85%
Expected dividend yield	0.00%	0.00%

These assumptions represented our best estimates, but the estimates involve inherent uncertainties and the application of our judgment. As a result, if factors change and we use significantly different assumptions or estimates when valuing our stock options, our stock-based compensation expense could be materially different. We recognize compensation expense for only the portion of awards that are expected to vest. In developing a forfeiture rate estimate for pre-vesting forfeitures, we have considered our historical experience of actual forfeitures. If our future actual forfeiture rate is materially different from our estimate, our stock-based compensation expense could be significantly different from what we have recorded in the current period.

During the year ended December 31, 2013, we recognized stock-based compensation expense of \$61,000, of which \$38,000 was recorded as research and development expense and \$23,000 was

recorded as general and administrative expense in our statement of operations. During the year ended December 31, 2012 and the three months ended March 31, 2013, we did not record any stock-based compensation expense, as the amounts were inconsequential. For the three months ended March 31, 2014, we recognized stock-based compensation expense of \$160,000, of which \$106,000 was recorded as research and development expense and \$54,000 was recorded as general and administrative expense in our statements of operations.

#### *Determination of the Fair Value of Common Stock*

We are a privately held company with no active public market for our common stock. Therefore, our board of directors has estimated the fair value of our common stock at various dates, with input from management, considering our most recently available third-party valuations of common stock and its assessment of additional objective and subjective factors that it believed were relevant and which may have changed from the date of the most recent valuation through the date of the grant. Once a public trading market for our common stock has been established in connection with the completion of this offering, it will no longer be necessary for our board of directors to estimate the fair value of our common stock in connection with our accounting for granted stock options and shares of restricted stock.

In the absence of a public trading market for our common stock, our determination of the fair value of our common stock was performed using methodologies, approaches and assumptions consistent with the *American Institute of Certified Public Accountants Audit and Accounting Practice Aid Series: Valuation of Privately-Held-Company Equity Securities Issued as Compensation*, or the Practice Aid. We performed these contemporaneous valuations, with the assistance of a third-party specialist, as of December 31, 2012, November 30, 2013 and March 12, 2014, which resulted in valuations of our common stock of \$0.14, \$0.43 and \$2.54 per share, respectively, as of those dates. In addition, our board of directors considered various objective and subjective factors, along with input from management, to determine its best estimate of the fair value of our common stock as of each grant date, including the following:

- the prices at which we sold shares of preferred stock and the superior rights and preferences of the preferred stock relative to our common stock;
- the progress of our research and development programs, including the status of non-clinical studies and clinical trials for our product candidates;
- our stage of development and commercialization and our business strategy;
- our financial condition, including cash on hand;
- our historical and forecasted performance and operating results;
- the composition of, and changes to, our management team and board of directors;
- the lack of an active public market for our common stock and our preferred stock;
- the likelihood of achieving a liquidity event, such as a sale of our company or an initial public offering, or IPO, given prevailing market conditions;
- the analysis of IPOs and the market performance of similar companies in the biopharmaceutical industry;
- external market conditions affecting the biopharmaceutical industry; and
- trends within the biopharmaceutical industry.

There are significant judgments and estimates inherent in these valuations. These judgments and estimates include assumptions regarding our future operating performance, the stage of development

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of our product candidates, the timing of a potential IPO or other liquidity event, and the determination of the appropriate valuation methodology at each valuation date. If we had made different assumptions, our stock-based compensation expense, net loss attributable to common stockholders, and net loss per share attributable to common stockholders could have been significantly different.

### *Valuation methodologies*

Our common stock valuations as of December 31, 2012 and November 30, 2013 were prepared utilizing the option-pricing method, or OPM. Our common stock valuation as of March 12, 2014 was prepared utilizing a hybrid of the probability-weighted expected return method, or PWERM, and the OPM, which we refer to as the hybrid method.

*OPM.* The OPM treats common stock and preferred stock as call options on the total equity value of a company, with exercise prices based on the value thresholds at which the allocation among the various holders of a company's securities changes. Under this method, the common stock has value only if the funds available for distribution to stockholders exceeds the value of the liquidation preferences at the time of a liquidity event, such as a strategic sale or merger. The common stock is modeled as a call option on the underlying equity value at a predetermined exercise price. In the model, the exercise price is based on a comparison with the total equity value rather than, as in the case of a regular call option, a comparison with a per share stock price. Thus, common stock is considered to be a call option with a claim on the enterprise at an exercise price equal to the remaining value immediately after the preferred stock liquidation preference is paid.

The OPM uses the Black-Scholes option-pricing model to price the call options. This model defines the securities' fair values as functions of the current fair value of a company and uses assumptions, such as the anticipated timing of a potential liquidity event and the estimated volatility of the equity securities.

The OPM backsolve approach was used to estimate enterprise value under the OPM. The OPM backsolve approach uses the OPM to derive the implied equity value for one type of equity security from a contemporaneous sale transaction involving another type of the company's equity securities. In the OPM, the assumed volatility factor was based on the historical trading volatility of our publicly traded peer companies. At each valuation date, a determination was made by us as to the appropriate volatility to be used, considering such factors as the expected time to a liquidity event and our stage of development.

To derive the fair value of the common stock using the OPM, the proceeds to the common stockholders were calculated based on the preferences and priorities of the preferred stock and common stock, including the participation features of certain series of the preferred stock. We then applied a discount for lack of marketability to the common stock to account for the lack of access to an active public market. The aggregate value of the common stock derived from the OPM was then divided by the number of shares of common stock outstanding to arrive at the per share value.

*PWERM.* Under the PWERM methodology, the fair value of common stock is estimated based upon an analysis of future values for the company, assuming various outcomes. The common stock value is based on the probability-weighted present value of expected future investment returns considering each of the possible outcomes available as well as the rights of each class of stock. The future value of the common stock under each outcome is discounted back to the valuation date at an appropriate risk-adjusted discount rate and probability weighted to arrive at an indication of value for the common stock.

*Hybrid Method.* The hybrid method is a PWERM where the equity value in one of the scenarios is calculated using an OPM. In the hybrid method used by us, two types of future-event scenarios were considered: an IPO and an unspecified liquidity event. The enterprise value for the IPO scenario was



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determined using a market approach. The enterprise value for the unspecified liquidity event scenario was determined using the OPM backsolve approach. The relative probability of each type of future-event scenario was determined by our board of directors based on an analysis of market conditions at the time, including then-current IPO valuations of similarly situated companies, and expectations as to the timing and likely prospects of the future-event scenarios.

To determine the enterprise value for the IPO scenario, we used the guideline public company method, which includes comparisons to publicly traded companies in the biopharmaceutical industry that recently completed IPOs. That enterprise value was then discounted back to the valuation date at an appropriate risk-adjusted discount rate.

To derive the fair value of the common stock for each scenario under the hybrid method, the proceeds to the common stockholders were calculated based on the conversion rights and preferences of the preferred stock. We then applied a discount for lack of marketability to the common stock to account for the lack of access to an active public market.

### *Options and restricted stock granted*

The following table summarizes by grant date the number of shares of common stock subject to options and restricted stock granted from January 1, 2013 through April 30, 2014, the per share exercise price of the award, the fair value of our common stock on each grant date, and the per share estimated fair values of the options and restricted stock common stock:

<u>Date of Issuance</u>	<u>Type of Award</u>	<u>Number of Shares</u>	<u>Exercise Price of Award per Share<sup>(1)</sup></u>	<u>Fair Value of Common Stock per Share on Grant Date</u>	<u>Per Share Estimated Fair Value of Award<sup>(2)(3)</sup></u>
January 6, 2013	Restricted stock	50,000	\$ 0.01	\$ 0.14	\$ 0.13
April 18, 2013	Restricted stock	250,000	\$ 0.14	\$ 0.14	\$ —
April 18, 2013	Option	233,500	\$ 0.14	\$ 0.14	\$ 0.11
July 23, 2013	Option	1,015,000	\$ 0.14	\$ 0.14	\$ 0.11
August 12, 2013	Option	2,210,000	\$ 0.14	\$ 0.14	\$ 0.11
September 24, 2013	Option	130,000	\$ 0.14	\$ 0.14	\$ 0.11
November 5, 2013	Restricted stock	110,000	\$ 0.14	\$ 0.14	\$ —
December 13, 2013	Option	212,500	\$ 0.43	\$ 0.43	\$ 0.34
January 22, 2014	Option	545,000	\$ 0.43	\$ 2.54 <sup>(4)</sup>	\$ 2.14
March 26, 2014	Option	530,000	\$ 2.54	\$ 2.54	\$ 2.20

- (1) The Exercise Price of Award per Share represents the fair value of our common stock on the date of grant, as determined by our board of directors, after taking into account our most recently available contemporaneous valuations of our common stock as well as additional factors that may have changed since the date of such contemporaneous valuation through the date of grant.
- (2) In the case of options, the Per Share Estimated Fair Value of Award reflects the weighted average fair value of options as estimated at the date of grant using the Black-Scholes option-pricing model. In the case of restricted stock, the Per Share Estimated Fair Value of Award reflects, at the date of grant, the intrinsic value of restricted common stock, which is the difference, if any, between the price paid for the award and the fair value of the common stock.
- (3) For the purposes of recording stock-based compensation for grants of options or restricted stock to nonemployees, we measure the fair value of the award on the service completion date (vesting date). At the end of each reporting period prior to completion of the services, we re-measure the value of any unvested portion of the award based on the then-current fair value of the award and adjust expense accordingly. Amounts in this column reflect only the grant date fair value of awards to nonemployees.
- (4) At the time of the option grants on January 22, 2014, our board of directors determined that the fair value of our common stock of \$0.43 per share calculated in the contemporaneous valuation as of

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November 30, 2013 reasonably reflected the per share fair value of our common stock as of the grant date. However, as described below, the fair value of common stock at the date of these grants was adjusted to \$2.54 per share in connection with a retrospective fair value assessment for accounting purposes.

In the course of preparing for this offering, in March 2014, we performed a retrospective fair value assessment and concluded that the fair value of our common stock underlying stock options we granted during January 2014, with an exercise price of \$0.43 per share, was \$2.54 per share for accounting purposes. That value of \$2.54 per share, which we applied to determine the fair value of the January 2014 options for accounting purposes, was based upon our board of directors' determination of the fair value of our common stock as of March 26, 2014.

### **JOBS Act**

On April 5, 2012, the Jumpstart Our Business Startups Act, or the JOBS Act, was signed into law. The JOBS Act contains provisions that, among other things, reduce certain reporting requirements for an "emerging growth company." As an "emerging growth company," we are electing not to take advantage of the extended transition period afforded by the JOBS Act for the implementation of new or revised accounting standards and, as a result, we will comply with new or revised accounting standards on the relevant dates on which adoption of such standards is required for non-emerging growth companies. Section 107 of the JOBS Act provides that our decision not to take advantage of the extended transition period is irrevocable.

In addition, we are in the process of evaluating the benefits of relying on the other exemptions and reduced reporting requirements provided by the JOBS Act. Subject to certain conditions set forth in the JOBS Act, if as an "emerging growth company" we choose to rely on such exemptions, we may not be required to, among other things, (i) provide an auditor's attestation report on our system of internal controls over financial reporting pursuant to Section 404, (ii) provide all of the compensation disclosure that may be required of non-emerging growth public companies under the Dodd-Frank Wall Street Reform and Consumer Protection Act, (iii) comply with any requirement that may be adopted by the Public Company Accounting Oversight Board regarding mandatory audit firm rotation or a supplement to the auditor's report providing additional information about the audit and the financial statements (auditor discussion and analysis), and (iv) disclose certain executive compensation-related items such as the correlation between executive compensation and performance and comparisons of the Chief Executive Officer's compensation to median employee compensation. These exemptions will apply for a period of five years following the completion of our initial public offering or until we no longer meet the requirements of being an "emerging growth company," whichever is earlier.

**Results of Operations**

**Comparison of Three Months Ended March 31, 2013 and 2014**

The following table summarizes our results of operations for the three months ended March 31, 2013 and 2014:

	Three Months Ended March 31,		Increase (Decrease)
	2013	2014	
	(in thousands)		
Operating expenses:			
Research and development	\$ 2,583	\$ 4,173	\$ 1,590
General and administrative	806	1,617	811
Total operating expenses	<u>3,389</u>	<u>5,790</u>	<u>2,401</u>
Loss from operations	(3,389)	(5,790)	(2,401)
Interest income (expense), net	—	—	—
Other income (expense), net	—	—	—
Net loss	<u><u>\$(3,389)</u></u>	<u><u>\$(5,790)</u></u>	<u><u>\$ (2,401)</u></u>

**Research and development expenses**

	Three Months Ended March 31,		Increase (Decrease)
	2013	2014	
	(in thousands)		
SAGE-547	\$ 400	\$1,174	\$ 774
SAGE-689	792	860	68
SAGE-217	—	667	667
Other research and development programs	771	273	(498)
Direct research and development expenses	<u>1,963</u>	<u>2,974</u>	<u>1,011</u>
Personnel related expenses	550	1,116	566
Other expenses	70	83	13
Unallocated research and development expenses	620	1,199	579
Total research and development expenses	<u><u>\$2,583</u></u>	<u><u>\$4,173</u></u>	<u><u>\$ 1,590</u></u>

Research and development expenses for the three months ended March 31, 2013 were \$2.6 million, compared to \$4.2 million for the three months ended March 31, 2014. The increase of \$1.6 million period over period was primarily due to the following:

- an increase of \$0.8 million in expenses of our SAGE-547 program, consisting of expenses related to the completion of toxicology studies and the external clinical and drug supply costs associated with our ongoing Phase 1/2 clinical trial of SAGE-547 and the initiation of activities around studies in additional indications;
- \$0.7 million of expenses of our SAGE-217 program, consisting primarily of costs for external drug discovery efforts;
- a net decrease \$0.5 million in expenses of our other research and development programs, reflecting the deprioritization of a research program; and
- an increase of \$0.6 million in employee related spending to support the growth in our research and development activities, reflecting increases in salaries and bonus expenses, including the effects of hiring additional, full-time employees.

[Table of Contents](#)**General and administrative expenses**

	Three Months Ended March 31,		Increase (Decrease)
	2013	2014	
	(in thousands)		
Personnel related	\$316	\$ 627	\$ 311
Professional fees	299	737	438
Facilities	77	98	21
Other	114	155	41
Total general and administrative expenses	<u>\$806</u>	<u>\$1,617</u>	<u>\$ 811</u>

General and administrative expenses for the three months ended March 31, 2013 were \$0.8 million, compared to \$1.7 million for the three months ended March 31, 2014. The increase of \$0.8 million in general and administrative expenses was primarily due to increased personnel related costs of \$0.3 million, which were principally due to employee salary and bonus increases of \$0.3 million, including the effects of hiring additional, full-time employees during 2013 to support corporate operations, finance and business development activities. The increase year over year in general and administrative expenses was also due to a \$0.4 million increase in professional fees.

**Other income (expense)**

Interest income (expense), net and other income (expense), net were insignificant for the three months ended March 31, 2013 and 2014.

**Comparison of Years Ended December 31, 2012 and 2013**

The following table summarizes our results of operations for the years ended December 31, 2012 and 2013:

	Year Ended December 31,		Increase (Decrease)
	2012	2013	
	(in thousands)		
Operating expenses:			
Research and development	\$ 7,229	\$ 14,357	\$ 7,128
General and administrative	2,402	3,922	1,520
Total operating expenses	<u>9,631</u>	<u>18,279</u>	<u>8,648</u>
Loss from operations	(9,631)	(18,279)	(8,648)
Interest income (expense), net	—	1	1
Other income (expense), net	(1)	(3)	(2)
Net loss	<u>\$ (9,632)</u>	<u>\$ (18,281)</u>	<u>\$ (8,649)</u>

[Table of Contents](#)**Research and development expenses**

	Year Ended December 31,		Increase (Decrease)
	2012	2013	
	(in thousands)		
SAGE-547	\$ 125	\$ 3,918	\$ 3,793
SAGE-689	1,047	2,772	1,725
SAGE-217	—	1,129	1,129
Other research and development programs	3,495	3,388	(107)
Direct research and development expenses	4,667	11,207	6,540
Personnel related expenses	2,116	2,718	602
Other expenses	446	432	(14)
Unallocated research and development expenses	2,562	3,150	588
<b>Total research and development expenses</b>	<b>\$7,229</b>	<b>\$14,357</b>	<b>\$ 7,128</b>

Research and development expenses for the year ended December 31, 2012 were \$7.2 million, compared to \$14.4 million for the year ended December 31, 2013. The increase of \$7.1 million year over year was primarily due to the following:

- an increase of \$3.8 million in expenses of our SAGE-547 program, consisting primarily of external clinical and drug manufacturing costs associated with the preparation of our Phase 1/2 clinical trial of SAGE-547, as compared to only \$0.1 million being spent on the program in 2012;
- an increase of \$1.7 million in expenses of our SAGE-689 program, consisting primarily of external costs related to IND-enabling toxicology and safety pharmacology testing and manufacturing activities that were incurred as that program progressed into non-clinical studies during the second half of 2013;
- \$1.1 million of expenses of our SAGE-217 program, consisting primarily of costs for external drug discovery efforts;
- a net decrease \$0.1 million in expenses of our other research and development programs, which consist of our chemistry platform-related work and other research programs; and
- an increase of \$0.6 million in employee related spending to support the growth in our research and development activities, reflecting increases in salaries and bonus expenses, including the effects of hiring additional, full-time employees during 2013.

**General and administrative expenses**

	Year Ended December 31,		Increase (Decrease)
	2012	2013	
	(in thousands)		
Personnel related	\$ 899	\$1,764	\$ 865
Professional fees	929	1,253	324
Facilities	266	364	98
Other	308	541	233
<b>Total general and administrative expenses</b>	<b>\$2,402</b>	<b>\$3,922</b>	<b>\$ 1,520</b>

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General and administrative expenses for the year ended December 31, 2012 were \$2.4 million, compared to \$3.9 million for the year ended December 31, 2013. The increase of \$1.5 million in general and administrative expenses was primarily due to increased personnel related costs of \$0.9 million, which were principally due to employee salary and bonus increases of \$0.5 million, including the effects of hiring additional, full-time employees during 2013 to support corporate operations, finance and business development activities. The increase year over year in general and administrative expenses was also due to a \$0.3 million increase in professional fees.

### **Other income (expense)**

Interest income (expense), net and other income (expense), net were in insignificant for the years ended December 31, 2012 and 2013.

### **Liquidity and Capital Resources**

Since our inception in April 2010, we have not generated any revenue and have incurred recurring net losses. As of March 31, 2014, we had a deficit accumulated during the development stage of \$37.5 million. We have funded our operations since inception primarily through sales of redeemable convertible preferred stock and, to a lesser extent, the issuance of convertible notes. From our inception through March 31, 2014, we have received net proceeds of \$90.7 million from such transactions.

As of March 31, 2014, we had cash and cash equivalents totaling \$55.4 million. We invest our cash equivalents in money market accounts in order to preserve principal.

The following table summarizes our sources and uses of cash for each of the periods presented:

	Year Ended December 31,		Three Months Ended March 31,	
	2012	2013	2013	2014
	(in thousands)			
Cash used in operating activities	\$ (8,926)	\$ (17,516)	\$ (3,040)	\$ (5,616)
Cash used in investing activities	(111)	(3)	(3)	(3)
Cash provided by financing activities	8,997	22,783	5,000	52,978
Net increase (decrease) in cash and cash equivalents	\$ (40)	\$ 5,264	\$ 1,957	\$ 47,359

### **Net cash used in operating activities**

During the three months ended March 31, 2014, operating activities used \$5.6 million of cash, primarily resulting from our net loss of \$5.8 million, partially offset by non-cash charges of \$0.3 million and cash used by changes in our operating assets and liabilities of \$0.1 million. Our net loss was primarily attributed to research and development activities related to our lead programs in development and our general and administrative expenses, as we had no revenue in the period. Our net non-cash charges during the three months ended March 31, 2014 primarily consisted of stock-based compensation expenses of \$0.2 million and non-cash licensing fees paid in shares of our common stock of \$0.1 million. Net cash used in changes in our operating assets and liabilities consisted primarily of increases in accounts payable and accrued expenses totaling \$0.1 million, offset by a \$0.1 million increase in prepaid expenses and other current assets. Our prepaid expenses and other current assets, accounts payable and accrued expense balances were affected by the timing of vendor invoicing and payments.

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During the three months ended March 31, 2013, operating activities used \$3.0 million of cash, primarily resulting from our net loss of \$3.4 million, partially offset by cash provided by changes in our operating assets and liabilities of \$0.3 million. Our net loss was primarily attributed to research and development activities related to our lead programs in development and our general and administrative expenses, as we had no revenue in the period. Net cash provided by changes in our operating assets and liabilities for the three months ended March 31, 2013 consisted primarily of increases in accounts payable and accrued expenses totaling \$0.4 million, offset by a \$0.1 million increase in prepaid expenses and other current assets. Our prepaid expenses and other current assets, accounts payable and accrued expense balances were affected by the timing of vendor invoicing and payments.

During the year ended December 31, 2013, operating activities used \$17.5 million of cash, primarily resulting from our net loss of \$18.3 million, partially offset by non-cash charges of \$0.2 million and by cash provided from changes in our operating assets and liabilities of \$0.6 million. Our net loss was primarily attributed to research and development activities related to our lead programs in development and our general and administrative expenses, as we had no revenue in the period. Our net non-cash charges during the year ended December 31, 2013 primarily consisted of stock-based compensation expenses of \$0.1 million and non-cash licensing fees paid in shares of our common stock of \$0.1 million. Net cash provided by changes in our operating assets and liabilities consisted primarily of increases in accounts payable and accrued expenses totaling \$0.9 million, partially offset by a \$0.3 million increase in prepaid expenses and other current assets. Our prepaid expenses and other current assets, accounts payable and accrued expense balances were affected by the timing of vendor invoicing and payments.

During the year ended December 31, 2012, operating activities used \$8.9 million of cash, primarily resulting from our net loss of \$9.6 million, partially offset by cash provided from changes in our operating assets and liabilities of \$0.7 million. Our net loss was primarily attributed to research and development activities related to our lead programs in development and our general and administrative expenses, as we had no revenue in the period. Net cash provided by changes in our operating assets and liabilities during the year ended December 31, 2012 consisted primarily of increases in accounts payable and accrued expenses totaling \$0.6 million. Our accounts payable and accrued expense balances were affected by the timing of vendor invoicing and payments.

### ***Net cash used in investing activities***

During each of the three months ended March 31, 2013 and 2014, we used \$3,000 of cash for purchases of property and equipment.

During the years ended December 31, 2012 and 2013, we used \$0.1 million and \$3,000 of cash, respectively, for purchases of property and equipment.

### ***Net cash provided by financing activities***

During the three months ended March 31, 2013 and 2014, net cash provided by financing activities was \$5.0 million and \$53.0 million, respectively, primarily resulting from the net proceeds received from the issuance of Series A redeemable convertible preferred stock during the three months ended March 31, 2013 and the net proceeds received from the issuance of Series B and Series C redeemable convertible preferred stock during the three months ended March 31, 2014.

During the years ended December 31, 2012 and 2013, net cash provided by financing activities was \$9.0 million and \$22.8 million, respectively, primarily resulting from the net proceeds we received from the issuance of Series A redeemable convertible preferred stock during each year.

### ***Operating Capital Requirements***

To date, we have not generated any revenue from product sales. We do not know when, or if, we will generate any revenue from product sales. We do not expect to generate significant revenue from

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product sales unless and until we obtain regulatory approval of and commercialize one of our current or future product candidates. We anticipate that we will continue to generate losses for the foreseeable future, and we expect the losses to increase as we continue the development of, and seek regulatory approvals for, our product candidates and begin to commercialize any approved products. Upon the closing of this offering, we expect to incur additional costs associated with operating as a public company. In addition, subject to obtaining regulatory approval of any of our product candidates, we expect to incur significant commercialization expenses for product sales, marketing and manufacturing. Accordingly, we anticipate that we will need substantial additional funding in connection with our continuing operations.

Based on our current operating plan, we expect that our existing cash and cash equivalents as of March 31, 2014, together with anticipated net proceeds from this offering, will enable us to fund our operating expenses and capital expenditures requirements for at least the next 12 months. In that time, we expect that our expenses will increase substantially as we fund Phase 1/2 clinical development of SAGE-547, fund IND-enabling activities and Phase 1 clinical development of SAGE-689, fund IND-enabling activities for SAGE-217, fund new and ongoing research and development activities and working capital and other general corporate purposes. We have based our estimates on assumptions that may prove to be wrong, and we may use our available capital resources sooner than we currently expect. Because of the numerous risks and uncertainties associated with the development and commercialization of our product candidates, we are unable to estimate the amounts of increased capital outlays and operating expenditures necessary to complete the development and commercialization of our product candidates.

Our future capital requirements will depend on many factors, including:

- the costs, timing and outcome of regulatory reviews and approvals;
- the ability of our product candidates to progress through clinical development successfully;
- the initiation, progress, timings, costs and results of non-clinical studies and clinical trials for our other programs and potential product candidates;
- the number and characteristics of the product candidate we pursue;
- the costs of preparing, filing and prosecuting patent applications, maintaining and enforcing our intellectual property rights and defending intellectual property-related claims;
- the extent to which we acquire or in-license other products and technologies; and
- our ability to establish any future collaboration arrangements on favorable terms, if at all.

Until such time, if ever, as we can generate substantial product revenue, we expect to finance our cash needs through a combination of equity offerings, debt financings, collaborations, strategic alliances and licensing arrangements. To the extent that we raise additional capital through the sale of equity or convertible debt securities, the ownership interest of our stockholders will be diluted, and the terms of these securities may include liquidation or other preferences that adversely affect your rights as a common stockholder. Debt financing, if available, may involve agreements that include covenants limiting or restricting our ability to take specific actions, such as incurring additional debt, making capital expenditures or declaring dividends and may require the issuance of warrants, which could potentially dilute your ownership interest. If we raise additional funds through collaborations, strategic alliances or licensing arrangements with third parties, we may have to relinquish valuable rights to our technologies, future revenue streams or research programs or to grant licenses on terms that may not be favorable to us. If we are unable to raise additional funds through equity or debt financings when needed, we may be required to delay, limit, reduce or terminate our product development or future commercialization efforts or grant rights to develop and market products or product candidates that we would otherwise prefer to develop and market ourselves.



### Contractual Obligations and Commitments

The following table summarizes our contractual obligations at December 31, 2013 and the effect such obligations are expected to have on our liquidity and cash flow in future periods:

	Payments Due by Period				
	Total	Less Than 1 year	1-3 Years (in thousands)	3-5 Years	More Than 5 years
Operating lease commitments <sup>(1)</sup>	\$1,005	\$ 311	\$ 642	\$ 52	\$ —
Total <sup>(2)(3)(4)</sup>	<u>\$1,005</u>	<u>\$ 311</u>	<u>\$ 642</u>	<u>\$ 52</u>	<u>\$ —</u>

- (1) We lease office space in Cambridge, Massachusetts under an operating lease agreement that initially expires on February 28, 2017. The minimum lease payments in the table do not include related common area maintenance charges or real estate taxes, which costs are variable.
- (2) We have acquired exclusive and non-exclusive rights to use, research, develop and offer for sale certain products and patents under three separate licensing agreements with Washington University, CyDex Pharmaceuticals, Inc. and The Regents of the University of California. The licensing rights obligate us to make payments to the licensors for license fees, milestones, license maintenance fees and royalties. We are obligated to make future milestone payments under these agreements of up to \$5.9 million upon achieving certain pre-commercialization milestones, such as clinical trials and regulatory approvals. We reasonably anticipate that we may be required to pay \$0.3 million of milestone payments in 2014, provided various development milestones are achieved. Amounts related to contingent milestone payments are not considered contractual obligations as they are contingent on the successful achievement of certain milestones. These milestones may not be achieved. Because the achievement of these milestones had not occurred as of December 31, 2013 and March 31, 2014, no liabilities for such contingencies have been recorded in our financial statements. In addition, under each licensing agreement, we will owe single-digit royalties on sales of commercial products, if any, developed using the licensed technologies. Under two of these license agreements, we are obligated to pay to the licensors a percentage of fees received if and when we sublicense the technologies. As of December 31, 2013 and March 31, 2014, we had not developed a commercial product using the licensed technologies and we had not entered into any sublicense agreements for the technologies. We have not included any of these amounts in the table as we cannot estimate or predict when, or if, these amounts will become due.
- (3) We enter into contracts in the normal course of business with CROs for clinical trials, non-clinical research studies and testing, manufacturing and other services and products for operating purposes. These contracts generally provide for termination upon notice, and therefore we believe that our non-cancelable obligations under these agreements are not material.
- (4) Under a January 2014 consulting agreement, we are obligated to make milestone payments of up to \$2.0 million and to issue up to 400,000 shares of our common stock to a nonemployee consultant upon achieving certain clinical trial milestones and regulatory approval milestones. As of March 31, 2014, we paid \$50,000 and issued 50,000 shares of common stock relating to this consulting agreement. We have not included remaining amounts in the table as we cannot estimate or predict when, or if, these amounts will become due.

### Off-Balance Sheet Arrangements

We did not have during the periods presented, and we do not currently have, any off-balance sheet arrangements, as defined under Securities and Exchange Commission rules, such as relationships with unconsolidated entities or financial partnerships, which are often referred to as structured finance or special purpose entities, established for the purpose of facilitating financing transactions that are not required to be reflected on our balance sheets.

## Recently Issued Accounting Pronouncements

In June 2011, the Financial Accounting Standards Board, or FASB, issued authoritative guidance that addresses the presentation of comprehensive income for annual reporting of financial statements. The guidance is intended to improve the comparability, consistency and transparency of financial reporting and to increase the prominence of items reported in other comprehensive income by eliminating the option to present components of other comprehensive income as part of the statement of changes in stockholders' equity. Under the amended guidance, a company may present the total of comprehensive income, the components of net income, and the components of other comprehensive income either in a single continuous statement of comprehensive income or in two separate but consecutive statements. In either case, a company is required to present each component of net income along with total net income, each component of other comprehensive income along with a total for other comprehensive income, and a total amount for comprehensive income. The amendment is effective for fiscal years ending, and interim periods within those years, beginning after December 15, 2011, and is applied retrospectively. We adopted this amendment in our financial statements appearing in this prospectus by presenting comprehensive loss in a single continuous statement along with net loss.

In July 2013, the FASB issued changes to the presentation of an unrecognized tax benefit when a net operating loss carryforward, a similar tax loss, or a tax credit carryforward exists. These changes require an entity to present an unrecognized tax benefit as a liability in the financial statements if (i) a net operating loss carryforward, a similar tax loss, or a tax credit carryforward is not available at the reporting date under the tax law of the applicable jurisdiction to settle any additional income taxes that would result from the disallowance of a tax position, or (ii) the tax law of the applicable jurisdiction does not require the entity to use, and the entity does not intend to use, the deferred tax asset to settle any additional income taxes that would result from the disallowance of a tax position. Otherwise, an unrecognized tax benefit is required to be presented in the financial statements as a reduction to a deferred tax asset for a net operating loss carryforward, a similar tax loss, or a tax credit carryforward. These changes became effective for us as of January 1, 2014. We believe that the adoption of this guidance will not have a significant impact on the presentations of our financial statements.

## Quantitative and Qualitative Disclosure about Market Risk

### ***Interest Rate Fluctuation Risk***

Our cash and cash equivalents as of March 31, 2014 consisted of cash and money market accounts. The primary objectives of our investment activities are to preserve principal, provide liquidity and maximize income without significantly increasing risk. Our primary exposure to market risk is interest income sensitivity, which is affected by changes in the general level of U.S. interest rates. However, because of the short-term nature of the instruments in our portfolio, a sudden change in market interest rates would not be expected to have a material impact on our financial condition and/or results of operation.

### ***Foreign Currency Exchange Risk***

Foreign currency transaction exposure results primarily from transactions with our contract research organizations and other providers related to our non-clinical studies and clinical trials that are denominated in currencies other than the U.S. dollar, primarily the Euro and the Swiss Franc. Any transaction gains or losses that result from currency fluctuations are recorded in other income (expense), net in our statement of operations. Net foreign currency transaction losses of \$1,000 and \$3,000 were recorded for the years ended December 31, 2012 and 2013, respectively. No foreign currency transaction gains or losses were recorded for the three months ended March 31, 2013 or 2014.

Currently, we do not have any significant foreign currency exposures, and at this time, we do not hedge our foreign currency risk.

## BUSINESS

### Overview

We are a biopharmaceutical company committed to developing and commercializing novel medicines to treat life-threatening, rare central nervous system, or CNS, disorders, where there are inadequate or no approved existing therapies. We are targeting CNS indications where patient populations are easily identified, acute treatment is typically initiated in the hospital setting, clinical endpoints are well-defined, and development pathways are feasible. This focus allows us to make highly informed decisions when advancing our product candidates through the development process. Our initial product candidates are aimed at treating different stages of status epilepticus, or SE, a life-threatening condition in which the brain is in a state of persistent seizure.

The lead product candidate in our SE program, SAGE-547, is an intravenous, or IV, agent in Phase 1/2 clinical development as an adjunctive therapy, a therapy combined with current therapeutic approaches, for the treatment of super-refractory SE, or SRSE. The current standard of care for SRSE is empiric, and there are no therapies at present that have been specifically approved for this indication. We thus believe there is a significant unmet medical need for SAGE-547.

SE is diagnosed when a patient has a seizure lasting longer than five minutes, and is associated with substantial morbidity and mortality. We estimate that in the United States each year there are up to 150,000 cases of SE, of which 30,000 SE patients die. We estimate that there are 35,000 patients with SE in the United States that are hospitalized in the intensive care unit, or ICU, each year. An SE patient is first treated with benzodiazepines, or BDZs, and if no response then treated with other, second-line, anti-seizure drugs. If the seizure persists after second-line therapy the patient is diagnosed as having refractory SE, or RSE, admitted to the ICU and placed into a medically induced coma. Currently, there are no therapies that have been specifically approved for refractory SE, or RSE; however, physicians typically use anesthetic agents to induce the coma and stop the seizure immediately. After a period of 24 hours, an attempt is made to wean the patient from the anesthetic agents to evaluate whether or not the seizure condition has resolved. Unfortunately, not all patients respond to weaning attempts, in which case the patient must be maintained in the medically induced coma. At this point, the patient is diagnosed as having SRSE.

Prior to the start of our Phase 1/2 clinical trial of SAGE-547, we compiled evidence which we believe supports the safety and activity of SAGE-547 for treatment of SRSE. Four patients were treated with SAGE-547 by independent centers under emergency-use Investigational New Drug Applications, or INDs. Each of the four patients treated with SAGE-547 achieved resolution of SRSE either during the course of or soon after SAGE-547 treatment. On October 30, 2013, we filed an IND for SAGE-547 for the treatment of SRSE with the U.S. Food and Drug Administration, or FDA, and we received notification allowing us to proceed with our Phase 1/2 clinical trial of SAGE-547 on November 27, 2013. We commenced our Phase 1/2 clinical trial to study safety, tolerability and efficacy of SAGE-547 in adult patients with SRSE in January 2014. This clinical trial is an open-label study in at least ten patients diagnosed with SRSE. Currently, there are four active study sites in the United States, and we plan to open up to 16 additional study sites in the United States to achieve full enrollment of this clinical trial. As of the date of this prospectus, three patients have been enrolled in this trial and treated with SAGE-547. While data collection in these patients is ongoing, all three patients met the key efficacy endpoint, in that each was successfully weaned off his or her anesthetic agent while SAGE-547 was being administered. In April 2014, the FDA granted us orphan drug designation for SAGE-547 as a treatment for SE.

SAGE-689 and SAGE-217, two additional product candidates in our SE program, are currently in IND-enabling toxicology and safety pharmacology testing. SAGE-689 is being developed as an adjunctive second-line therapy for the treatment of SE, and SAGE-217 is being developed as both an IV monotherapy for the treatment of RSE, and as an orally delivered maintenance therapeutic to prevent recurrent seizures in patients whose SE, RSE or SRSE has resolved.

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We anticipate that SAGE-217 may also have the potential for use in a broader range of seizure conditions beyond maintenance therapy. In addition, we believe SAGE-217 or other related molecules from our portfolio may be useful in the treatment of a variety of neurological and psychiatric disorders, including, for example, fragile X syndrome, Rett syndrome and Dravet syndrome. With respect to our near-term SE programs, we plan to file an IND for SAGE-689 in the second half of 2014 and to begin a Phase 1 clinical trial thereafter. We are currently conducting IND-enabling studies of SAGE-217, with a plan to file an IND in the first half of 2015.

Our current near-term product candidates are allosteric modulators of both synaptic and extrasynaptic, or existing outside of the synapse, GABA<sub>A</sub> receptors, a characteristic important in distinguishing our approach from current therapies. While altering the level of synaptic GABA<sub>A</sub> receptor activity can be beneficial in stopping seizures, this approach has limitations for the treatment of SE. As SE progresses in many patients, select synaptic GABA<sub>A</sub> receptors are down-regulated, or removed from the neuronal synaptic surface. As a result, drugs that target down-regulated receptors, such as benzodiazepines, or BDZs, often are not effective in stopping SE. In contrast, our product candidates work at both the synaptic and extrasynaptic GABA<sub>A</sub> receptors. Non-clinical studies suggest that these extrasynaptic GABA<sub>A</sub> receptors remain fully active during SE, offering the potential for drugs that impact GABA via the extrasynaptic GABA<sub>A</sub> receptor to alter GABA activity and abate seizure. We believe that by creating compounds that target both these receptors, we may be successful in treating seizures that do not respond to BDZ therapy.

Now and in the foreseeable future, our product development pipeline will be focused on allosteric modulation of two important receptor systems in the brain—GABA<sub>A</sub> and NMDA. These receptor systems regulate inhibitory and excitatory neurotransmission, respectively. The GABA<sub>A</sub> and NMDA receptor systems are broadly accepted as impacting many psychiatric and neurological disorders, spanning disorders of mood, seizure, cognition, anxiety, sleep, pain, epilepsy, and movement disorders among others. Thus these receptor systems are widely regarded as validated drug targets for a variety of CNS disorders, with decades of research and multiple approved drugs targeting these receptor systems. Drugs approved to modulate these receptor systems have had safety and efficacy limitations related to their poor pharmaceutical properties and adverse side effects. We believe that we will have the opportunity to develop molecules from our internal portfolio to more effectively address many of these disorders in the future.

Our ability to identify and develop such novel CNS therapies is enabled by our proprietary chemistry platform that is centered on a scaffold of chemically modified endogenous neuroactive steroid compounds. We believe our know-how around the chemistry and activity of allosteric modulators allows us to efficiently design molecules with different characteristics by enabling us to control important properties such as half-life, brain penetration and the types of receptors with which our drugs interact. Therefore, we believe our product candidates will have the potential to bind with targets in the brain with more precision, increased safety and tolerability, and fewer off-target side effects than either current CNS therapies or previous therapies, which have often failed in development.

SAGE was founded in 2010, based on leading research in the areas of brain function and neuroactive steroids, to explore novel approaches to CNS therapeutics. Since our inception, we have continued to expand our know-how of CNS therapeutics through our research and development programs and to pursue intellectual property protection for our proprietary chemistry platform. In addition, we have assembled a world-class management team that together has been a part of the successful discovery, development and commercialization of more than 20 marketed CNS therapies.

### **Our Strategy**

Our goal is to become a leading biopharmaceutical company focused on development and commercialization of novel proprietary therapies for the treatment of life-threatening, rare CNS disorders.

Key elements of our strategy are to:

- **Rapidly advance SAGE-547 as a treatment for SRSE.** We are developing SAGE-547 as an adjunctive therapy for the treatment of SRSE. Following the completion of our ongoing Phase 1/2 clinical trial of SAGE-547, we intend to complete the additional clinical trials required for approval of SAGE-547 as rapidly as possible. We believe we may be able to expeditiously complete these clinical trials due to the fact that the endpoints of such clinical trials will be measured shortly after initiation of therapy and the relatively small number of patients required to be enrolled in such clinical trials. We will also provide mechanisms for access to SAGE-547 for emergency use to patients who experience SRSE but do not meet the inclusion criteria of our ongoing trial, so that they can receive the potential benefit from this product candidate.
- **Develop our follow-on SE product candidates, SAGE-689 and SAGE-217, in parallel to SAGE-547.** We are developing a portfolio of proprietary molecules aimed at the treatment of the entire spectrum of SE. Our follow-on product candidates, SAGE-689 and SAGE-217, utilize similar mechanistic pathways as SAGE-547 and are designed to have pharmaceutical properties which optimize their non-clinical profiles and potential clinical profiles for the treatment of different stages of SE. We believe that we maintain a competitive advantage in the development of differentiated therapeutics for the entire spectrum of SE.
- **Enhance the probability of success in treating SE by developing unique assets with differentiated features.** Our initial product candidates are all positive allosteric modulators of the synaptic and extrasynaptic GABA<sub>A</sub> receptor. GABA is the major inhibitory neurotransmitter in the CNS and mediates downstream neurologic and bodily function via activation of GABA<sub>A</sub> receptors. However, while their mechanisms are similar, our newer compounds are differentiated from SAGE-547, in terms of their activity and pharmacokinetic profiles affording compounds with superior sedation properties or the opportunity to be dosed orally. Thus, while success with SAGE-547 would augur well for our earlier-stage compounds, the profiles of our new GABA<sub>A</sub> agents may allow better risk-benefit. All of our initial SE product candidates represent a class of selective agents that target both GABA<sub>A</sub> synaptic and extrasynaptic receptors that we believe, can overcome the tolerability and sedation limitations of existing GABA<sub>A</sub> targeted agents for the treatment of SE, including BDZs.
- **Grow our pipeline more broadly utilizing the strengths of our proprietary chemistry platform and scientific know-how, to lessen our long-term reliance on a single franchise and facilitate long-term growth.** The potential of our GABA<sub>A</sub> platform goes beyond treatment of SE, our initial focus. We will have the potential to discover and develop GABA<sub>A</sub> receptor agents with differentiated selectivity for GABA<sub>A</sub> synaptic and extrasynaptic receptors, as well as having differing half-lives and routes of administration. These new molecules may have the potential to treat a wide range of psychiatric and neurological disorders, such as Rett syndrome, Dravet syndrome, fragile X syndrome, anxiety, depression, sleep disorders, mania, tremor, tinnuitus and post-traumatic stress disorder. Similarly, our NMDA platform will be explored to develop positive and negative allosteric modulators of NMDA receptors. These molecules may find use in the treatment of depression, Alzheimer's disease, attention deficit hyperactivity disorder and schizophrenia, as well as certain aspects of Huntington's disease and neuropathic pain. We believe our capacity to develop unique molecules creates important optionality for us, in the event any particular program should not meet its desired endpoint.
- **Focus our internal development activities on CNS indications where we can make well-informed, rapid go/no-go decisions.** We believe our ability to design molecules that target CNS indications where patient populations are easily identified and, where well-defined objective endpoints and development pathways exist, allows us to make highly informed decisions when advancing our product candidates. For example, the information we learned with respect to SAGE-547 through our emergency-use cases in SRSE, provided us with a core

understanding of the potential utility of this compound in our ongoing and planned clinical trials in the SRSE patient population.

- **Build a commercial capability to bring our CNS therapeutics to physicians and patients for rare target indications.** We are concentrating our internal efforts on CNS disorders where we believe the target commercial audience can be reached utilizing a highly specialized sales force similar to those of other rare-disease companies. As a result, we believe we can successfully launch and commercialize our initial product candidates on our own. In addition, SAGE-547, if approved, will reach the market in advance of our next product candidate, and therefore will allow physicians and hospitals sufficient time to use SAGE-547 and gain familiarity with its mechanism of action, which we believe has the potential to accelerate adoption of our follow-on products, SAGE-689 and SAGE-217.
- **Selectively partner our programs to enhance our value.** We believe that we are differentiated in our ability to create or develop proprietary novel molecules that impact validated targets such as GABA<sub>A</sub> and NMDA receptors for a wide variety of CNS indications. As a result we have identified potential drug candidates that may have advantageous profiles compared to existing and development-stage therapies for large underserved CNS indications, such as depression and cognition. Given the large number of potential patients and physicians for these indications, we may enter into selective partnerships with companies who have clinical expertise and pre-existing commercial infrastructure in areas such as depression and cognition, in order to accelerate development or maximize our return on investment.

## Understanding the Foundations of Our Approach

### **Neurotransmission**

The CNS is composed of a vast and complex network of different structures and cell types, most of which serve directly or indirectly to provide a means for the nervous system to signal or communicate with other nerve cells in order to regulate and control all brain function. The cell type responsible for this signaling is called a neuron. Chemical or electrical signals can exert their effects on neurons by traveling across a physical gap located between two neurons, called a synapse. Presynaptic neurons transmit signals whereas postsynaptic neurons react to the signals. The human brain contains approximately 86 billion neurons, each having hundreds to tens of thousands of synapses to allow for this communication. This process is essential to all things, from organ function, to movement, to memory and all behavioral processes.

Neurotransmission is the process by which signaling molecules, called neurotransmitters, are released by a presynaptic neuron, travel over the synaptic space and bind to and interact with receptors on a postsynaptic neuron. Depending on the nature of the neurotransmitter and receptor, this interaction results in excitation, inhibition or modulation of the receiving neuron's behavior.

Synaptic receptors are primarily located inside the synaptic cleft, or the space where the neurons communicate, and have been historically considered to be the most important part of the neuron. However, recent understanding of neurotransmission and brain function has shown there are many extrasynaptic receptors that also respond to neurotransmitters to exert their effects. For example, it is becoming increasingly understood that extrasynaptic GABA<sub>A</sub> receptor-mediated neurotransmission is critical to generalized neurological function and has demonstrated influence over general physiological states such as sleep, hunger, anxiety and seizure among other things.

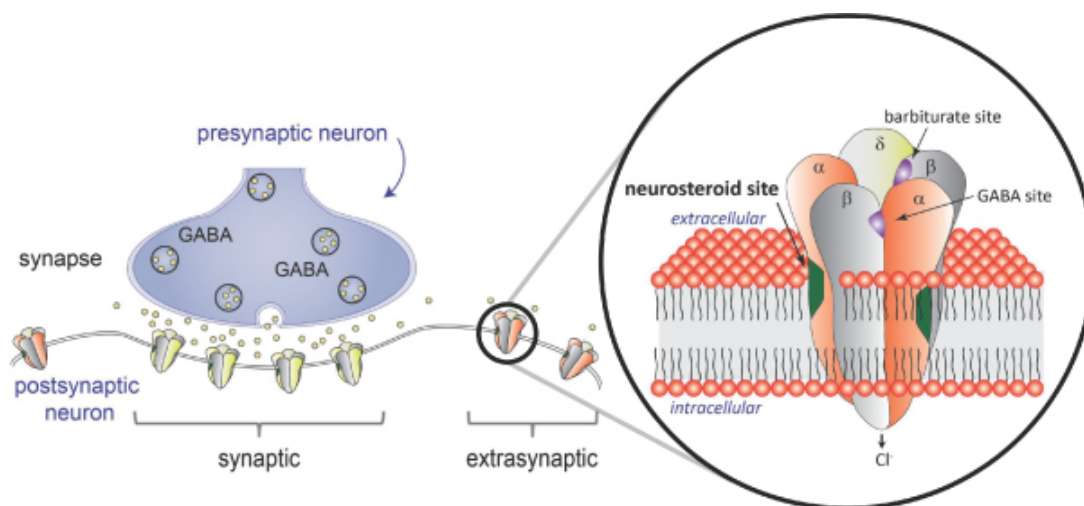
### **Allosteric modulation**

We are focused on developing drugs based on selective allosteric modulation of key CNS synaptic and extrasynaptic receptors. Molecules that function directly on synaptic or extrasynaptic

receptors at the site where the native, or natural, molecule binds to inhibit or activate them are known as orthosteric. Alternatively, allosteric modulators are a class of small molecules very different from classical orthosteric drugs, as they interact at a site different from the native site and allow for fine-tuning of neuronal signals.

Orthosteric drugs aimed at these key synaptic receptors are inherently limited due to their targeted effects of complete activation or complete inhibition of the neuron, with little subtlety in how they exert their effect. As a result, neurons are unable to respond to normal stimuli and can become over-stimulated by a neurotransmitter or be unable to respond to normal neurotransmission, thus negatively impacting both the efficacy and safety profile of a potential CNS drug. We believe that nowhere in the body is it more important to maintain normal rhythms than in the brain, and accordingly we believe that allosteric modulation approaches are better suited for the treatment of seizure and other CNS diseases.

We utilize our proprietary chemistry capabilities to design and identify drugs that are allosteric modulators that bind to either or both synaptic and extrasynaptic receptors. As a result, our drugs under development are capable of varying degrees of desired activity rather than complete activation or inhibition of the receptor as typically observed with orthosteric drugs. We believe this greater selectivity and modulatory control at extrasynaptic GABA<sub>A</sub> receptors may allow us to develop CNS drugs that offer significant therapeutic and safety advantages over orthosteric drugs.



#### **Allosteric modulation of extrasynaptic GABA<sub>A</sub> receptors to treat SE**

Our initial focus is on the development of positive allosteric modulators of both synaptic and extrasynaptic sites of the GABA<sub>A</sub> receptor. BDZs are allosteric modulators that primarily act at a particular receptor, the synaptic GABA<sub>A</sub> receptor, with little or no activity at extrasynaptic GABA<sub>A</sub> receptors. BDZs have many positive drug-like attributes, including safety in overdose, reproducible dosing and predictable actions in humans. However, BDZs are inherently limited due to abuse potential, sedation, memory and performance impairment, and development of tolerance. We believe that our approach to GABA<sub>A</sub> receptor allosteric modulation has the potential to be superior to BDZs because our products target both synaptic and extrasynaptic receptors. Therefore we believe we can enhance the potential utility of modulating the GABA<sub>A</sub> receptor for new indications, and effectively avoid some of the limitations of BDZs.

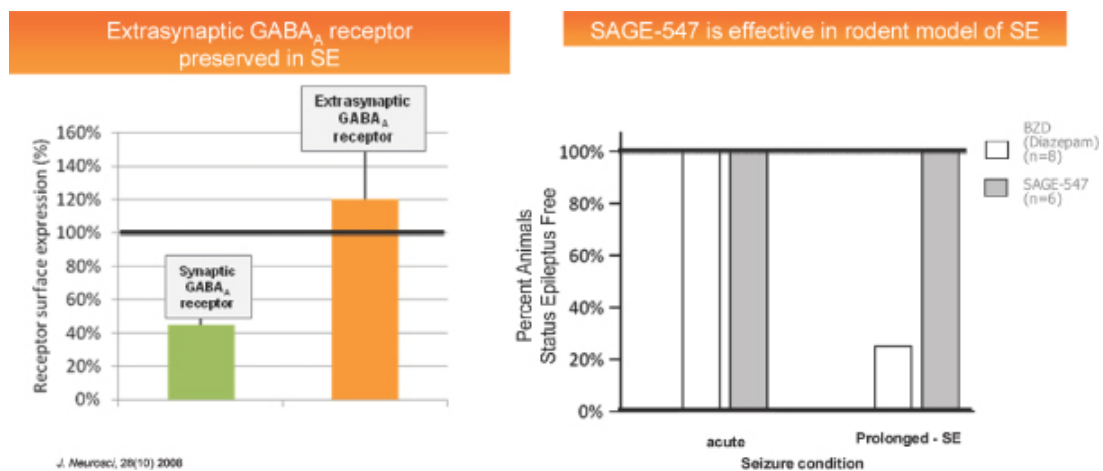
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SE patients are often considered to be resistant to the action, or pharmacology, of drugs that only target the synaptic GABA<sub>A</sub> receptors, such as BDZs, the first-line therapy for SE. Positively modulating, or up-regulating, GABA<sub>A</sub> receptors results in a beneficial effect in some patients with seizures. However, in persistent SE, synaptic GABA<sub>A</sub> receptors are down-regulated, or diminished in their activity.

Our initial product candidates are focused on allosteric modulation of both the synaptic and extrasynaptic GABA<sub>A</sub> receptor, unlike BDZs that primarily interact only with synaptic GABA<sub>A</sub> receptors. The extrasynaptic GABA<sub>A</sub> receptor is structurally distinct, possesses unique pharmacology and is located in a different place than the synaptic GABA<sub>A</sub> receptor. In addition, the extrasynaptic GABA<sub>A</sub> receptor remains intact during prolonged periods of seizure with no down-regulation. Since our selective allosteric GABA<sub>A</sub> modulators target both the extrasynaptic and synaptic GABA<sub>A</sub> receptors, we believe they can treat seizures that are otherwise BDZ-resistant.

Published non-clinical testing utilizing well-validated animal models of SE and sophisticated instruments for identifying the expression of both synaptic and extrasynaptic GABA<sub>A</sub> receptors on the surface of neurons support this hypothesis. These studies, performed in rats, demonstrate the reduced number and activity of synaptic GABA<sub>A</sub> receptors during SE, in contrast to the preserved number and activity of extrasynaptic GABA<sub>A</sub> receptors under the same conditions. These studies were done by measuring the amount of GABA<sub>A</sub> synaptic and GABA<sub>A</sub> extrasynaptic receptors that are present on the surface of the neurons. The analysis of protein present for each of the respective receptors in animals in the SE-state, versus normal animals, shows the difference in GABA<sub>A</sub> receptor expression.

We believe animal models of seizure also portray the advantages of our allosteric approach over therapy with BDZs. The figure below shows the results of a rodent study where the subject animals were placed into an SE-like condition of prolonged seizure resulting in continuous spontaneous seizures. SAGE-547 was then administered to certain animals while the others received a BDZ. The results demonstrate that BDZs are unable to adequately control the seizure condition that we believe is due to down-regulation of synaptic GABA<sub>A</sub> receptors. In contrast, SAGE-547, working at both synaptic and extrasynaptic GABA<sub>A</sub> receptors, appears to have treated the seizures in these animals and resolved their SE.



### Allosteric modulation of NMDA receptors to address other CNS conditions

Orthosteric drug candidate approaches to modulating the NMDA receptor have also been fraught with difficulties. NMDA receptor antagonists have been explored for treating Alzheimer's disease and



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neuropathic pain and for inducing anesthesia. Drugs that antagonize NMDA receptors are limited by adverse effects, such as neurotoxicity, deteriorating mental status and psychotomimesis, or the onset of psychotic symptoms following the administration of the drug. NMDA receptor agonists have been tested in schizophrenia and many believe may have a role in enhancing cognition and mood. However, their ability to be used at effective doses in humans is limited by non-clinical findings indicating these agents may induce cell death through excess excitation of nerve cells.

We are evaluating in non-clinical testing a number of positive and negative allosteric modulators of the NMDA receptor that we believe can overcome the difficulties associated with orthosteric approaches. Like our GABA<sub>A</sub> allosteric modulators, our NMDA receptor allosteric modulators work at sites located in the synaptic and extrasynaptic spaces of the neuron and enhance, or modulate, the activity of the native molecule without directly activating the NMDA receptor. Initial non-clinical testing of our NMDA receptor allosteric modulators has indicated we can avoid the excitotoxicity and psychotomimesis seen with directly activating, orthosteric compounds. This in turn may allow us to discover and develop, alone or with partners, compounds to treat conditions such as depression, Alzheimer's disease, attention deficit hyperactivity disorder and schizophrenia, as well as certain aspects of Huntington's disease, and neuropathic pain.

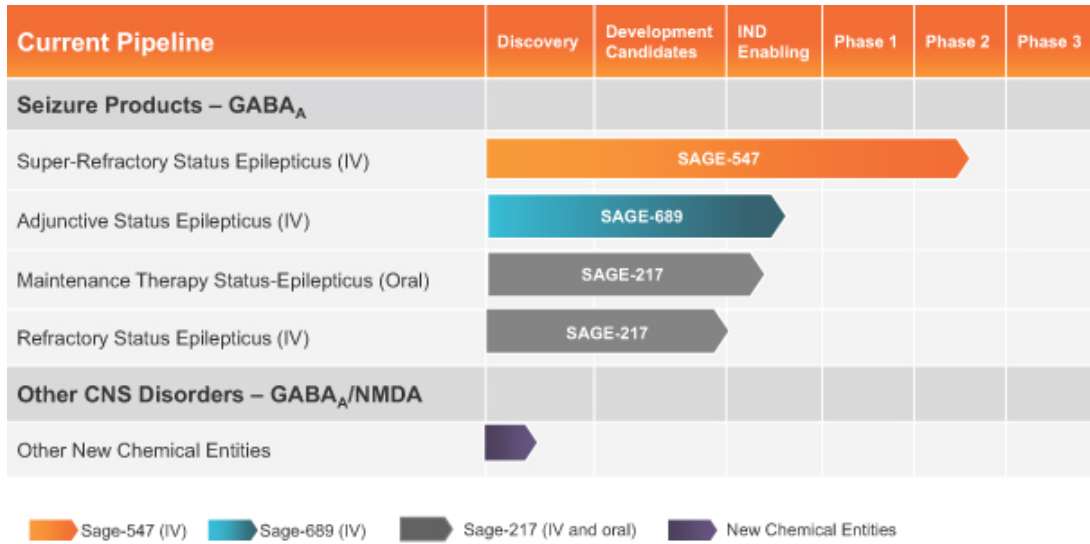
### ***Our proprietary chemistry platform***

Our proprietary chemistry platform is centered on novel chemical scaffolds of endogenous or chemically modified synthetic neuroactive steroid compounds that are allosteric modulators of GABA<sub>A</sub> or NMDA receptors. We have leveraged this platform to assemble a chemistry portfolio of greater than 1,200 compounds. We believe our proprietary chemistry platform allows us to:

- optimize the properties of neuroactive steroid compounds to develop proprietary, new chemical entities, with the potential to be used as oral, IV or intramuscular therapies;
- control important properties such as half-life, brain penetration and the types of receptors our drugs act upon, thereby modulating either inhibition or excitation either acutely or chronically; and
- create drugs that exert control over the intensity of receptor activation or deactivation, with the potential to hit targets in the brain with more precision, increased safety and tolerability and fewer off-target side effects than current CNS therapies.

### **Our Product Pipeline**

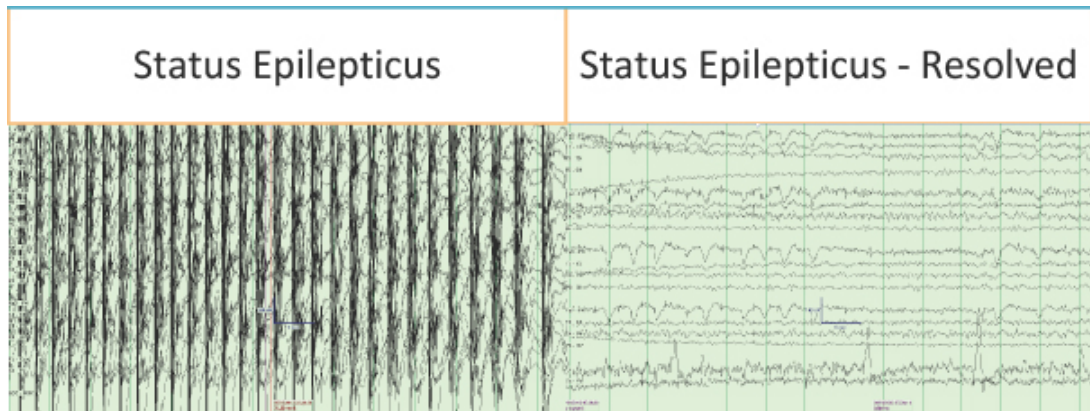
We are focusing our efforts on developing product candidates that are derived from active endogenous steroids with properties that selectively target synaptic and extra synaptic GABA<sub>A</sub> or NMDA receptors. We believe that our proprietary approach to drug discovery and development enables us to create both IV and orally bioavailable selective allosteric modulators that can be applied to multiple CNS target indications. The product candidates in our lead program, SAGE-547, SAGE-689 and SAGE-217, all allosteric modulators of the GABA<sub>A</sub> receptor, are being developed as treatments for SRSE, SE and RSE, respectively. We intend to develop and commercialize these initial product candidates on our own, if approved. We are also developing additional potential product candidates from both our GABA<sub>A</sub> and NMDA receptor programs that will serve mood and cognitive disorders, such as Alzheimer's Disease and depression, which we may choose to selectively partner in select geographies or commercial settings.



**Status Epilepticus (SE) Development Program**

**Status epilepticus (SE)**

Seizures are brief episodes of abnormal excessive or synchronous neuronal activity in the brain. The outward effect can vary from rapid uncoordinated movement of the trunk and extremities, known as tonic-clonic seizure, to a brief loss of awareness, known as an absence seizure. An electroencephalogram, or EEG, is a measurement of electrical activity within neurons of the brain. Each line of an EEG represents a different region of the brain and becomes aberrant during a state of seizure. In cases of recurring or frequent seizures, or with persistent and long seizures, uncontrolled neurotransmission results in remodeling or changes to brain synaptic function. These physiological and anatomical changes to the brain include changes to the receptor systems of neurons, and shape of the neuron thereby impacting its ability to function, resulting in disorganization of brain proteins and potentially neuronal death.



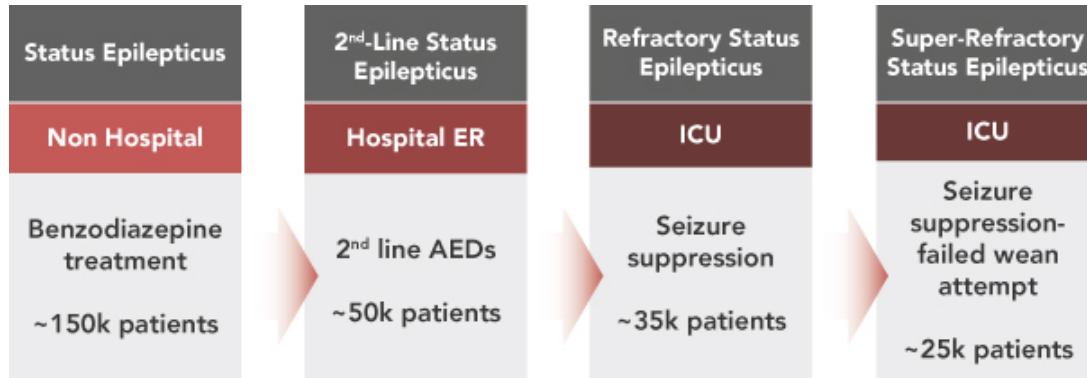
SE is a life-threatening seizure condition in which the brain is in a state of persistent seizure and there is uncontrolled neuronal excitation. The Neurocritical Care Society defines SE as one continuous

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unremitting seizure lasting longer than five minutes, or recurrent seizures without regaining consciousness between seizures for greater than five minutes. Common causes of SE in adults include preexisting epilepsy, cerebrovascular disease, metabolic and electrolyte disturbances, encephalopathies, head trauma and drug or substance intoxication. SE is more common in children, often as a result of high fever during the first year of life. It is the most common neurologic emergency in pediatric practice.

SE is associated with substantial morbidity and mortality. We estimate that in the United States each year, there are up to 150,000 cases of SE, of which 30,000 SE patients die. We estimate that 35,000 patients with SE in the United States are hospitalized in the ICU each year. This results in an overall inpatient cost of \$3.8 billion to \$7.0 billion per year in the United States.

**SE treatment paradigm**



The numbers in the chart above represent the estimated number of U.S. patients affected by SE at various stages each year.

SE is a medical emergency and is treated with aggressive pharmacological approaches. When a patient first presents with SE, medical personnel, typically emergency medical technicians at the scene of the seizure or during emergency transport, will treat the patient with IV BDZs such as diazepam, lorazepam or midazolam. Approximately 65% of patients treated with IV BDZs will respond to such treatment, and the seizure will be abated. If the patient does not respond, he or she will be brought to an emergency room where anti-seizure drugs such as phenytoin or valproic acid, will be administered.

If a patient's SE continues after administration of BDZs and anti-seizure drugs, the patient is diagnosed as having RSE, which must be treated quickly to cease the seizure activity, maintain the patient's airway and prevent brain damage. RSE patients are immediately admitted to the ICU and placed in a medically induced coma to stop all seizure-related activity. Currently, there are no therapies that have been specifically approved for RSE. The primary drugs used to induce coma are continuously infused IV agents such as propofol, midazolam or pentobarbital.

The RSE patient is continually monitored through EEG to ensure burst suppression is achieved. Burst suppression is a pattern of brain waves seen on an EEG characterized by periods of activity alternating with periods of little or no activity in the brain, informing medical personnel of the effectiveness of the medically induced coma. The goal of burst suppression is to allow the brain and corresponding neuronal tissue to restore function and reset to normal pre-seizure levels. After a short period of burst suppression, typically 24 hours, physicians attempt to wean the patient from the medically induced coma to evaluate EEG activity to assess if the neuronal activity has returned to

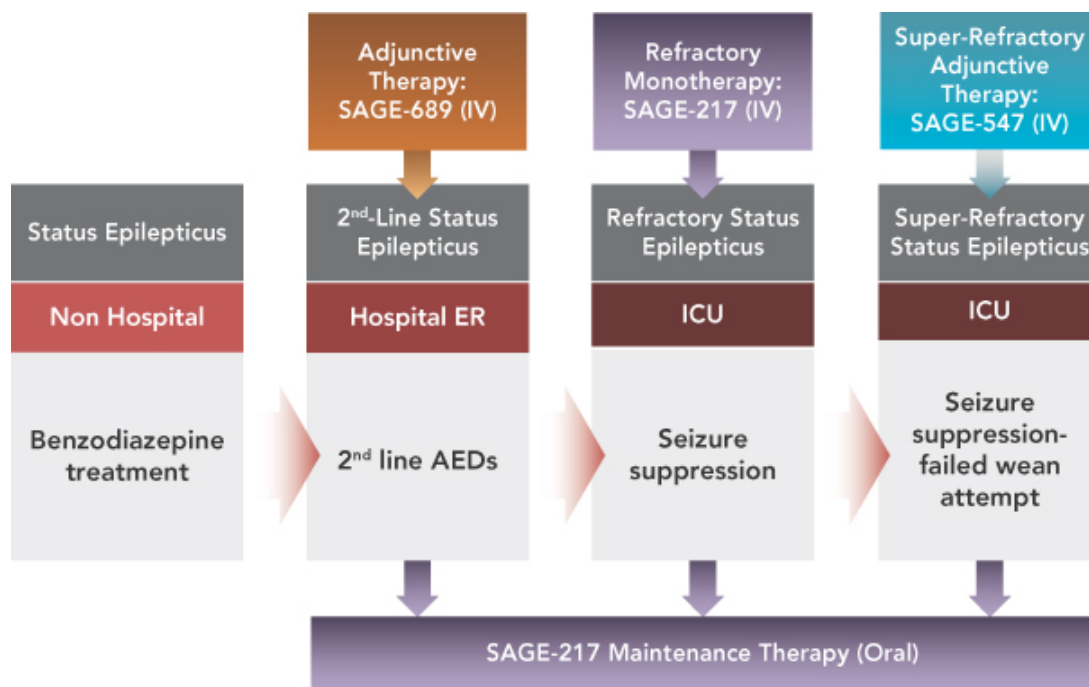
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normal levels. If unsuccessful, the patient is placed back into the medically induced coma in order to protect underlying neurological activity and brain function. At this point, patients are considered to be in a state of SRSE.

Currently, there are no therapies that have been specifically approved for SRSE. Treatment approaches consist of diagnosis and treatment of underlying medical conditions, adding and changing anti-seizure drugs, and repeated attempts at weaning in conjunction with IV anesthetic agents. The majority of SRSE patients either die or have significant comorbidities, such as decreased blood pressure and cardiorespiratory collapse.

Our proprietary pipeline of product candidates are designed to treat varying stages of SE. Each product candidate has distinct pharmacologic and pharmacokinetic profiles that we believe will make them differentiated products with potential utility across the spectrum of SE.

**Our SE product candidates**



**SAGE-547**

SAGE-547, a proprietary formulation of allopregnanolone, is a known metabolite of progesterone formed in the CNS in humans through the actions of two enzymes. SAGE-547 is being developed as an IV adjunctive therapy in conjunction with underlying anesthesia as a treatment for SRSE. SAGE-547 is currently in Phase 1/2 clinical development. In April 2014, the FDA granted us orphan drug designation for SAGE-547 as a treatment for SE.

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We believe SAGE-547 has an optimal profile for the treatment of SRSE. SAGE-547 has a wide therapeutic window that allows for allosteric modulation of the GABA<sub>A</sub> receptor both synaptically and extrasynaptically without inducing deep anesthesia. The pharmacological properties of SAGE-547, including a short half-life of one hour, allows for continuous IV administration. The ability to titrate SAGE-547 creates the opportunity to tailor therapy to a specific SRSE patient's needs as well as to efficiently administer and withdraw the compound.

### **Non-clinical results**

We believe the clinical development program for SAGE-547 is supported by significant non-clinical data and strong scientific rationale. There are numerous reports that demonstrate the non-clinical efficacy of allopregnanolone as well as multiple studies that we have conducted showing the *in vitro* and *in vivo* pharmacologic efficacy of SAGE-547 in seizure models, thus providing a strong non-clinical rationale for SAGE-547 in certain forms of seizure, such as SRSE.

A comprehensive toxicology dose escalating study exploring the effects of SAGE-547 in two species (rat and dog) is currently underway and is expected to be completed in the second quarter of 2014. We must complete these studies before we commence a pivotal clinical trial for SAGE-547.

### **Emergency-use experience with SAGE-547**

We have compiled evidence of activity with SAGE-547 in emergency-use settings in four patients that support the safety and potency of SAGE-547 for the treatment of SRSE. In each of these four cases the treating physician applied for an individual emergency-use IND, local institutional review board approval and proxy informed consent from next of kin. SAGE-547 was administered with a target steady state exposure similar to that planned for our ongoing Phase 1/2 clinical trial. The table below summarizes the experience for each of these four patients. Of note, each individual case of SRSE arose from a presumed different underlying etiology, the patients were of varying ages (2 to 28), and all had been placed in a long-duration medically induced coma. Prior multiple attempts to wean each of these patients from their comatose state and reestablish normal brain activity had been unsuccessful. Patients #1, #2 and #4 were administered SAGE-547 in advance of a further wean attempt and all responded successfully experiencing resolution of SRSE during the course of SAGE-547 infusion. Patient #3 had resolution of SRSE three days after discontinuing SAGE-547.

Patient	#1	#2	#3	#4
Age/Sex	23/Male	11/Female	28/Male	2/Female
Date of Treatment	Dec 2012	Oct 2013	Oct 2013	Oct 2013
ICUDuration	>90 days	>60 days	>60 days	>30 days
FailedMultiple WeaningAttempts	Yes	Yes	Yes	Yes
Etiology	Unknown	Autoimmune (anti-Thyroid/Anti-GAD)	Unknown	Presumed Metabolic Disorder
StatusEpilepticusResolved	Yes	Yes	Yes	Yes
Time from Discontinuationof SAGE-547 to Resolutionof SRSE	Concurrent	Concurrent	3 days	Concurrent
Drug-relatedseriousadverse events	None	None	None	None

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Patient #1 was a previously healthy 23 year old male who began treatment with an earlier formulation of SAGE-547 on his 92nd day of SRSE of unknown etiology. Although burst suppression was achieved with anesthetic agents, repeated attempts at weaning were unsuccessful. The patient had been previously treated with approximately 20 standard and alternative treatment regimens prior to initiation of SAGE-547. At the time of SAGE-547 treatment the patient was also being treated with lacosamide, phenobarbital, clonazepam, levetiracetam, bromides, and ketogenic diet. Treatment with these medications preceded SAGE-547 administration and were not able to control SRSE in this patient. Following the initiation of SAGE-547 treatment, normalization of his EEG occurred over the next 48-72 hours and he was successfully weaned from his medically induced coma. The patient continued to improve and was discharged to a rehabilitation facility and then to home.

Patient #2 was a previously healthy 11 year old female treated with SAGE-547 on her 52nd day of SRSE, likely of autoimmune origin. This patient had received pentobarbital either alone, or in combination with ketamine, hypothermia, midazolam and magnesium, to achieve burst suppression. This patient also was treated with various anti-seizure drugs, including phenobarbital, valproate, phenytoin, fos-phenytoin, topiramate, lacosamide and levetiracetam along with a ketogenic diet, either alone or in combination, and other drugs targeting the presumed underlying etiology, including methylprednisolone, plasmapheresis, intravenous immune globulin, rituximab and cyclophosphamide. Despite this aggressive therapy, the patient was unable to wean from burst suppression without recurrence of seizure activity. At the time of SAGE-547 administration, the patient was maintained in burst suppression with a continuous pentobarbital infusion and was being treated with felbamate, phenytoin, phenobarbital and a ketogenic diet. On the second day of SAGE-547 administration, a taper of pentobarbital was initiated, and on the fifth day of SAGE-547 administration, pentobarbital was successfully weaned and SAGE-547 infusion was stopped. Initially, the patient continued to have brief, focal seizures, but not SE. The patient's seizure burden, as compared to previous reductions with pentobarbital, was significantly reduced to two to three seizures per day. One week following treatment with SAGE-547, the patient was awake and following commands.

Patient #3 was a previously healthy 28 year old who was admitted to the ICU after a generalized tonic-clonic seizure at home. Initially he had depressed mental status accompanied by intermittent right and left temporal seizures. Over the next two weeks his EEG progressed to SE. Although burst suppression was established with a combination of pentobarbital and ketamine, repeated attempts at weaning were unsuccessful. At the time of SAGE-547 administration the patient was also being treated with phenytoin, lacosamide, valproate, pregabalin, pyridoxine, magnesium, IV immunoglobulin and steroids. Immediately prior to administration of SAGE-547 the patient developed presumed sepsis, likely due to ongoing anesthesia and intubation, and was withdrawn from pentobarbital as SAGE-547 was initiated. Over the five days of SAGE-547 infusion EEG activity improved and continued to improve over an additional three-day period after the discontinuation of SAGE-547. Ultimately, this patient's seizures were controlled with a combination of oral anti-seizure medications and he was transferred to a step-down unit for continued recovery and rehabilitation. Similar to the first patient there were no adverse events attributable to SAGE-547 treatment.

Patient #4 was a two year old female with a two-month history of epilepsy who presented with SE of unknown etiology. The patient received initial therapy with levetiracetam and phenobarbital, and subsequent treatments with pyridoxine, methylprednisolone, benzodiazepine, propofol and midazolam. Burst suppression was successfully achieved with midazolam and pentobarbital treatment. At the time of SAGE-547 administration, the patient was also being treated with pentobarbital, midazolam, phenobarbital, levetiracetam and dopamine. Within 24 hours of SAGE-547 administration, the patient was successfully tapered off midazolam and pentobarbital was reduced. The patient was found to have significant brain atrophy on a follow-up magnetic resonance imaging scan, which was thought to be due to her underlying condition with no definitive diagnosis. At the end of SAGE-547 administration, the patient was no longer in SE.

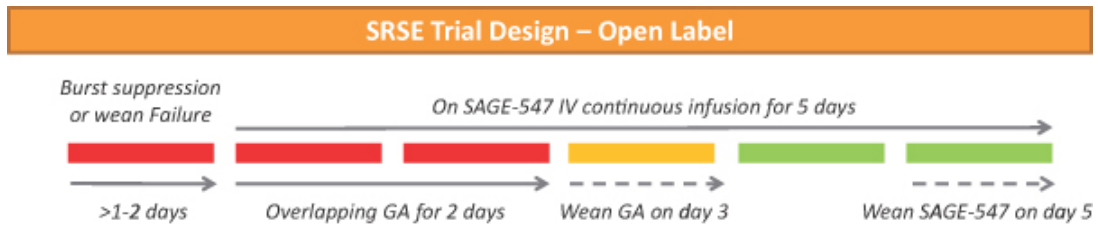
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We can provide no assurance that the positive results observed to date in emergency-use cases are attributable to SAGE-547, as such cases were not carried out in the controlled environment of a clinical trial. Further, we can provide no assurance that the administration of SAGE-547 to other patients in our clinical trials or otherwise will have positive results.

**Clinical**

On October 30, 2013, we filed an IND for SAGE-547 for the treatment of SRSE with the FDA, and we received notification allowing us to proceed with our Phase 1/2 clinical trial of SAGE-547 on November 27, 2013. We commenced our Phase 1/2 clinical trial to study safety, tolerability and efficacy of SAGE-547 in adult patients with SRSE in January 2014. This clinical trial is an open-label study in at least ten patients diagnosed with SRSE. Currently, there are four active study sites in the United States, and we plan to open up to 16 additional study sites in the United States to achieve full enrollment of this clinical trial. An SE patient who has failed therapy with first- and second-line agents and has failed IV general anesthesia, or GA, administered over 24 hours is eligible to be included in this trial. Patients will be excluded from participation in this trial if their SE is due to anoxic brain injury or they have end-organ damage of any major organ, such as the brain, the liver or the heart, which would make recovery from either SE or the underlying condition highly unlikely.

The figure below demonstrates the design of the screening and treatment periods of this Phase 1/2 clinical trial. Following the treatment period, there will be an acute two-day follow-up period and an extended three-week follow-up period.



The primary endpoints of this trial are to evaluate the safety and tolerability of SAGE-547 in SRSE patients. Safety and tolerability will be assessed by monitoring adverse events, EEG, physical examinations, neurological examinations, vital signs, clinical laboratory measures, electrocardiograms and concomitant medication usage. The secondary endpoint of this trial is to assess the efficacy of SAGE-547 on SRSE, assessed by the need to place the patient back into a medically induced coma for seizure control during administration of SAGE-547, as well as the duration of the observed response. In order to allow full assessment of pharmacologic activity, this trial employs broad inclusion criteria, primarily excluding patients only if there is major damage to the brain, such as anoxic injury, devastating stroke or the presence of a large lesion. Other secondary objectives used to measure efficacy include scores on global and specific scales relating to cognition, agitation and depth of coma and survival.

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As of the date of this prospectus, three patients have been enrolled in this trial and treated with SAGE-547. While data collection in these patients remains ongoing, the table below summarizes the preliminary results from these three patients.

Patient	#1	#2	#3
Age/Sex	65/male	14/female*	33/female
Status Epilepticus Duration	12 days	11 days	21 days
Failed Multiple Weaning Attempts	Yes	Yes	Yes
Etiology	Subdural Hematoma	Landau-Kleffner Syndrome	HIV/Toxoplasmosis
Key Efficacy Endpoint Met	Yes	Yes	Yes
Drug-related serious adverse events	None	None	None

\* FDA agreement to enroll out of age range on single-use basis.

Of note, each individual case of SRSE arose from a presumed different etiology and the patients were of differing ages (14 to 65 years of age) with the FDA agreeing to enroll a non-adult patient, on a single-use basis. All three patients met the key efficacy endpoint. Specifically, each patient was successfully weaned off his or her anesthetic while SAGE-547 was being administered. One patient was subsequently weaned off SAGE-547 without recurrence of SE and subsequently discharged to a rehabilitation facility. The other two patients experienced recurrence of SE upon withdrawal of SAGE-547, providing preliminary evidence of the pharmacologic effect of SAGE-547. Consistent with the emergency-use cases, there have been no reported drug-related serious adverse events in these patients to date.

The results set forth above with respect to the first three patients treated with SAGE-547 in this trial are preliminary and significant additional information continue to be collected on these patients, including EEG readings and information regarding underlying medical conditions and concomitant medications taken by the patients, which may suggest additional or different conclusions regarding the treatment effects of SAGE-547. In addition, the results obtained from the first three patients of this trial may not be representative of results obtained from future patients treated with SAGE-547 in this clinical trial. For a further description of this risk, see "Risk Factors—Risks Related to Product Development, Regulatory Approval and Commercialization—Positive results from early non-clinical studies and clinical trials of our product candidates are not necessarily predictive of the results of later non-clinical studies and clinical trials of our product candidates. If we cannot replicate the positive results from our earlier non-clinical studies and clinical trials of our product candidates in our later non-clinical studies and clinical trials, we may be unable to successfully develop, obtain regulatory approval for and commercialize our product candidates."

We cannot make any conclusions based on the preliminary information obtained to date in the Phase 1/2 clinical trial of SAGE-547. As the clinical trial progresses, we will continue to explore the factors that may impact the use of SAGE-547, including analyzing potential factors such as the difference among the various anesthetic agents used on patients prior to the administration of SAGE-547, the duration of treatment with SAGE-547, the potential to reinstate SAGE-547 following initial weaning if SE symptoms reappear and the potential to increase the dose of SAGE-547. We have also initiated an expanded access program in parallel with our ongoing clinical trial for SRSE. The goal of this program is to ensure availability of our experimental medicines for SRSE for appropriate patients. Through our expanded access program, SAGE-547 will be provided free of charge to the institution and appropriate patients. We will consider granting expanded access to SAGE-547 for individual



patient programs, including emergency-use programs, consistent with the policies established by the local regulatory authorities. Information obtained through this program will more fully inform our understanding of the overall benefit/risk profile of SAGE-547 and will help guide decision making for future clinical trials.

### **SAGE-689**

SAGE-689 is being developed as an adjunctive IV therapy for the treatment of SE patients whose seizures have not resolved after treatment with BDZs in a non-hospital setting. Patients with SE at this stage are transported by ambulance to the hospital and frequently receive treatment in the emergency room with anti-seizure drugs. If their seizure does not resolve rapidly the patient must be transferred to the ICU and immediately placed into a medically induced coma to minimize the risk of brain damage. SAGE-689 is currently in IND-enabling toxicology and safety pharmacology testing.

We are developing SAGE-689 so that it will have what we believe is the optimal profile as a second-line therapy for the treatment of SE prior to a patient being placed into a medically induced coma. These characteristics include a wide therapeutic window to allow for modulation of the GABA<sub>A</sub> receptor without inducing deep anesthesia, and a short half-life to permit rapid onset and loss of activity. The latter property will facilitate rapid discharge or transfer to the ICU without residual drug on board. SAGE-689 is being formulated for IV or intramuscular administration to optimize these characteristics in a clinical setting.

We plan on filing an IND for SAGE-689 in the second half of 2014 and to begin a Phase 1 clinical trial thereafter. Our Phase 1 clinical development program for SAGE-689 will be designed to rapidly assess relevant product characteristics for this compound, such as quality of sedation, impact on EEG in normal patients and possibly in patients with epilepsy, pharmacokinetics and general safety. Our Phase 1 clinical trial will also inform us of SAGE-689's ability to induce EEG-confirmed burst suppression. Depending upon the results of our Phase 1 clinical trial, we anticipate that subsequent development of SAGE-689 will involve studies of its utility as an adjunctive therapy, comparing it in combination with best practice, versus practice alone.

#### **Non-clinical results**

The non-clinical evaluation for SAGE-689 encompasses standard toxicology and pharmacology. In addition, our focus has been on understanding the potential for SAGE-689 to be deployed as a short half-life agent in the treatment of SE in an emergency situation. Thus we have looked at non-clinical models that will assess its sedative profile, its cardiovascular safety, its effect on EEG and its ability to induce burst suppression as a proxy for anti-seizure activity.

The results from non-clinical animal models may not be replicated in clinical trials. Many drug candidates, including many targeting CNS disorders, with promising non-clinical profiles have failed to demonstrate similar safety, non-toxicity and efficacy in humans. To the extent possible, animal models attempt to replicate both the phenotype of the human disease and its underlying causality to assess the putative efficacy of a drug candidate. However, in many cases, the cause of the human disease is not fully elucidated, thereby decreasing the likelihood that the animal model will accurately predict the efficacy of a drug candidate in humans. The non-clinical results reported for SAGE-689 below should be read with these limitations in mind.

#### **Efficacy**

SAGE-689, a positive allosteric modulator at GABA<sub>A</sub> receptors, possesses anticonvulsant, anxiolytic and sedative properties in animal models. This activity provides a non-clinical rationale for potential efficacy of SAGE-689 in patients with various forms of seizure. In an SE model in rodents, a single IV bolus dose of SAGE-689 (5 mg/kg and 15 mg/kg) given up to 60 minutes following induction of SE produces complete cessation of seizure activity. In the same SE model, BDZs do not show effectiveness in seizure cessation. Furthermore, SAGE-689 effectively halts re-occurrence of seizure

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activity for up to three hours after treatment with the compound as measured by EEG. SAGE-689 produces dose-related protection from seizure activity in rodent model of SE.

With respect to sedation, SAGE-689 is an effective, fast acting and rapidly reversible sedative/hypnotic agent when given acutely in both rats and dogs. Single IV bolus injections of SAGE-689 produce a spectrum of sedative effects, from light sedation at low doses to general anesthesia at higher doses. In emergency room settings, propofol is often used as a sedative for emergency situations and for seizure control. We thus compared SAGE-689's safety and activity to propofol in several non-clinical animal experiments, and in general, SAGE-689 showed a more manageable profile for achieving varying levels of sedation. In particular, progressively deeper levels of sedation with SAGE-689 were achieved with more control and broader plasma exposures than with propofol, indicating that SAGE-689 in humans will allow, we believe, a more optimal level of controlled sedation than with propofol. Recovery from sedation after withdrawal of SAGE-689 was rapid, occurring within 15 minutes after cessation of a one hour continuous IV infusion in the rat. These recovery times are comparable with those observed after a one hour continuous infusion of propofol in animal studies.

### *Pharmacokinetics*

SAGE-689 was found to have high systemic clearance and short half-life in both rodents and dogs. CNS penetration was observed in rats following both IV bolus and IV infusion doses, and brain to plasma ratios exceed one, showing ease of transport into the brain, which is necessary for efficacy in humans.

### *Non-clinical safety*

Cardiovascular safety is an important attribute of any agent that is administered via IV infusion, whether used for sedation or other purposes. We compared SAGE-689 to propofol in these non-clinical studies. Safety studies were conducted in telemetered male beagle dogs administered SAGE-689. SAGE-689 exhibited less severe cardiovascular and respiratory effects than propofol across a wide range of exposures, with a therapeutic index for moderate sedation of <sup>3</sup>11-22x (compared to 3-4x for propofol). In addition, no apnea, or absence of breathing, was observed after IV administration of SAGE-689 in this study, and although a detailed analysis was not performed, there were no obvious, prevalent or reproducible abnormalities associated with the electrocardiogram during the administration of SAGE-689. Thus non-clinical data suggest an acceptable cardiovascular safety profile for SAGE-689, that we believe in humans has the potential to have a better risk-benefit profile than propofol.

## **SAGE-217**

SAGE-217 is being developed as an IV monotherapy for RSE. Patients with RSE are those who have been admitted to the ICU after failing treatment in the emergency room, for the induction of a medically induced coma. SAGE-217 is currently in IND-enabling toxicology and safety pharmacology testing.

We are developing SAGE-217 so that it will have what we believe is the optimal profile as a monotherapy treatment for RSE. SAGE-217 is expected to have the ability to induce deep anesthesia and produce EEG-confirmed burst suppression. SAGE-217 is being optimized to afford a long half-life and multiple formulations suitable for IV and oral administration. The long half-life of SAGE-217 will also allow it to "auto-taper" on cessation and will avoid rapid fluctuations of blood levels when administered. The long half-life, ability to induce deep and prolonged anesthesia, oral availability, and potency at extrasynaptic GABA<sub>A</sub> receptors of SAGE-217 will distinguish it from our other product candidates. We believe oral maintenance therapy with SAGE-217 after SE, RSE, or SRSE resolution

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has the potential to prevent seizure recurrence. In addition, we believe SAGE-217 may also prevent recurrence of seizure in the broader epilepsy population.

We plan to file an IND for SAGE-217 in the first half of 2015. In the Phase 1 development of SAGE-217 we intend to assess sedative qualities, safety profile, cardiovascular safety, impact on EEG and ability to induce burst suppression.

### **Non-clinical results**

The results from non-clinical animal models may not be replicated in clinical trials. Many drug candidates, including many targeting CNS disorders, with promising non-clinical profiles have failed to demonstrate similar safety, non-toxicity and efficacy in humans. To the extent possible, animal models attempt to replicate both the phenotype of the human disease and its underlying causality to assess the putative efficacy of a drug candidate. However, in many cases, the cause of the human disease is not fully elucidated, thereby decreasing the likelihood that an animal model will accurately predict the efficacy of a drug candidate in humans. The non-clinical results reported for SAGE-217 below should be read with these limitations in mind.

#### *Efficacy*

Similar to SAGE-689 and SAGE-547, SAGE-217 is pharmacologically active in various models of seizure. Efficacy studies in multiple non-clinical seizure models have shown good anti-seizure activity in pharmacoresistant models of SE. Through GABA<sub>A</sub> receptor modulation, SAGE-217 possesses potent anticonvulsant, anxiolytic and sedative activity when administered *in vivo*.

In an SE model in rodents, SAGE-217 produces complete cessation of seizures at 3 mg/kg and 5 mg/kg when dosed via IV infusion. Furthermore SAGE-217 effectively halts any seizure recurrence up to three hours after the treatment when measured by EEG. Additional studies in seizure models are ongoing to fully understand the utility of SAGE-217 for other seizure indications, however, we believe the ability to prevent seizure recurrence in these models may be an attribute unique to this molecule.

#### *Pharmacokinetics*

SAGE-217 was found to have low systemic clearance and long half-life in both rodents and dogs. CNS penetration was observed in rats following both oral and IV doses, and brain to plasma ratios exceed one, showing ease of transport into the brain, which is necessary for efficacy in humans. The pharmacokinetic profile of SAGE-217 suggests the compound will be amenable to once-a-day dosing in humans as an oral formulation, and will require only a very low infusion dose requirement when dosed via IV infusion.

#### *Non-clinical safety*

Safety studies on SAGE-217 are planned. Pharmacology studies completed suggest the molecule is well tolerated at efficacious doses demonstrating activity when administered either via IV infusion or orally.

### **Further Exploitation of GABA<sub>A</sub> and NMDA Receptors**

We are exploring additional potential products in a variety of CNS disorders based on modulation of both the GABA<sub>A</sub> and NMDA receptors. In addition to our products focused on SE, other GABA<sub>A</sub> mediated CNS disorders upon which we believe our approach can have a material impact include Rett

syndrome, Dravet syndrome, fragile X syndrome, anxiety, depression, sleep disorders, mania, tremor, tinnitus and post-traumatic stress disorder.

NMDA receptors also serve a critical role in CNS related activities; however current attempts at exploiting these receptors have been suboptimal due to limited efficacy and adverse events. We have produced a large pool of highly selective product candidates which are allosteric modulators of the NMDA receptor that we believe can be used for the treatment of cognitive dysfunction in diseases such as depression, Alzheimer's disease, attention deficit hyperactivity disorder and schizophrenia, as well as certain aspects of Huntington's disease, and neuropathic pain.

Our initial focus will remain on those indications where we can independently develop and commercialize our products, if approved. However, our broad potential pipeline lessens our reliance on the success of any one program. We believe our ability to design and develop novel molecules with distinct profiles and receptor subtype selectivity, will provide us with an opportunity to create value by either in-house development or by partnering these assets with third parties who possess the development and commercialization capabilities to pursue these programs.

### **Manufacturing and Supply**

We do not own nor operate, and currently have no plans to establish, any manufacturing facilities. We currently resource all of our non-clinical and clinical compound supply through third party contract manufacturing organizations, or CMOs.

We currently have sufficient SAGE-547 on hand for our Phase 1/2 clinical trial in SRSE and ongoing non-clinical studies. We are working with our CMOs to modify the manufacturing process for SAGE-547 to (i) increase the maximum shelf-life of this product candidate from one to two years to up to three years and (ii) eliminate the need for cold storage. We currently have sufficient SAGE-689 on hand for our ongoing non-clinical studies and plan to begin manufacture of current good manufacturing practice, or cGMP, batches in the second quarter of 2014.

We have established relationships with several key CMOs to enable both the non-clinical and clinical supply lines for both SAGE-547 and SAGE-689 active pharmaceutical ingredient, or API, as well as drug product under cGMP protocols. Key intermediates to support the large-scale production of these candidates are performed by other CMOs on a purchase order basis. We do not currently have arrangements in place for redundant supply of bulk drug substance. It is our intent to identify and qualify additional manufacturers to provide API and fill-and-finish services prior to submission of a new drug application to the FDA for all product candidates.

SAGE-547, SAGE-689 and SAGE-217 are low molecular weight compounds isolated as stable crystalline solids. We believe the syntheses of SAGE-547 and SAGE-689 are reliable and reproducible from readily available starting materials, and the synthetic routes are amenable to large-scale and does not require unusual equipment or handling in the manufacturing process. We are in the process of developing the synthetic route for SAGE-217, but anticipate that its synthetic route will be reliable and reproducible from readily available starting materials. The enantiomeric purity each of SAGE-547, SAGE-689 and SAGE-217 is very high (>99.9%) as a result of the chirality being derived from the backbone of the natural product steroid-based raw materials. We expect to continue to identify and develop drug candidates that are amenable to cost-effective production at contract manufacturing facilities.

### **Sales and Marketing**

Given our stage of development, we have not yet established a commercial organization or distribution capabilities, nor have we entered into any partnership or co-promotion arrangements with

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an established pharmaceutical company. We are concentrating our internal efforts on CNS disorders where we believe we can efficiently commercialize our product candidates on our own. As a result, we believe we can successfully launch and commercialize our initial product candidates on our own, using a small and highly specialized sales force similar to those of other rare-disease companies.

To develop the appropriate commercial infrastructure to launch our product candidates, we may establish alliances with one or more pharmaceutical company collaborators, depending on, among other things, the applicable indications, the related development costs and our available resources. We plan to selectively partner assets geared toward treating CNS disorders that impact large patient populations, such as depression and cognition where there are no reliable and predictive animal models to guide drug development. In order to effectively and efficiently develop product candidates for these larger markets or more difficult indications, we intend to partner at an appropriate stage with companies who have clinical expertise and pre-existing commercial infrastructure in these areas.

### **Licenses**

We have entered into several license agreements to support our various programs.

#### ***Washington University***

In November 2013, we entered into a license agreement with Washington University, or WU. Under this agreement, and subject to certain rights of the U.S. government and rights retained by WU, WU granted us an exclusive, worldwide license under certain patent rights to make, have made, sell, offer for sale, use and import products covered by certain of its patent rights. WU's rights in a patent application disclosing and claiming SAGE-689 is included in this license agreement. Under this agreement, WU also granted us non-exclusive license under certain technical information and tangible research information to use such technical information and/or tangible research information to make, have made, sell, offer for sale, use and import products that embody or were made using a method or process covered in the technical information and/or tangible research information. The WU license also grants us a right to sublicense our licensed rights to third parties, provided each sublicensee enters into a written agreement with us with terms consistent with our agreement with WU. We must pay WU a percentage of the revenue we receive from sublicensing our rights under this agreement, initially in the mid-teens and decreasing to the mid-single digits over time.

Pursuant to the WU license, we are required to use commercially reasonable efforts to continue active, diligent development of licensed products and to use commercially reasonable efforts to manufacture, promote and sell licensed products throughout the territory and in the field during the term of the agreement. We must deliver written reports to WU describing our progress no later than January 31 and July 31 of the first two calendar years of the agreement, and no later than January 31 of each calendar year thereafter.

We must pay WU an annual maintenance fee until and including the year in which our first Phase 2 clinical trial is initiated, and we must make up to \$0.7 million and \$0.5 million in clinical development and regulatory milestones, respectively, to WU, for each licensed product, upon reaching certain milestones relating to the clinical development of our product candidates. The license agreement also requires us to make low single-digit royalty payments to WU in connection with the sales of licensed products.

The WU agreement will expire on a licensed product-by-licensed product basis upon the later of (i) the last day that at least one valid patent claim covering the licensed product exists, or (ii) the tenth anniversary of the day of the first commercial sale of the licensed product. We may terminate the WU

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Agreement early for convenience upon providing WU with 90 days' written notice. WU may terminate this agreement early in the event of our failure to cure a material breach within the applicable cure period or our bankruptcy. In the event of early termination of this agreement before the expiration of the last to expire of the patent rights, we must immediately discontinue manufacture, sale and distribution of any licensed products.

### **CyDex Pharmaceuticals**

In August 2013, we entered into a license agreement with CyDex Pharmaceuticals, Inc., or CyDex, a wholly owned subsidiary of Ligand Pharmaceuticals, Inc., which was amended in April 2014. Pursuant to the CyDex agreement, CyDex granted us an exclusive, non-transferable license under certain patent rights to research, develop, make, have made, import, use, offer for sale, and sell licensed products, which will consist of our compound, a certain neuroactive steroid known as allopregnanolone, formulated in CyDex's proprietary Captisol technology, in the licensed field. Captisol is an excipient that allows us to dissolve allopregnanolone, which has limited solubility in water, in an aqueous solution. Our field of use includes all fields for the treatment, prevention or diagnosis of any disease or symptom in humans or animals. We have also been granted a non-exclusive license to all toxicology/safety and other relevant scientific data owned, licensed or developed by CyDex and relating to Captisol for use in connection with licensed product in the licensed field. We have the right to grant sublicenses outright to third parties under the agreement, provided each sublicensee enters into a written agreement with us, and each sublicensee must abide by the restrictions of the CyDex license. Pursuant to the agreement, we granted CyDex a nonexclusive, royalty-free license to any Captisol improvements developed by us.

Pursuant to the CyDex license, we are required during the term of the agreement to use commercially reasonable efforts to continue active, diligent development of the licensed product, to seek regulatory approval of the licensed product and to commercialize the licensed product following regulatory approval. We must deliver periodic progress reports to CyDex.

We are obligated to make milestone payments of \$0.8 million and \$3.8 million, respectively, based on the achievement of clinical development and regulatory milestones for the development of SAGE-547, with the payments to be made once per field in the fields of SE and traumatic brain injury. For the development in two additional fields, we are obligated to make milestone payments, once per field, for the first two additional fields, on the achievement of clinical development and regulatory milestones of \$1.3 million and \$8.5 million, respectively. We must also pay low single-digit royalties to CyDex in connection with the sale of such licensed products. CyDex controls prosecution and enforcement of the licensed patent rights.

The CyDex license is perpetual until terminated. We may terminate the CyDex agreement for convenience upon providing 180 days' prior written notice to CyDex. Either party has the right to terminate the agreement for failure to cure a material breach in the applicable cure period.

We have also entered into an amended supply agreement with CyDex pursuant to which we are required to purchase all of our supply of Captisol from CyDex and CyDex is required to supply us with Captisol, subject to certain limitations. Under this agreement, if we do not place an order for at least the quantity of Captisol we forecasted in the first quarter of any year, we will be required to pay 60% of the purchase price for the forecasted material not purchased to CyDex. CyDex has the right to raise prices for Captisol once a year based on an industry index maintained by the Bureau of Labor Statistics. The supply agreement also contains customary provisions regarding confidentiality, indemnification and non-solicitation, as well as customary representations and warranties. The supply agreement will terminate upon the termination of our license agreement with CyDex or upon breach by either party without cure after notice.

**University of California**

In October 2013, we entered into a license agreement with The Regents of the University of California, or the Regents. Pursuant to this agreement, and subject to certain rights of the U.S. government and rights retained by the Regents, the Regents granted us a non-exclusive, non-transferable license under all personal property rights of the Regents covering the tangible personal property in an IND application package owned by the Regents, or the Data, and a specified quantity of cGMP grade allopregnanolone, or the Material, to (i) use the Data for reference or incorporation in our IND for SAGE-547 for the treatment of SRSE and (ii) use the Material or modifications of the Material to develop a pharmaceutical formulation for clinical trials for SE and/or post-partum depression. The rights licensed to us are not sublicenseable.

Pursuant to this agreement, we are required to use commercially reasonable efforts to proceed with the development, manufacture and sale of one or more products containing allopregnanolone, a derived product under the agreement, for the treatment of SE and/or post-partum depression. As of January 1, 2014, we must deliver written reports to the Regents describing our progress no later than 60 days subsequent to June 30 and December 31 of each fiscal year.

This agreement requires us to make up to \$0.1 million in milestone payments in connection with the first derived product that meets the relevant milestones and we must also pay royalties of less than 1% to the Regents for each derived product for a period of 15 years following the first commercial sale of such derived product. This agreement will terminate on the earlier to occur of (i) 27 years after the effective date or (ii) 15 years after the last-derived product is first commercially sold. We may terminate this agreement early for convenience upon providing 60 days' prior written notice to the Regents. The Regents may terminate this agreement early in the event of material default, including failure to provide timely progress reports, after the applicable cure period, or in the event of our bankruptcy. In the event of early termination of this agreement, we have the right to sell any partially made derived products for a period of 120 days from the date of termination, but may not otherwise make, have made, use, sell, have sold, offer for sale or import products containing allopregnanolone.

**Intellectual Property**

We strive to protect the proprietary technology that we believe is important to our business, including seeking and maintaining patents intended to cover our product candidates and compositions, their methods of use and processes for their manufacture, and any other aspects of inventions that are commercially important to the development of our business. We also rely on trade secrets to protect aspects of our business that are not amenable to, or that we do not consider appropriate for, patent protection.

We plan to continue to expand our intellectual property estate by filing patent applications directed to compositions, methods of treatment and patient selection created or identified from our ongoing development of our product candidates. Our success will depend on our ability to obtain and maintain patent and other proprietary protection for commercially important technology, inventions and know-how related to our business, defend and enforce our patents, preserve the confidentiality of our trade secrets and operate without infringing the valid and enforceable patents and proprietary rights of third parties. We also rely on know-how, continuing technological innovation and in-licensing opportunities to develop and maintain our proprietary position. We seek to obtain domestic and international patent protection, and endeavor to promptly file patent applications for new commercially valuable inventions.

The patent positions of biopharmaceutical companies like us are generally uncertain and involve complex legal, scientific and factual questions. In addition, the coverage claimed in a patent application

can be significantly reduced before the patent is issued, and patent scope can be reinterpreted by the courts after issuance. Moreover, many jurisdictions permit third parties to challenge issued patents in administrative proceedings, which may result in further narrowing or even cancellation of patent claims. We cannot predict whether the patent applications we are currently pursuing will issue as patents in any particular jurisdiction or whether the claims of any issued patents will provide sufficient protection from competitors.

Because patent applications in the United States and certain other jurisdictions are maintained in secrecy for 18 months or potentially even longer, and since publication of discoveries in the scientific or patent literature often lags behind actual discoveries, we cannot be certain of the priority of inventions covered by pending patent applications. Moreover, we may have to participate in interference proceedings or derivation proceedings declared by the United States Patent and Trademark Office, or U.S. PTO, to determine priority of invention.

## **Patents**

Our patent portfolio includes patent applications in the early stages of prosecution and no patents have, as of yet, issued from our patent application estate. These patent applications fall into three categories: (1) SAGE-547; (2) GABA<sub>A</sub> receptor modulators; including genus and species claims to SAGE-689; and (3) NMDA receptor modulators.

- (1) We own two patent families generally related to SAGE-547. One of these patent families includes a patent application having claims to compositions containing allopregnanolone and a cyclodextrin. The compositions can be used for the treatment of CNS disorders such as traumatic brain injury and SE. The second patent family includes patent applications having claims directed to methods of treating seizure disorders, such as SE, by administering allopregnanolone using particular dosing regimens or multiple dosage phases. Any U.S. patents that may issue from these families of patent applications would have a statutory expiration date in January and August of 2033, respectively. The time period for electing to pursue foreign patent protection for the inventions disclosed in these patent applications by filing national stage patent applications in individual jurisdictions has not yet expired, and we will need to decide whether and where to pursue ex-U.S. protection before expiration of the applicable deadlines.
- (2) We have exclusively licensed a portfolio of patent applications owned by WU, which are directed to certain GABA receptor modulating compounds and methods of using these compounds, for example in anesthesia or treatment of GABA-related disorders. This portfolio of patent applications includes eight families of patent applications. One of these eight families of patent applications is co-owned by us, and this co-owned family includes a pending U.S. patent application and a pending Patent Cooperation Treaty patent application. This co-owned application discloses and claims SAGE-689 and its use in anesthesia or treatment of GABA-related disorders. Any U.S. patents that may issue from the SAGE-689 patent family would have a statutory expiration date of December 2033. The time period for electing to pursue foreign patent protection for SAGE-689 by filing national stage patent applications in individual jurisdictions has not yet expired, and we will need to decide whether and where to pursue ex-U.S. protection before expiration of the applicable deadlines. In addition, U.S. 7,781,421, solely owned by WU, expires in September 2027. Any patents that may issue, if any, from the remaining six families solely owned by WU would have statutory expiration dates that range from 2032 to 2034.
- (3) In addition to the patent applications licensed from WU, we own nine patent families, resulting from work done exclusively by us and our contract research organizations, directed to additional GABA receptor modulating compounds and methods of using these compounds, for example in anesthesia or treatment of GABA-related disorders. Any U.S.



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patents that may issue from these patent families would have a statutory expiration ranging from October 2032 to August 2034. Other than SAGE-547 and SAGE-689, we have pending within these patent families genus and species claims to the majority of the compounds in our GABA<sub>A</sub> receptor modulating compound collection, including SAGE-217. These patent families are in the early stages of patent prosecution and include families for which only provisional applications have been filed. The time period for electing to pursue foreign patent protection by filing national stage patent applications in individual jurisdictions has not yet expired for any of these patent families, and we will need to decide whether and where to pursue ex-U.S. protection before expiration of the applicable deadlines.

- (4) We also own three families of applications directed to modulators of NMDA receptors. Two of these patent families are directed to compounds that modulate NMDA receptors, which can be used to treat NMDA receptor-related disorders such as CNS related conditions. One of these patent families is directed to using a naturally occurring compound as a biomarker for a subject who would benefit from treatment with a modulator of NMDA receptors. Any patents that may issue, if any, from these families of applications directed to modulators of NMDA receptors would have statutory expiration dates in September 2032 and March 2034.

### **Patent term**

The base term of a U.S. patent is 20 years from the filing date of the earliest-filed non-provisional patent application from which the patent claims priority. The term of a U.S. patent can be lengthened by patent term adjustment, which compensates the owner of the patent for administrative delays at the U.S. PTO. In some cases, the term of a U.S. patent is shortened by terminal disclaimer that reduces its term to that of an earlier-expiring patent.

The term of a U.S. patent may be eligible for patent term extension under the Drug Price Competition and Patent Term Restoration Act of 1984, referred to as the Hatch-Waxman Act, to account for at least some of the time the drug is under development and regulatory review after the patent is granted. With regard to a drug for which FDA approval is the first permitted marketing of the active ingredient, the Hatch-Waxman Act allows for extension of the term of one U.S. patent that includes at least one claim covering the composition of matter of an FDA-approved drug, an FDA-approved method of treatment using the drug, and/or a method of manufacturing the FDA-approved drug. The extended patent term cannot exceed the shorter of five years beyond the non-extended expiration of the patent or 14 years from the date of the FDA approval of the drug. Some foreign jurisdictions, including Europe and Japan, have analogous patent term extension provisions, which allow for extension of the term of a patent that covers a drug approved by the applicable foreign regulatory agency. In the future, if and when our pharmaceutical products receive FDA approval, we expect to apply for patent term extension on patents covering those products, their methods of use, and/or methods of manufacture.

### **Trade secrets**

In addition to patents, we rely on trade secrets and know-how to develop and maintain our competitive position. We typically rely on trade secrets to protect aspects of our business that are not amenable to, or that we do not consider appropriate for, patent protection. We protect trade secrets and know-how by establishing confidentiality agreements and invention assignment agreements with our employees, consultants, scientific advisors, contractors and partners. These agreements provide that all confidential information developed or made known during the course of an individual or entities' relationship with us must be kept confidential during and after the relationship. These agreements also provide that all inventions resulting from work performed for us or relating to our business and conceived or completed during the period of employment or assignment, as applicable, shall be our

exclusive property. In addition, we take other appropriate precautions, such as physical and technological security measures, to guard against misappropriation of our proprietary information by third parties.

### **Competition**

The biopharmaceuticals industry is highly competitive. There are many public and private biopharmaceutical companies, universities, governmental agencies and other research organizations actively engaged in the research and development of products that may be similar to our product candidates or address similar markets. It is probable that the number of companies seeking to develop products and therapies similar to our products will increase.

Currently, there are no therapies that have been specifically approved for treatment of RSE or SRSE. However, many products approved for other indications, for example, general anesthetics and anti-seizure drugs, are used off-label for various stages of SE therapy. Additionally, though not indicated, acupuncture, hypothermia, and electroconvulsive therapy are sometimes used prior to withdrawal of care for patients with SRSE.

In the field of neuroactive steroids focused on modulation of GABA<sub>A</sub> or NMDA receptors, our principal competitor is Marinus Pharmaceuticals, Inc., which we believe is developing a reformulated form of Ganaxolone, a known GABA<sub>A</sub> positive allosteric modulator neuroactive steroid, for the potential treatment of drug-resistant partial complex seizures and fragile X syndrome.

Many of our potential competitors, alone or with their strategic partners, have substantially greater financial, technical and human resources than we do and significantly greater experience in the discovery and development of product candidates, obtaining FDA and other regulatory approvals of treatments and the commercialization of those treatments. Mergers and acquisitions in the biotechnology and pharmaceutical industries may result in even more resources being concentrated among a smaller number of our competitors. Our commercial opportunity could be reduced or eliminated if our competitors develop and commercialize products that are safer, more effective, have fewer or less severe side effects, are more convenient or are less expensive than any products that we may develop. Our competitors also may obtain FDA or other regulatory approval for their products more rapidly than we may obtain approval for ours, which could result in our competitors establishing a strong market position before we are able to enter the market.

### **Government Regulation**

Government authorities in the United States at the federal, state and local level and in other countries extensively regulate, among other things, the research, development, testing, manufacture, quality control, approval, labeling, packaging, storage, record-keeping, promotion, advertising, distribution, post-approval monitoring and reporting, marketing and export and import of drug products. Generally, before a new drug can be marketed, considerable data demonstrating its quality, safety and efficacy must be obtained, organized into a format specific to each regulatory authority, submitted for review and approved by the regulatory authority.

#### ***U.S. drug development***

In the United States, the FDA regulates drugs under the Federal Food, Drug, and Cosmetic Act, or FDCA, and its implementing regulations. Drugs are also subject to other federal, state and local statutes and regulations. The process of obtaining regulatory approvals and the subsequent compliance with appropriate federal, state, local and foreign statutes and regulations require the

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expenditure of substantial time and financial resources. Failure to comply with the applicable U.S. requirements at any time during the product development process, approval process or after approval, may subject an applicant to administrative or judicial sanctions. These sanctions could include, among other actions, the FDA's refusal to approve pending applications, withdrawal of an approval, a clinical hold, warning letters, product recalls or withdrawals from the market, product seizures, total or partial suspension of production or distribution injunctions, fines, refusals of government contracts, restitution, disgorgement, or civil or criminal penalties. Any agency or judicial enforcement action could have a material adverse effect on us.

Our product candidates must be approved by the FDA through the NDA process before they may be legally marketed in the United States. The process required by the FDA before a drug may be marketed in the United States generally involves the following:

- Completion of extensive non-clinical, sometimes referred to as non-clinical laboratory tests, non-clinical animal studies and formulation studies in accordance with applicable regulations, including the FDA's current Good Laboratory Practice, or GLP, regulations;
- Submission to the FDA of an IND, application which must become effective before human clinical trials may begin;
- Approval by an independent institutional review board, or IRB, or ethics committee at each clinical trial site before each trial may be initiated;
- Performance of adequate and well-controlled human clinical trials in accordance with applicable IND and other clinical trial-related regulations, sometimes referred to as good clinical practices, or GCPs, to establish the safety and efficacy of the proposed drug for each proposed indication;
- Submission to the FDA of an NDA, for a new drug;
- A determination by the FDA within 60 days of its receipt of an NDA to file the NDA for review;
- Satisfactory completion of an FDA pre-approval inspection of the manufacturing facility or facilities where the drug is produced to assess compliance with cGMP requirements to assure that the facilities, methods and controls are adequate to preserve the drug's identity, strength, quality and purity;
- Potential FDA audit of the non-clinical and/or clinical trial sites that generated the data in support of the NDA; and
- FDA review and approval of the NDA, including consideration of the views of any FDA advisory committee, prior to any commercial marketing or sale of the drug in the United States.

The non-clinical and clinical testing and approval process requires substantial time, effort and financial resources, and we cannot be certain that any approvals for our product candidates will be granted on a timely basis, if at all. Non-clinical tests include laboratory evaluation of product chemistry, formulation, stability and toxicity, as well as animal studies to assess the characteristics and potential safety and efficacy of the product.

The data required to support an NDA is generated in two distinct development stages: non-clinical and clinical. For new chemical entities, the non-clinical development stage generally involves synthesizing the active component, developing the formulation and determining the manufacturing process, as well as carrying out non-human toxicology, pharmacology and drug metabolism studies in the laboratory, which support subsequent clinical testing. The conduct of the non-clinical tests must comply with federal regulations, including GLPs. The sponsor must submit the results of the non-clinical tests, together with manufacturing information, analytical data, any available clinical data or

literature and a proposed clinical protocol, to the FDA as part of the IND. An IND is a request for authorization from the FDA to administer an investigational drug product to humans. Some non-clinical testing may continue even after the IND is submitted, but an IND must become effective before human clinical trials may begin. The central focus of an IND submission is on the general investigational plan and the protocol(s) for human trials. The IND automatically becomes effective 30 days after receipt by the FDA, unless the FDA raises concerns or questions regarding the proposed clinical trials, including concerns that human research subjects will be exposed to unreasonable health risks, and places the IND on clinical hold within that 30-day time period. In such a case, the IND sponsor and the FDA must resolve any outstanding concerns before the clinical trial can begin. The FDA may also impose clinical holds on a drug candidate at any time before or during clinical trials due to safety concerns or non-compliance. Accordingly, we cannot be sure that submission of an IND will result in the FDA allowing clinical trials to begin, or that, once begun, issues will not arise that could cause the trial to be suspended or terminated.

The clinical stage of development involves the administration of the drug candidate to healthy volunteers or patients under the supervision of qualified investigators, generally physicians not employed by or under the trial sponsor's control, in accordance with GCPs, which include the requirement that all research subjects provide their informed consent for their participation in any clinical trial. Clinical trials are conducted under protocols detailing, among other things, the objectives of the clinical trial, dosing procedures, subject selection and exclusion criteria, and the parameters to be used to monitor subject safety and assess efficacy. Each protocol, and any subsequent amendments to the protocol, must be submitted to the FDA as part of the IND. Further, each clinical trial must be reviewed and approved by an independent institutional review board, or IRB, at or servicing each institution at which the clinical trial will be conducted. An IRB is charged with protecting the welfare and rights of trial participants and considers such items as whether the risks to individuals participating in the clinical trials are minimized and are reasonable in relation to anticipated benefits. The IRB also approves the informed consent form that must be provided to each clinical trial subject or his or her legal representative and must monitor the clinical trial until completed. There are also requirements governing the reporting of ongoing clinical trials and completed clinical trial results to public registries.

A sponsor who wishes to conduct a clinical trial outside the United States may, but need not, obtain FDA authorization to conduct the clinical trial under an IND. If a foreign clinical trial is not conducted under an IND, the sponsor may submit data from the clinical trial to the FDA in support of an NDA so long as the clinical trial is conducted in compliance with an international guideline for the ethical conduct of clinical research known as the Declaration of Helsinki and/or the laws and regulations of the country or countries in which the clinical trial is performed, whichever provides the greater protection to the participants in the clinical trial.

#### *Clinical trials*

Clinical trials are generally conducted in three sequential phases that may overlap, known as Phase 1, Phase 2 and Phase 3 clinical trials.

- Phase 1 clinical trials generally involve a small number of healthy volunteers who are initially exposed to a single dose and then multiple doses of the product candidate. The primary purpose of these clinical trials is to assess the metabolism, pharmacologic action, side effect tolerability and safety of the drug.
- Phase 2 clinical trials typically involve studies in disease-affected patients to determine the dose required to produce the desired benefits. At the same time, safety and further pharmacokinetic and pharmacodynamic information is collected, as well as identification of possible adverse effects and safety risks and preliminary evaluation of efficacy.

• Phase 3 clinical trials generally involve large numbers of patients at multiple sites (from several hundred to several thousand subjects) and are designed to provide the data necessary to demonstrate the effectiveness of the product for its intended use, its safety in use, and to establish the overall benefit/risk relationship of the product and provide an adequate basis for product approval. Phase 3 clinical trials may include comparisons with placebo and/or other comparator treatments. The duration of treatment is often extended to mimic the actual use of a product during marketing.

Post-approval trials, sometimes referred to as Phase 4 clinical trials, may be conducted after initial marketing approval. These trials are used to gain additional experience from the treatment of patients in the intended therapeutic indication. In certain instances, FDA may mandate the performance of Phase 4 clinical trials as a condition of approval of an NDA.

Progress reports detailing the results of the clinical trials must be submitted at least annually to the FDA and written IND safety reports must be submitted to the FDA and the investigators for serious and unexpected suspected adverse events, finding from other studies, or any finding from animal or *in vitro* testing that suggests a significant risk for human subjects. Phase 1, Phase 2 and Phase 3 clinical trials may not be completed successfully within any specified period, if at all. The FDA, the IRB, or the sponsor may suspend or terminate a clinical trial at any time on various grounds, including a finding that the research subjects or patients are being exposed to an unacceptable health risk. Similarly, an IRB can suspend or terminate approval of a clinical trial at its institution if the clinical trial is not being conducted in accordance with the IRB's requirements or if the drug has been associated with unexpected serious harm to patients. Additionally, some clinical trials are overseen by an independent group of qualified experts organized by the clinical trial sponsor, known as a data safety monitoring board or committee. This group provides authorization for whether or not a trial may move forward at designated check points based on access to certain data from the trial. Concurrent with clinical trials, companies usually complete additional animal studies and must also develop additional information about the chemistry and physical characteristics of the drug as well as finalize a process for manufacturing the product in commercial quantities in accordance with cGMP requirements. The manufacturing process must be capable of consistently producing quality batches of the drug candidate and, among other things; we must develop methods for testing the identity, strength, quality and purity of the final drug product. Additionally, appropriate packaging must be selected and tested and stability studies must be conducted to demonstrate that the drug candidate does not undergo unacceptable deterioration over its shelf life.

#### ***NDA and FDA review process***

The results of non-clinical studies and of the clinical trials, together with other detailed information, including extensive manufacturing information and information on the composition of the drug and proposed labeling, are submitted to the FDA in the form of an NDA requesting approval to market the drug for one or more specified indications. The FDA reviews an NDA to determine, among other things, whether a drug is safe and effective for its intended use and whether the product is being manufactured in accordance with cGMP to assure and preserve the product's identity, strength, quality and purity. FDA approval of an NDA must be obtained before a drug may be offered for sale in the United States.

In addition, under the Pediatric Research Equity Act, or PREA, an NDA or supplement to an NDA must contain data to assess the safety and efficacy of the drug for the claimed indications in all relevant pediatric subpopulations and to support dosing and administration for each pediatric subpopulation for which the product is safe and effective. The FDA may grant deferrals for submission of pediatric data or full or partial waivers.

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Under the Prescription Drug User Fee Act, or PDUFA, as amended, each NDA must be accompanied by a user fee. The FDA adjusts the PDUFA user fees on an annual basis. According to the FDA's fee schedule, effective through September 30, 2014, the user fee for an application requiring clinical data, such as an NDA, is \$2.2 million. PDUFA also imposes an annual product fee for human drugs (\$0.1 million) and an annual establishment fee (\$0.6 million) on facilities used to manufacture prescription drugs. Fee waivers or reductions are available in certain circumstances, including a waiver of the application fee for the first application filed by a small business. Additionally, no user fees are assessed on NDAs for products designated as orphan drugs, unless the product also includes a non-orphan indication.

The FDA reviews all NDAs submitted before it accepts them for filing and may request additional information rather than accepting an NDA for filing. The FDA must make a decision on accepting an NDA for filing within 60 days of receipt. Once the submission is accepted for filing, the FDA begins an in-depth review of the NDA. Under the goals and policies agreed to by the FDA under PDUFA, the FDA has 10 months from the filing date in which to complete its initial review of a standard NDA and respond to the applicant, and six months from the filing date for a priority NDA. The FDA does not always meet its PDUFA goal dates for standard and priority NDAs, and the review process is often significantly extended by FDA requests for additional information or clarification.

After the NDA submission is accepted for filing, the FDA reviews the NDA to determine, among other things, whether the proposed product is safe and effective for its intended use, and whether the product is being manufactured in accordance with cGMP to assure and preserve the product's identity, strength, quality and purity. Before approving an NDA, the FDA will conduct a pre-approval inspection of the manufacturing facilities for the new product to determine whether they comply with cGMPs. The FDA will not approve the product unless it determines that the manufacturing processes and facilities are in compliance with cGMP requirements and adequate to assure consistent production of the product within required specifications. In addition, before approving an NDA, the FDA may also audit data from clinical trials to ensure compliance with GCP requirements. Additionally, the FDA may refer applications for novel drug products or drug products which present difficult questions of safety or efficacy to an advisory committee, typically a panel that includes clinicians and other experts, for review, evaluation and a recommendation as to whether the application should be approved and under what conditions. The FDA is not bound by the recommendations of an advisory committee, but it considers such recommendations carefully when making decisions. The FDA will likely re-analyze the clinical trial data, which could result in extensive discussions between the FDA and the applicant during the review process. The review and evaluation of an NDA by the FDA is extensive and time consuming and may take longer than originally planned to complete, and we may not receive a timely approval, if at all.

After the FDA evaluates an NDA, it may issue an approval letter or a Complete Response Letter. An approval letter authorizes commercial marketing of the drug with specific prescribing information for specific indications. A Complete Response Letter indicates that the review cycle of the application is complete and the application is not ready for approval. A Complete Response Letter usually describes all of the specific deficiencies in the NDA identified by the FDA. The Complete Response Letter may require additional clinical data and/or an additional pivotal Phase 3 clinical trial(s), and/or other significant and time-consuming requirements related to clinical trials, non-clinical studies or manufacturing. If a Complete Response Letter is issued, the applicant may either resubmit the NDA, addressing all of the deficiencies identified in the letter, or withdraw the application. Even if such data and information is submitted, the FDA may ultimately decide that the NDA does not satisfy the criteria for approval. Data obtained from clinical trials are not always conclusive and the FDA may interpret data differently than we interpret the same data.

There is no assurance that the FDA will ultimately approve a drug product for marketing in the United States and we may encounter significant difficulties or costs during the review process. If a

product receives marketing approval, the approval may be significantly limited to specific diseases and dosages or the indications for use may otherwise be limited, which could restrict the commercial value of the product. Further, the FDA may require that certain contraindications, warnings or precautions be included in the product labeling or may condition the approval of the NDA on other changes to the proposed labeling, development of adequate controls and specifications, or a commitment to conduct post-marketing testing or clinical trials and surveillance to monitor the effects of approved products. For example, the FDA may require Phase 4 testing which involves clinical trials designed to further assess a drug's safety and efficacy and may require testing and surveillance programs to monitor the safety of approved products that have been commercialized. The FDA may also place other conditions on approvals including the requirement for a risk evaluation and mitigation strategy, or REMS, to assure the safe use of the drug. If the FDA concludes a REMS is needed, the sponsor of the NDA must submit a proposed REMS. The FDA will not approve the NDA without an approved REMS, if required. A REMS could include medication guides, physician communication plans, or elements to assure safe use, such as restricted distribution methods, patient registries and other risk minimization tools. Any of these limitations on approval or marketing could restrict the commercial promotion, distribution, prescription or dispensing of products. Product approvals may be withdrawn for non-compliance with regulatory requirements or if problems occur following initial marketing.

#### ***Orphan drug designation***

Under the Orphan Drug Act, the FDA may grant orphan designation to a drug product intended to treat a rare disease or condition, which is generally a disease or condition that affects fewer than 200,000 individuals in the United States, or more than 200,000 individuals in the United States and for which there is no reasonable expectation that the cost of developing and making a drug product available in the United States for this type of disease or condition will be recovered from sales of the product. Orphan product designation must be requested before submitting an NDA. After the FDA grants orphan product designation, the identity of the therapeutic agent and its potential orphan use are disclosed publicly by the FDA. Orphan product designation does not convey any advantage in or shorten the duration of the regulatory review and approval process.

If a product that has orphan designation subsequently receives the first FDA approval for the disease or condition for which it has such designation, the product is entitled to orphan product exclusivity, which means that the FDA may not approve any other applications to market the same drug for the same indication for seven years, except in limited circumstances, such as a showing of clinical superiority to the product with orphan exclusivity. Competitors, however, may receive approval of different products for the indication for which the orphan product has exclusivity or obtain approval for the same product but for a different indication than that for which the orphan product has exclusivity. Orphan product exclusivity also could block the approval of one of our products for seven years if a competitor obtains approval of the same product as defined by the FDA or if our product candidate is determined to be contained within the competitor's product for the same indication or disease. If a drug designated as an orphan product receives marketing approval for an indication broader than what is designated, it may not be entitled to orphan product exclusivity. Orphan drug status in the European Union has similar, but not identical, benefits.

#### ***Expedited development and review programs***

The FDA has a Fast Track program that is intended to expedite or facilitate the process for reviewing new drugs that meet certain criteria. Specifically, new drugs are eligible for Fast Track designation if they are intended to treat a serious or life-threatening condition and demonstrate the potential to address unmet medical needs for the condition. Fast Track designation applies to the combination of the product and the specific indication for which it is being studied. The sponsor of a new drug or biologic may request the FDA to designate the drug as a Fast Track product at any time

during the clinical development of the product. Unique to a Fast Track product, the FDA may review sections of the marketing application on a rolling basis before the complete NDA is submitted, if the sponsor provides a schedule for the submission of the sections of the application, the FDA agrees to accept sections of the application and determines that the schedule is acceptable, and the sponsor pays any required user fees upon submission of the first section of the application.

Any product submitted to the FDA for marketing, including under a Fast Track program, may be eligible for other types of FDA programs intended to expedite development and review, such as priority review and accelerated approval. Any product is eligible for priority review if it has the potential to provide safe and effective therapy where no satisfactory alternative therapy exists or offers a significant improvement in the treatment, diagnosis or prevention of a disease compared to marketed products. The FDA will attempt to direct additional resources to the evaluation of an application for a new drug designated for priority review in an effort to facilitate the review. A product may also be eligible for accelerated approval. Drugs studied for their safety and efficacy in treating serious or life-threatening illnesses and that provide meaningful therapeutic benefit over existing treatments may receive accelerated approval, which means that they may be approved on the basis of adequate and well-controlled clinical trials establishing that the product has an effect on a surrogate endpoint that is reasonably likely to predict a clinical benefit, or on the basis of an effect on a clinical endpoint other than survival or irreversible morbidity. As a condition of approval, the FDA may require that a sponsor of a drug receiving accelerated approval perform adequate and well-controlled post-marketing clinical trials. If the FDA concludes that a drug shown to be effective can be safely used only if distribution or use is restricted, it will require such post-marketing restrictions, as it deems necessary to assure safe use of the drug, such as:

- distribution restricted to certain facilities or physicians with special training or experience; or
- distribution conditioned on the performance of specified medical procedures.

The limitations imposed would be commensurate with the specific safety concerns presented by the drug. In addition, the FDA currently requires as a condition for accelerated approval pre-approval of promotional materials, which could adversely impact the timing of the commercial launch of the product. Additionally, a drug may be eligible for designation as a breakthrough therapy if the drug is intended, alone or in combination with one or more other drugs, to treat a serious or life-threatening disease or condition and preliminary clinical evidence indicates that the drug may demonstrate substantial improvement over existing therapies on one or more clinical development. The benefits of breakthrough therapy designation includes the same benefits as fast track designation, plus intensive guidance from FDA to ensure an efficient drug development program. Fast Track designation, priority review, accelerated approval and breakthrough designation do not change the standards for approval but may expedite the development or approval process.

### ***Pediatric trials***

The Food and Drug Administration Safety and Innovation Act, or FDASIA, which was signed into law on July 9, 2012, amended the FDCA to require that a sponsor who is planning to submit a marketing application for a drug that includes a new active ingredient, new indication, new dosage form, new dosing regimen or new route of administration submit an initial Pediatric Study Plan, or PSP, within sixty days of an end-of-Phase 2 meeting or as may be agreed between the sponsor and FDA. The initial PSP must include an outline of the pediatric study or studies that the sponsor plans to conduct, including study objectives and design, age groups, relevant endpoints and statistical approach, or a justification for not including such detailed information, and any request for a deferral of pediatric assessments or a full or partial waiver of the requirement to provide data from pediatric studies along with supporting information. FDA and the sponsor must reach agreement on the PSP. A sponsor can submit amendments to an agreed-upon initial PSP at any time if changes to the pediatric



plan need to be considered based on data collected from non-clinical studies, early phase clinical trials, and/or other clinical development programs.

### **Post-marketing requirements**

Following approval of a new product, a pharmaceutical company and the approved product are subject to continuing regulation by the FDA, including, among other things, monitoring and recordkeeping activities, reporting to the applicable regulatory authorities of adverse experiences with the product, providing the regulatory authorities with updated safety and efficacy information, product sampling and distribution requirements, and complying with promotion and advertising requirements, which include, among others, standards for direct-to-consumer advertising, restrictions on promoting drugs for uses or in patient populations that are not described in the drug's approved labeling (known as "off-label use"), limitations on industry-sponsored scientific and educational activities, and requirements for promotional activities involving the internet. Although physicians may prescribe legally available drugs for off-label uses, manufacturers may not market or promote such off-label uses. Prescription drug promotional materials must be submitted to the FDA in conjunction with their first use. Further, if there are any modifications to the drug, including changes in indications, labeling, or manufacturing processes or facilities, the applicant may be required to submit and obtain FDA approval of a new NDA or NDA supplement, which may require the applicant to develop additional data or conduct additional non-clinical studies and clinical trials. As with new NDAs, the review process is often significantly extended by FDA requests for additional information or clarification. Any distribution of prescription drug products and pharmaceutical samples must comply with the U.S. Prescription Drug Marketing Act, or the PDMA, a part of the FDCA.

In the United States, once a product is approved, its manufacture is subject to comprehensive and continuing regulation by the FDA. The FDA regulations require that products be manufactured in specific approved facilities and in accordance with cGMP. We rely, and expect to continue to rely, on third parties for the production of clinical and commercial quantities of our products in accordance with cGMP regulations. NDA holders using contract manufacturers, laboratories or packagers are responsible for the selection and monitoring of qualified firms, and, in certain circumstances, qualified suppliers to these firms. These manufacturers must comply with cGMP regulations that require among other things, quality control and quality assurance as well as the corresponding maintenance of records and documentation and the obligation to investigate and correct any deviations from cGMP. Drug manufacturers and other entities involved in the manufacture and distribution of approved drugs are required to register their establishments with the FDA and certain state agencies, and are subject to periodic unannounced inspections by the FDA and certain state agencies for compliance with cGMP and other laws. Accordingly, manufacturers must continue to expend time, money, and effort in the area of production and quality control to maintain cGMP compliance. The discovery of violative conditions, including failure to conform to cGMP, could result in enforcement actions that interrupt the operation of any such facilities or the ability to distribute products manufactured, processed or tested by them. Discovery of problems with a product after approval may result in restrictions on a product, manufacturer, or holder of an approved NDA, including, among other things, recall or withdrawal of the product from the market.

Discovery of previously unknown problems with a product or the failure to comply with applicable FDA requirements can have negative consequences, including adverse publicity, judicial or administrative enforcement, warning letters from the FDA, mandated corrective advertising or communications with doctors, and civil or criminal penalties, among others. Newly discovered or developed safety or effectiveness data may require changes to a product's approved labeling, including the addition of new warnings and contraindications, and also may require the implementation of other risk management measures. Also, new government requirements, including those resulting

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from new legislation, may be established, or the FDA's policies may change, which could delay or prevent regulatory approval of our products under development.

### **Other regulatory matters**

Manufacturing, sales, promotion and other activities following product approval are also subject to regulation by numerous regulatory authorities in addition to the FDA, including, in the United States, the Centers for Medicare & Medicaid Services, other divisions of the Department of Health and Human Services, the United States Department of Justice, the Drug Enforcement Administration, the Consumer Product Safety Commission, the Federal Trade Commission, the Occupational Safety & Health Administration, the Environmental Protection Agency and state and local governments. In the United States, sales, marketing and scientific/educational programs must also comply with state and federal fraud and abuse laws. These laws include the federal Anti-Kickback Statute, which makes it illegal for any person, including a prescription drug manufacturer (or a party acting on its behalf) to knowingly and willfully solicit, receive, offer, or pay any remuneration that is intended to induce the referral of business, including the purchase, order, or prescription of a particular drug, for which payment may be made under a federal healthcare program, such as Medicare or Medicaid. Violations of this law are punishable by up to five years in prison, criminal fines, administrative civil money penalties, and exclusion from participation in federal healthcare programs. In addition, the Patient Protection and Affordable Health Care Act, as amended by the Health Care and Education Reconciliation Act of 2010, or collectively the ACA, among other things, amends the intent requirement of the federal Anti-Kickback Statute and criminal healthcare fraud statutes created by the federal Health Insurance Portability and Accountability Act of 1996, or HIPAA. A person or entity no longer needs to have actual knowledge of the statute or specific intent to violate it. Moreover, the ACA provides that the government may assert that a claim including items or services resulting from a violation of the federal anti-kickback statute constitutes a false or fraudulent claim for purposes of the False Claims Act.

Although we would not submit claims directly to payors, drug manufacturers can be held liable under the federal False Claims Act, which prohibits anyone from knowingly presenting, or causing to be presented, for payment to federal programs (including Medicare and Medicaid) claims for items or services, including drugs, that are false or fraudulent, claims for items or services not provided as claimed, or claims for medically unnecessary items or services. The government may deem manufacturers to have "caused" the submission of false or fraudulent claims by, for example, providing inaccurate billing or coding information to customers or promoting a product off-label. In addition, our future activities relating to the reporting of wholesaler or estimated retail prices for our products, the reporting of prices used to calculate Medicaid rebate information and other information affecting federal, state, and third-party reimbursement for our products, and the sale and marketing of our products, are subject to scrutiny under this law. Penalties for a False Claims Act violation include three times the actual damages sustained by the government, plus mandatory civil penalties of between \$5,500 and \$11,000 for each separate false claim, the potential for exclusion from participation in federal healthcare programs, and, although the federal False Claims Act is a civil statute, conduct that results in a False Claims Act violation may also implicate various federal criminal statutes. If the government were to allege that we were, or convict us of, violating these false claims laws, we could be subject to a substantial fine and may suffer a decline in our stock price. In addition, private individuals have the ability to bring actions under the federal False Claims Act and certain states have enacted laws modeled after the federal False Claims Act.

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Pricing and rebate programs must comply with the Medicaid rebate requirements of the U.S. Omnibus Budget Reconciliation Act of 1990 and more recent requirements in ACA. If products are made available to authorized users of the Federal Supply Schedule of the General Services Administration, additional laws and requirements apply. The handling of any controlled substances must comply with the U.S. Controlled Substances Act and Controlled Substances Import and Export Act. Products must meet applicable child-resistant packaging requirements under the U.S. Poison Prevention Packaging Act. Manufacturing, sales, promotion and other activities are also potentially subject to federal and state consumer protection and unfair competition laws.

The distribution of pharmaceutical products is subject to additional requirements and regulations, including extensive record-keeping, licensing, storage and security requirements intended to prevent the unauthorized sale of pharmaceutical products.

The failure to comply with any of these laws or regulatory requirements subjects firms to possible legal or regulatory action. Depending on the circumstances, failure to meet applicable regulatory requirements can result in criminal prosecution, fines or other penalties, injunctions, recall or seizure of products, total or partial suspension of production, denial or withdrawal of product approvals, or refusal to allow a firm to enter into supply contracts, including government contracts. Any action against us for violation of these laws, even if we successfully defend against it, could cause us to incur significant legal expenses and divert our management's attention from the operation of our business. Prohibitions or restrictions on sales or withdrawal of future products marketed by us could materially affect our business in an adverse way.

Changes in regulations, statutes or the interpretation of existing regulations could impact our business in the future by requiring, for example: (i) changes to our manufacturing arrangements; (ii) additions or modifications to product labeling; (iii) the recall or discontinuation of our products; or (iv) additional record-keeping requirements. If any such changes were to be imposed, they could adversely affect the operation of our business.

### ***U.S. patent term restoration and marketing exclusivity***

Depending upon the timing, duration and specifics of the FDA approval of our drug candidates, some of our U.S. patents may be eligible for limited patent term extension under the Drug Price Competition and Patent Term Restoration Act of 1984, commonly referred to as the Hatch-Waxman Amendments. The Hatch-Waxman Amendments permit a patent restoration term of up to five years as compensation for patent term lost during product development and the FDA regulatory review process. However, patent term restoration cannot extend the remaining term of a patent beyond a total of 14 years from the product's approval date. The patent term restoration period is generally one-half the time between the effective date of an IND and the submission date of an NDA plus the time between the submission date of an NDA and the approval of that application. Only one patent applicable to an approved drug is eligible for the extension and the application for the extension must be submitted prior to the expiration of the patent. The U.S. PTO, in consultation with the FDA, reviews and approves the application for any patent term extension or restoration. In the future, we intend to apply for restoration of patent term for one of our currently owned or licensed patents to add patent life beyond its current expiration date, depending on the expected length of the clinical trials and other factors involved in the filing of the relevant NDA.

Marketing exclusivity provisions under the FDCA can also delay the submission or the approval of certain marketing applications. The FDCA provides a five-year period of non-patent marketing exclusivity within the United States to the first applicant to obtain approval of an NDA for a new chemical entity. A drug is a new chemical entity if the FDA has not previously approved any other new drug containing the same active moiety, which is the molecule or ion responsible for the action of the

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drug substance. During the exclusivity period, the FDA may not accept for review an abbreviated new drug application, or ANDA, or a 505(b)(2) NDA submitted by another company for another drug based on the same active moiety, regardless of whether the drug is intended for the same indication as the original innovator drug or for another indication, where the applicant does not own or have a legal right of reference to all the data required for approval. However, an application may be submitted after four years if it contains a certification of patent invalidity or non-infringement to one of the patents listed with the FDA by the innovator NDA holder. The FDCA also provides three years of marketing exclusivity for an NDA, or supplement to an existing NDA if new clinical investigations, other than bioavailability studies, that were conducted or sponsored by the applicant are deemed by the FDA to be essential to the approval of the application, for example new indications, dosages or strengths of an existing drug. This three-year exclusivity covers only the modification for which the drug received approval on the basis of the new clinical investigations and does not prohibit the FDA from approving ANDAs for drugs containing the active agent for the original indication or condition of use. Five-year and three-year exclusivity will not delay the submission or approval of a full NDA. However, an applicant submitting a full NDA would be required to conduct or obtain a right of reference to all of the non-clinical studies and adequate and well-controlled clinical trials necessary to demonstrate safety and efficacy. Orphan drug exclusivity, as described above, may offer a seven-year period of marketing exclusivity, except in certain circumstances. Pediatric exclusivity is another type of regulatory market exclusivity in the United States. Pediatric exclusivity, if granted, adds six months to existing exclusivity periods and patent terms. This six-month exclusivity, which runs from the end of other exclusivity protection or patent term, may be granted based on the voluntary completion of a pediatric trial in accordance with an FDA-issued "Written Request" for such a trial.

### ***European Union drug development***

In the European Union, our future products may also be subject to extensive regulatory requirements. As in the United States, medicinal products can only be marketed if a marketing authorization from the competent regulatory agencies has been obtained.

Similar to the United States, the various phases of non-clinical and clinical research in the European Union are subject to significant regulatory controls. Although the EU Clinical Trials Directive 2001/20/EC has sought to harmonize the EU clinical trials regulatory framework, setting out common rules for the control and authorization of clinical trials in the EU, the EU Member States have transposed and applied the provisions of the Directive differently. This has led to significant variations in the member state regimes. Under the current regime, before a clinical trial can be initiated it must be approved in each of the EU countries where the trial is to be conducted by two distinct bodies: the National Competent Authority, or NCA, and one or more Ethics Committees, or ECs. Under the current regime all suspected unexpected serious adverse reactions to the investigated drug that occur during the clinical trial have to be reported to the NCA and ECs of the Member State where they occurred.

The EU clinical trials legislation is currently undergoing a revision process mainly aimed at harmonizing and streamlining the clinical trials authorization process, simplifying adverse event reporting procedures, improving the supervision of clinical trials, and increasing their transparency.

### ***European Union drug review and approval***

In the European Economic Area, or EEA, (which is comprised of the 27 Member States of the European Union (excluding Croatia) plus Norway, Iceland and Liechtenstein), medicinal products can only be commercialized after obtaining a Marketing Authorization, or MA. There are two types of marketing authorizations:

The Community MA is issued by the European Commission through the Centralized Procedure, based on the opinion of the Committee for Medicinal Products for Human Use, or CHMP, of the

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European Medicines Agency, or EMA, and is valid throughout the entire territory of the EEA. The Centralized Procedure is mandatory for certain types of products, such as biotechnology medicinal products, orphan medicinal products, and medicinal products containing a new active substance indicated for the treatment of AIDS, cancer, neurodegenerative disorders, diabetes, auto-immune and viral diseases. The Centralized Procedure is optional for products containing a new active substance not yet authorized in the EEA, or for products that constitute a significant therapeutic, scientific or technical innovation or which are in the interest of public health in the EU.

National MAs, which are issued by the competent authorities of the Member States of the EEA and only cover their respective territory, are available for products not falling within the mandatory scope of the Centralized Procedure. Where a product has already been authorized for marketing in a Member State of the EEA, this National MA can be recognized in another Member States through the Mutual Recognition Procedure. If the product has not received a National MA in any Member State at the time of application, it can be approved simultaneously in various Member States through the Decentralized Procedure. Under the Decentralized Procedure an identical dossier is submitted to the competent authorities of each of the Member States in which the MA is sought, one of which is selected by the applicant as the Reference Member State, or RMS. The competent authority of the RMS prepares a draft assessment report, a draft summary of the product characteristics, or SPC, and a draft of the labeling and package leaflet, which are sent to the other Member States (referred to as the Member States Concerned) for their approval. If the Member States Concerned raise no objections, based on a potential serious risk to public health, to the assessment, SPC, labeling, or packaging proposed by the RMS, the product is subsequently granted a national MA in all the Member States (i.e. in the RMS and the Member States Concerned).

Under the above described procedures, before granting the MA, the EMA or the competent authorities of the Member States of the EEA make an assessment of the risk-benefit balance of the product on the basis of scientific criteria concerning its quality, safety and efficacy.

### ***European Union new chemical entity exclusivity***

In the European Union, new chemical entities, sometimes referred to as new active substances, qualify for eight years of data exclusivity upon marketing authorization and an additional two years of market exclusivity. This data exclusivity, if granted, prevents regulatory authorities in the European Union from referencing the innovator's data to assess a generic application for eight years, after which generic marketing authorization can be submitted, and the innovator's data may be referenced, but not approved for two years. The overall ten-year period will be extended to a maximum of 11 years if, during the first eight years of those ten years, the marketing authorization holder obtains an authorization for one or more new therapeutic indications which, during the scientific evaluation prior to their authorization, are held to bring a significant clinical benefit in comparison with existing therapies.

### ***European Union orphan designation and exclusivity***

In the European Union, the EMA's Committee for Orphan Medicinal Products grants orphan drug designation to promote the development of products that are intended for the diagnosis, prevention or treatment of life-threatening or chronically debilitating conditions affecting not more than 5 in 10,000 persons in the European Union Community and for which no satisfactory method of diagnosis, prevention, or treatment has been authorized (or the product would be a significant benefit to those affected). Additionally, designation is granted for products intended for the diagnosis, prevention, or treatment of a life-threatening, seriously debilitating or serious and chronic condition and when, without incentives, it is unlikely that sales of the drug in the European Union would be sufficient to justify the necessary investment in developing the medicinal product.

In the European Union, orphan drug designation entitles a party to financial incentives such as reduction of fees or fee waivers and ten years of market exclusivity is granted following medicinal product approval. This period may be reduced to six years if the orphan drug designation criteria are no longer met, including where it is shown that the product is sufficiently profitable not to justify maintenance of market exclusivity. Orphan drug designation must be requested before submitting an application for marketing approval. Orphan drug designation does not convey any advantage in, or shorten the duration of, the regulatory review and approval process.

### ***Rest of the world regulation***

For other countries outside of the European Union and the United States, such as countries in Eastern Europe, Latin America or Asia, the requirements governing the conduct of clinical trials, product licensing, pricing and reimbursement vary from country to country. In all cases the clinical trials must be conducted in accordance with cGCP requirements and the applicable regulatory requirements and the ethical principles that have their origin in the Declaration of Helsinki.

If we fail to comply with applicable foreign regulatory requirements, we may be subject to, among other things, fines, suspension or withdrawal of regulatory approvals, product recalls, seizure of products, operating restrictions and criminal prosecution.

### **Reimbursement**

Sales of our products will depend, in part, on the extent to which our products will be covered by third-party payors, such as government health programs, commercial insurance and managed healthcare organizations. In the United States no uniform policy of coverage and reimbursement for drug products exists. Accordingly, decisions regarding the extent of coverage and amount of reimbursement to be provided for any of our products will be made on a payor by payor basis. As a result, the coverage determination process is often a time-consuming and costly process that will require us to provide scientific and clinical support for the use of our product candidates to each payor separately, with no assurance that coverage and adequate reimbursement will be obtained.

Third-party payors are increasingly reducing reimbursements for medical products and services. Additionally, the containment of healthcare costs has become a priority of federal and state governments, and the prices of drugs have been a focus in this effort. The U.S. government, state legislatures and foreign governments have shown significant interest in implementing cost-containment programs, including price controls, restrictions on reimbursement and requirements for substitution of generic products. Adoption of price controls and cost-containment measures, and adoption of more restrictive policies in jurisdictions with existing controls and measures, could further limit our net revenue and results. Decreases in third-party reimbursement for our product candidate or a decision by a third-party payor to not cover our product candidate could reduce physician usage of the product candidate and have a material adverse effect on our sales, results of operations and financial condition.

The Medicare Prescription Drug, Improvement, and Modernization Act of 2003, or the MMA, established the Medicare Part D program to provide a voluntary prescription drug benefit to Medicare beneficiaries. Under Part D, Medicare beneficiaries may enroll in prescription drug plans offered by private entities that provide coverage of outpatient prescription drugs. Unlike Medicare Part A and B, Part D coverage is not standardized. Part D prescription drug plan sponsors are not required to pay for all covered Part D drugs, and each drug plan can develop its own drug formulary that identifies which drugs it will cover and at what tier or level. However, Part D prescription drug formularies must include drugs within each therapeutic category and class of covered Part D drugs, though not necessarily all

the drugs in each category or class. Any formulary used by a Part D prescription drug plan must be developed and reviewed by a pharmacy and therapeutic committee. Government payment for some of the costs of prescription drugs may increase demand for products for which we receive marketing approval. However, any negotiated prices for our products covered by a Part D prescription drug plan will likely be lower than the prices we might otherwise obtain. Moreover, while the MMA applies only to drug benefits for Medicare beneficiaries, private payors often follow Medicare coverage policy and payment limitations in setting their own payment rates. Any reduction in payment that results from the MMA may result in a similar reduction in payments from non-governmental payors.

The American Recovery and Reinvestment Act of 2009 provides funding for the federal government to compare the effectiveness of different treatments for the same illness. The plan for the research was published in 2012 by the Department of Health and Human Services, the Agency for Healthcare Research and Quality and the National Institutes for Health, and periodic reports on the status of the research and related expenditures will be made to Congress. Although the results of the comparative effectiveness studies are not intended to mandate coverage policies for public or private payors, it is not clear what effect, if any, the research will have on the sales of our product candidate, if any such product or the condition that it is intended to treat is the subject of a trial. It is also possible that comparative effectiveness research demonstrating benefits in a competitor's product could adversely affect the sales of our product candidate. If third-party payors do not consider our products to be cost-effective compared to other available therapies, they may not cover our products after approval as a benefit under their plans or, if they do, the level of payment may not be sufficient to allow us to sell our products on a profitable basis.

The ACA is expected to have a significant impact on the health care industry. The ACA is expected to expand coverage for the uninsured while at the same time containing overall healthcare costs. With regard to pharmaceutical products, among other things, the ACA is expected to expand and increase industry rebates for drugs covered under Medicaid programs and make changes to the coverage requirements under the Medicare Part D program. We cannot predict the full impact of the ACA on our business as many of the ACA reforms require the promulgation of detailed regulations implementing the statutory provisions that has not yet occurred. For example, the ACA imposed new reporting requirements on drug manufacturers for payments made to physicians and teaching hospitals, as well as ownership and investment interests held by physicians and their immediate family members. Failure to submit required information may result in civil monetary penalties of up to an aggregate of \$150,000 per year (or up to an aggregate of \$1 million per year for "knowing failures"), for all payments, transfers of value or ownership or investment interests that are not timely, accurately and completely reported in an annual submission. Drug manufacturers were required to begin collecting data on August 1, 2013 and will be required to submit reports to CMS by March 31, 2014 (and by the 90th day of each subsequent calendar year). In addition, many states have adopted laws similar to the federal laws discussed above. Some of these state prohibitions apply to the referral of patients for healthcare services reimbursed by any insurer, not just federal healthcare programs such as Medicare and Medicaid. There has also been a recent trend of increased federal and state regulation of payments made to physicians. Certain states mandate implementation of compliance programs, impose restrictions on drug manufacturers' marketing practices and/or require the tracking and reporting of gifts, compensation and other remuneration to physicians. In addition, other legislative changes have been proposed and adopted in the United States since the ACA was enacted. On August 2, 2011, the Budget Control Act of 2011 among other things, created measures for spending reductions by Congress. A Joint Select Committee on Deficit Reduction, tasked with recommending a targeted deficit reduction of at least \$1.2 trillion for the years 2013 through 2021, was unable to reach required goals, thereby triggering the legislation's automatic reduction to several government programs. This includes aggregate reductions to Medicare payments to providers of up to 2% per fiscal year, started in April 2013. On January 2, 2013, President Obama signed into law the American Taxpayer Relief Act of 2012, or the ATRA, which delayed for another two months the budget cuts

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mandated by these sequestration provisions of the Budget Control Act of 2011. The ATRA, among other things, also reduced Medicare payments to several providers, including hospitals, imaging centers and cancer treatment centers, and increased the statute of limitations period for the government to recover overpayments to providers from three to five years. We expect that additional federal healthcare reform measures will be adopted in the future, any of which could limit the amounts that federal and state governments will pay for healthcare products and services, and in turn could significantly reduce the projected value of certain development projects and reduce our profitability.

In addition, in some foreign countries, the proposed pricing for a drug must be approved before it may be lawfully marketed. The requirements governing drug pricing vary widely from country to country. For example, the European Union provides options for its member states to restrict the range of medicinal products for which their national health insurance systems provide reimbursement and to control the prices of medicinal products for human use. A member state may approve a specific price for the medicinal product or it may instead adopt a system of direct or indirect controls on the profitability of the company placing the medicinal product on the market. There can be no assurance that any country that has price controls or reimbursement limitations for pharmaceutical products will allow favorable reimbursement and pricing arrangements for any of our products. Historically, products launched in the European Union do not follow price structures of the United States and generally prices tend to be significantly lower.

### **Employees**

As of the date of this prospectus, we employed 21 full-time employees, including 15 in research and development and six in general and administrative, and no part-time employees. Eleven of our employees hold M.D. or Ph.D. degrees. We have never had a work stoppage, and none of our employees is represented by a labor organization or under any collective-bargaining arrangements. We consider our employee relations to be good.

### **Facilities**

We lease our office space, which consists of 10,600 square feet located in Cambridge, Massachusetts. Our lease expires on February 28, 2017. We believe our current office space is sufficient to meet our needs until the expiration of our lease.

### **Legal Proceedings**

As of the date of this prospectus, we were not party to any legal matters or claims. In the future, we may become party to legal matters and claims arising in the ordinary course of business, the resolution of which we do not anticipate would have a material adverse impact on our financial position, results of operations or cash flows.



## MANAGEMENT

### Executive Officers, Key Employees and Directors

The following table sets forth certain information about our executive officers and directors, including their ages as of April 30, 2014.

<u>Name</u>	<u>Age</u>	<u>Position(s)</u>
<b>Executive Officers:</b>		
Jeffrey M. Jonas, M.D.	61	President, Chief Executive Officer and Director
Stephen J. Kanes, M.D., Ph.D.	49	Chief Medical Officer
Albert J. Robichaud, Ph.D.	53	Chief Scientific Officer
Kimi Iguchi	51	Chief Financial Officer
Thomas Anderson	58	Chief Corporate Strategy Officer
<b>Directors:</b>		
Robert T. Nelsen.	50	Director
Steven Paul, M.D.	63	Director
Kevin P. Starr	51	Director
Howard Pien	56	Director

- (1) Member of the Compensation Committee.
- (2) Member of the Audit Committee.
- (3) Member of the Nominating and Corporate Governance Committee.

The following paragraphs provide information as of the date of this prospectus about our executive officers, key employees and directors. The information presented includes information about each of our directors' specific experience, qualifications, attributes and skills that led our board of directors to the conclusion that he should serve as a director.

*Jeffrey M. Jonas, M.D.* Dr. Jonas has served as our Chief Executive Officer and President and a member of our board of directors since August 2013. From 2012 to 2013, Dr. Jonas served as the President of the Regenerative Medicine Division of Shire plc, or Shire, and from 2008 to 2012 as Senior Vice President of Research and Development, Pharmaceuticals at Shire. From 2007 to 2008, Dr. Jonas served as the Executive Vice President of ISIS Pharmaceuticals, Inc., as the Chief Medical Officer and from 2006 to 2007 Executive Vice President of Forest Laboratories, Inc. and from 1991 to 1996 in senior-level positions at Upjohn Laboratories. Dr. Jonas also founded AVAX Technologies, Inc. and SCEPTOR Industries, Inc., where he served as the Chief Executive Officer, President and a Director. Dr. Jonas has published more than 70 scientific papers and chapters, authored more than 100 books, scientific articles and abstracts, and has received numerous awards. Dr. Jonas received his B.A. from Amherst College and M.D. from Harvard Medical School. He completed a residency in psychiatry at Harvard Medical School, and he served as Chief Resident in psychopharmacology at McClean Hospital, Harvard Medical School. Dr. Jonas' qualifications to sit on our board includes more than 20 years of experience on both the scientific and business sides of the pharmaceutical and healthcare industries, particularly in the CNS field.

*Stephen J. Kanes, M.D., Ph.D.* Dr. Kanes has served as our Chief Medical Officer since July 2013. From 2012 to 2013, he served as the Chair of the neuroscience safety knowledge group at AstraZeneca plc, or AstraZeneca. From 2011 to 2013, Dr. Kanes served as the Executive Director—Therapeutic Area Clinical Director for the inflammation, neuroscience and respiratory GMED Division of AstraZeneca. From 2008 to 2012, Dr. Kanes served as the Medical Science Senior Director for the neuroscience established brands and emerging anesthesia Group Product Team and in other positions of increasing responsibility in the Neuroscience Discovery Medicine, early and late development

groups of AstraZeneca. From 1999 to 2006, Dr. Kanes, served as a practicing psychiatrist. Dr. Kanes was a faculty member in the Psychiatry Department at the University of Pennsylvania School of Medicine, where he continues to serve as an adjunct assistant professor of psychiatry. Dr. Kanes has authored or co-authored more than 30 peer-reviewed publications and has served as an ad hoc reviewer for the journals *Neuropsychopharmacology*, *American Journal of Medical Genetics*, and *Biological Psychiatry*. Dr. Kanes received his B.A. from the University of Pennsylvania and both his Ph.D. and M.D. from State University of New York—Stony Brook. Dr. Kanes completed his psychiatry residency at Yale-New Haven Medical Center and postdoctoral fellowship at the University of Pennsylvania.

*Albert J. Robichaud, Ph.D.* Dr. Robichaud has served as our Chief Scientific Officer since November 2011. From 2010 to 2011, he was Vice President of Chemistry and Pharmacokinetic Sciences at Lundbeck, Inc., where he was responsible for the drug discovery, analytical, computational and pharmacokinetics departments focused on synaptic transmission and neuroinflammation. From 2002 to 2010, Dr. Robichaud was Senior Director and Head of the Neuroscience Discovery Chemistry department of Wyeth Research. During his tenure there, his group successfully delivered more than 15 drug candidates into clinical development in a broad range of neuroscience indications. Dr. Robichaud has co-authored more than 125 manuscripts and abstracts, and is a co-inventor on 45 patents and patent applications. Dr. Robichaud earned a B.S. in chemistry from Rensselaer Polytechnic Institute, a Ph.D. in organic chemistry from the University of California, Irvine and was an American Chemical Society postdoctoral fellow at Colorado State University.

*Kimi Iguchi.* Ms. Iguchi has served as our Chief Financial Officer since March 2013. From 2008 to 2011, Ms. Iguchi served as the Chief Operating Officer, North America for Santhera Pharmaceuticals Holding AG. From 2004 to 2007, Ms. Iguchi held the role of Vice President of Finance at Cyberkinetics Neurotechnology Systems, Inc. From 1998 to 2004, Ms. Iguchi was the Senior Director of Financial Reporting and Analysis at Millennium Pharmaceuticals, Inc., and from 1996 to 1998 the Senior Manager External Reporting at Biogen, Inc. From 1987 to 1995, Ms. Iguchi also worked as a business assurance manager at PricewaterhouseCoopers LLP. Ms. Iguchi received her B.A. in chemistry from Drew University and an M.B.A. from Northeastern University.

*Thomas Anderson.* Mr. Anderson has served as our Chief Corporate Strategy Officer since April 2014. From 2004 to 2014, Mr. Anderson served as Senior Vice President of Corporate Strategy at Shire Pharmaceuticals Group where he held positions of increasing responsibility. Prior to that, he was Executive Director, Market Research, Business Information at Janssen Pharmaceuticals Inc., President and CEO, Anderson Corporation, President and CEO, Rainir-DCP Corporation, Executive Vice President/COO, Lander Company, Inc. and Product Director, Janssen Pharmaceuticals, Inc. Mr. Anderson received his MBA in finance from Mendoza College of Business and his B.S. in civil engineering from Lehigh University.

*Robert T. Nelsen.* Mr. Nelsen has served as a member of our board of directors since September 2013. Mr. Nelsen was a co-founder of ARCH Venture Partners, a venture capital firm, and has served in various capacities for ARCH and affiliated entities since 1986. He is currently a managing director of ARCH Venture Corporation. Mr. Nelsen has played a significant role in the early sourcing, financing and development of more than 30 companies. Mr. Nelsen is a director of Agios Pharmaceuticals, Inc., Kythera Biopharmaceuticals, Inc., Sapphire Energy, Inc., Fate Therapeutics, Inc., Ensemble Therapeutics Corporation, Syros Pharmaceuticals Inc., Bellerophon, LLC, Juno Therapeutics, Inc., and serves as chairman of the board of Hua Medicine. Mr. Nelsen also serves as a Trustee of the Fred Hutchinson Cancer Research Institute, the Institute for Systems Biology, and is a director of the National Venture Capital Association. Mr. Nelsen previously served on the boards of Illumina, Inc., Caliper Life Sciences, Inc., Adolor Corporation, Receptos, Inc., NeurogesX, Inc., Ikaria, Inc., and entities affiliated with deCode Genetics, Inc. among others. Mr. Nelsen received a B.S. with

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major in biology and economics from the University of Puget Sound and an M.B.A. from the University of Chicago. Mr. Nelsen's qualifications to sit on our board include his extensive experience as an investor in, and director of, biopharmaceutical and life sciences companies.

*Steven Paul, M.D.* Dr. Paul has served as a member of our board of directors since September 2011. Dr. Paul is currently a professor of neuroscience, psychiatry and pharmacology at Weill Cornell Medical College. From 2003 to 2010, Dr. Paul, as the Executive Vice President of Eli Lilly and Company, or Eli Lilly, and President of Lilly Research Laboratories, was responsible for Eli Lilly's overall research and development efforts—helping to expand Eli Lilly's R&D efforts in oncology and biotechnology—resulting in a pipeline of approximately 70 new molecular entities. Dr. Paul spent 17 years at Eli Lilly, during which time he held several key leadership roles, including Vice President of Neuroscience (CNS) Research and Group Vice President of Discovery Research (all therapeutic areas) from 1993 to 2003. Prior to Eli Lilly, from 1988 to 1993 Dr. Paul served as Scientific Director of the National Institute of Mental Health (NIMH). Dr. Paul also served as Medical Director in the Commissioned Corps of the United States Public Health Service. Dr. Paul has been the recipient of many awards and honors and has served on numerous committees and advisory boards. Dr. Paul has also authored or co-authored over 500 papers and book chapters. Dr. Paul is an elected fellow of the American Association for the Advancement of Science and a member of the Institute of Medicine of the National Academy of Sciences. He is also currently on the board of directors or is a trustee of several organizations, including the Sigma-Aldrich Corporation, Alnylam Pharmaceuticals, Inc. and the Foundation for the NIH. Dr. Paul has also served as a member of the National Institute of General Medical Sciences (NIGMS) Advisory Council and was appointed by the Secretary of the Department of Health and Human Services (HHS) as a member of the advisory committee to the Director of the NIH from 2001-2006. Dr. Paul was also a member of the National Advisory Mental Health Council, NIMH, and is board certified by the American Board of Psychiatry and Neurology. Dr. Paul received his B.A. in Biology and Psychology from Tulane University, and his M.S. and M.D. degrees from the Tulane University School of Medicine. Dr. Paul's qualifications to sit on our board include his extensive career in neuroscience and his leadership and managerial experiences at various pharmaceutical and biotechnology companies and healthcare organizations.

*Howard Pien.* Mr. Pien has served as a member of our board of directors since March 2014. Mr. Pien was the Chairman of the Board and Chief Executive Officer of Medarex, Inc. from 2007 to its acquisition by Bristol-Myers Squibb Company in 2009. Prior to that, he was a private consultant from 2006 to 2007. Prior to 2006, he was President and Chief Executive Officer of Chiron Corporation from 2003 to its acquisition by Novartis in 2006, and before that Mr. Pien held positions of increasing responsibility at GlaxoSmithKline and its predecessor, SmithKline Beecham, at Abbott Laboratories and at Merck & Co. He is also a Director of ImmunoGen, Inc., ViroPharma Incorporated, Vanda Pharmaceuticals, Ikaria, Inc. and an Advisor for Warburg Pincus, a private equity firm. Mr. Pien received his MBA in finance from Carnegie Mellon University and his B.S. in civil engineering from Massachusetts Institute of Technology. We believe Mr. Pien's qualifications to sit on our board of directors include his extensive experience working for various pharmaceutical and biotechnology companies.

*Kevin P. Starr.* Mr. Starr has served as a member of our board of directors since September 2011. In 2007, Mr. Starr co-founded Third Rock Ventures, a venture capital firm where he remains a partner. From 2003 to 2007, Mr. Starr undertook a number of entrepreneurial endeavors in the life science and entertainment industries. From 2001 to 2002, Mr. Starr served as chief operating officer of Millennium Pharmaceuticals, Inc. He also served as Millennium's chief financial officer from 1998 to 2002. Mr. Starr currently serves on the board of directors of Agios Pharmaceuticals, Inc., Alnylam Pharmaceuticals, Inc., PanOptica, Inc., MyoKardia, Inc., Global Blood Therapeutics, Inc., Afferent Pharmaceuticals, Inc., Ember Therapeutics, Inc. and Zafgen, Inc. Mr. Starr received an M.S. in corporate finance from Boston College and a B.S./B.A. in mathematics and business from Colby

College. Mr. Starr's qualifications to serve on our board of directors include his executive management roles with responsibility over key financial and business planning functions and experience in the formation, development and business strategy of multiple start-up companies in the life sciences sector.

### Composition of Our Board of Directors

As of April 30, 2014, our board of directors consisted of five members, each of whom are members pursuant to the board composition provisions of our certificate of incorporation and our stockholders agreement, which agreement is described under "Certain Relationships and Related Party Transactions" in this prospectus. These board composition provisions will terminate upon the completion of this offering. Upon the termination of these provisions, there will be no further contractual obligations regarding the election of our directors. Our nominating and corporate governance committee and our board of directors may therefore consider a broad range of factors relating to the qualifications and background of nominees, which may include diversity, which is not only limited to race, gender or national origin. We have no formal policy regarding board diversity. Our nominating and corporate governance committee's and our board of directors' priority in selecting board members is identification of persons who will further the interests of our stockholders through his or her established record of professional accomplishment, the ability to contribute positively to the collaborative culture among board members, knowledge of our business, understanding of the competitive landscape and professional and personal experiences and expertise relevant to our growth strategy. Our directors hold office until their successors have been elected and qualified or until the earlier of their resignation or removal. Our amended and restated certificate of incorporation and amended and restated bylaws that will become effective upon the completion of this offering also provide that our directors may be removed only for cause by the affirmative vote of the holders of at least 75% of the votes that all our stockholders would be entitled to cast in an annual election of directors, and that any vacancy on our board of directors, including a vacancy resulting from an enlargement of our board of directors, may be filled only by vote of a majority of our directors then in office. Notwithstanding the foregoing, Dr. Jonas will serve without further compensation as a member of the board of directors for as long as he serves as our chief executive officer.

*Director Independence.* Our board of directors has determined that all members of the board of directors, except Jeffrey M. Jonas, M.D. and Kevin Starr, are independent directors, including for purposes of the rules of The NASDAQ Stock Market and relevant federal securities laws and regulations. Dr. Jonas is not an independent director under these rules because he is our President and Chief Executive Officer. Mr. Starr is not an independent director under these rules because he served as our Interim Chief Executive Officer from January 2011 until July 2013. There are no family relationships among any of our directors or executive officers.

*Staggered Board.* In accordance with the terms of our amended and restated certificate of incorporation and amended and restated bylaws that will become effective upon the completion of this offering, our board of directors will be divided into three staggered classes of directors of the same or nearly the same number and each will be assigned to one of the three classes. At each annual meeting of the stockholders, a class of directors will be elected for a three-year term to succeed the directors of the same class whose terms are then expiring. The terms of the directors will expire upon the election and qualification of successor directors at the annual meeting of stockholders to be held during the years 2015 for Class I directors, 2016 for Class II directors and 2017 for Class III directors.

• Our Class I directors will be \_\_\_\_\_, \_\_\_\_\_ and \_\_\_\_\_ ;

• Our Class II directors will be \_\_\_\_\_ and \_\_\_\_\_ ; and

• Our Class III directors will be \_\_\_\_\_ and \_\_\_\_\_ .

Our amended and restated certificate of incorporation and amended and restated by-laws provide that the number of our directors shall be fixed from time to time by a resolution of the majority of our board of directors. Any additional directorships resulting from an increase in the number of directors

will be distributed among the three classes so that, as nearly as possible, each class shall consist of one third of the board of directors.

The division of our board of directors into three classes with staggered three-year terms may delay or prevent stockholder efforts to effect a change of our management or a change in control.

### Committees of Our Board of Directors

Our board of directors plans on establishing an audit committee, a compensation committee and a nominating and corporate governance committee, each of which will operate pursuant to a charter to be adopted by our board of directors and will be effective upon completion of the offering. Upon the completion of this offering, the composition and functioning of all of our committees will comply with all applicable requirements of the Sarbanes-Oxley Act of 2002, The NASDAQ Stock Market and the SEC rules and regulations.

*Audit committee.* Effective upon completion of this offering, \_\_\_\_\_, \_\_\_\_\_ and \_\_\_\_\_ will serve on the audit committee, which will be chaired by \_\_\_\_\_. Our board of directors has determined that \_\_\_\_\_, \_\_\_\_\_ and \_\_\_\_\_ are “independent” for audit committee purposes as that term is defined in the rules of the SEC and the applicable NASDAQ Stock Market rules, and has sufficient knowledge in financial and auditing matters to serve on the audit committee. Our board of directors has designated \_\_\_\_\_ as an “audit committee financial expert,” as defined under the applicable rules of the SEC. Our board has determined that while \_\_\_\_\_ satisfy the independence requirements under applicable NASDAQ Stock Market rules, they do not satisfy the independence requirements of the SEC applicable to members of audit committees. The transition rules of the SEC provide that two members of the audit committee may be exempt from these more stringent independence requirements for 90 days after the effectiveness of this registration statement, and one member may be exempt for one year after the effectiveness of this registration statement. Our board of directors intends to cause our audit committee to comply with the transition rules within the applicable time periods. The audit committee’s responsibilities include:

- appointing, approving the compensation of, and assessing the independence of our independent registered public accounting firm;
- pre-approving auditing and permissible non-audit services, and the terms of such services, to be provided by our independent registered public accounting firm;
- reviewing the overall audit plan with our independent registered public accounting firm and members of management responsible for preparing our financial statements;
- reviewing and discussing with management and our independent registered public accounting firm our annual and quarterly financial statements and related disclosures as well as critical accounting policies and practices used by us;
- coordinating the oversight and reviewing the adequacy of our internal control over financial reporting;
- establishing policies and procedures for the receipt and retention of accounting-related complaints and concerns;
- recommending based upon the audit committee’s review and discussions with management and our independent registered public accounting firm whether our audited financial statements shall be included in our Annual Report on Form 10-K;
- monitoring the integrity of our financial statements and our compliance with legal and regulatory requirements as they relate to our financial statements and accounting matters;
- preparing the audit committee report required by SEC rules to be included in our annual proxy statement;

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- reviewing all related person transactions for potential conflict of interest situations and approving all such transactions; and
- reviewing quarterly earnings releases and scripts.

*Compensation committee.* Effective upon completion of this offering, \_\_\_\_\_, \_\_\_\_\_ and \_\_\_\_\_ will serve on the compensation committee, which will be chaired by \_\_\_\_\_. Our board of directors has determined that each member of the compensation committee is “independent” as defined in the applicable NASDAQ Stock Market rules. The compensation committee’s responsibilities include:

- annually reviewing and approving corporate goals and objectives relevant to the compensation of our Chief Executive Officer;
- evaluating the performance of our Chief Executive Officer in light of such corporate goals and objectives and determining the compensation of our Chief Executive Officer;
- reviewing and approving the compensation of our other executive officers;
- reviewing and establishing our overall management compensation, philosophy and policy;
- overseeing and administering our compensation and similar plans;
- reviewing and approving our policies and procedures for the grant of equity-based awards;
- reviewing and making recommendations to the board of directors with respect to director compensation;
- reviewing and discussing with management the compensation discussion and analysis to be included in our annual proxy statement or Annual Report on Form 10-K; and
- reviewing and discussing with the board of directors the corporate succession plans for the Chief Executive Officer and other key officers.

*Nominating and corporate governance committee.* Effective upon completion of this \_\_\_\_\_ offering, \_\_\_\_\_, \_\_\_\_\_ and \_\_\_\_\_ will serve on the nominating and corporate governance committee, which will be chaired by \_\_\_\_\_. Our board of directors has determined that each member of the nominating and corporate governance committee is “independent” as defined in the applicable NASDAQ Stock Market rules. The nominating and corporate governance committee’s responsibilities include:

- developing and recommending to the board of directors criteria for board and committee membership;
- establishing procedures for identifying and evaluating board of director candidates, including nominees recommended by stockholders;
- reviewing the size and composition of the board of directors to ensure that it is composed of members containing the appropriate skills and expertise to advise us;
- identifying individuals qualified to become members of the board of directors;
- recommending to the board of directors the persons to be nominated for election as directors and to each of the board’s committees;
- developing and recommending to the board of directors a code of business conduct and ethics and a set of corporate governance guidelines;
- developing a mechanism by which violations of the code of business conduct and ethics can be reported in a confidential manner; and
- overseeing the evaluation of the board of directors and management.

Our board of directors may from time to time establish other committees.

### **Compensation Committee Interlocks and Insider Participation**

None of the members of our compensation committee has at any time during the prior three years been one of our officers or employees. None of our executive officers currently serves, or in the past fiscal year has served, as a member of the board of directors or compensation committee of any entity that has one or more executive officers serving on our board of directors or compensation committee.

### **Corporate Governance**

We adopted a code of business conduct and ethics that applies to all of our employees, officers and directors, including those officers responsible for financial reporting, which will be effective upon completion of this offering. Upon the completion of this offering, our code of business conduct and ethics will be available on our website at [www.sagerx.com](http://www.sagerx.com). We intend to disclose any amendments to the code, or any waivers of its requirements, on our website or in a Current Report on Form 8-K.

### **Board Leadership Structure and Board's Role in Risk Oversight**

Currently, the role of chairman of the board is separated from the role of Chief Executive Officer, and we plan to keep these roles separated following the completion of this offering. We believe that separating these positions allows our Chief Executive Officer to focus on our day-to-day business, while allowing the chairman of the board to lead the board of directors in its fundamental role of providing advice to and independent oversight of management. Our board of directors recognizes the time, effort and energy that the Chief Executive Officer is required to devote to his position in the current business environment, as well as the commitment required to serve as our chairman, particularly as the board of directors' oversight responsibilities continue to grow. While our amended and restated by-laws and corporate governance guidelines do not require that our chairman and Chief Executive Officer positions be separate, our board of directors believes that having separate positions is the appropriate leadership structure for us at this time and demonstrates our commitment to good corporate governance.

Risk is inherent with every business, and how well a business manages risk can ultimately determine its success. We face a number of risks, including risks relating to our operations, strategic direction and intellectual property as more fully discussed under "Risk Factors" in this prospectus. Management is responsible for the day-to-day management of risks we face, while our board of directors, as a whole and through its committees, has responsibility for the oversight of risk management. In its risk oversight role, our board of directors has the responsibility to satisfy itself that the risk management processes designed and implemented by management are adequate and functioning as designed.

The role of the board of directors in overseeing the management of our risks is conducted primarily through committees of the board of directors, as disclosed in the descriptions of each of the committees above and in the charters of each of the committees. The full board of directors (or the appropriate board committee in the case of risks that are under the purview of a particular committee) discusses with management our major risk exposures, their potential impact on us, and the steps we take to manage them. When a board committee is responsible for evaluating and overseeing the management of a particular risk or risks, the chairman of the relevant committee reports on the discussion to the full board of directors during the committee reports portion of the next board meeting. This enables the board of directors and its committees to coordinate the risk oversight role, particularly with respect to risk interrelationships.

**EXECUTIVE AND DIRECTOR COMPENSATION****Summary Compensation Table**

The following table sets forth the compensation paid or accrued during the fiscal year ended December 31, 2013 to our Chief Executive Officer and our next two highest-paid executive officers as of December 31, 2013. We refer to these officers as our named executive officers.

<u>Name and Principal Position</u>	<u>Year</u>	<u>Salary (\$)</u>	<u>Bonus (\$)</u>	<u>Option Awards<sup>(1)</sup> (\$)</u>	<u>Non-equity Incentive Plan Compensation (\$)</u>	<u>All Other Compensation (\$)<sup>(4)</sup></u>	<u>Total (\$)</u>
Jeffrey M. Jonas, M.D. <sup>(2)</sup> <i>Chief Executive Officer</i>	2013	152,973	—	204,774	—	228,000	585,747
Kevin P. Starr <sup>(3)</sup> <i>Interim Chief Executive Officer</i>	2013	—	—	—	—	—	—
Stephen J. Kanes, M.D., Ph.D. <i>Chief Medical Officer</i>	2013	148,958	—	65,150	—	65,000	279,108
Albert J. Robichaud, Ph.D. <i>Chief Scientific Officer</i>	2013	300,000	2,500	—	—	—	302,500

(1) Amounts represent the aggregate grant-date fair value of option awards granted to our named executive officers in 2013 computed in accordance with FASB ASC Topic 718. The assumptions used in the valuation of these awards are consistent with the valuation methodologies specified in the notes to our financial statements and discussions in "Management's Discussion and Analysis of Financial Condition and Results of Operations" included elsewhere in this prospectus. The amounts above reflect our aggregate accounting expense for these awards and do not necessarily correspond to the actual value that will be recognized by the named executive officers.

(2) Dr. Jonas became our Chief Executive Officer in August 2013.

(3) Mr. Starr served as an Interim Chief Executive Officer from January 2011 to August 2013.

(4) Amounts represent sign-on bonuses received at the start of their employment.

**Narrative to Summary Compensation Table****Employment arrangements with our named executive officers**

We have entered into an employment agreement or letter agreement with each of our named executive officers in connection with their employment with us. Except as noted below, these employment agreements and offer letters provide for "at will" employment.

We entered into a letter agreement with Dr. Jonas in July 2013 and he assumed the role of Chief Executive Officer in August 2013. The agreement entitles Dr. Jonas to an initial base salary of \$425,000 and eligibility in our bonus pool of up to 40% of his base salary, based upon achievements agreed to between Dr. Jonas and the Board. Dr. Jonas is also entitled to a signing bonus, with \$225,000 paid out during his first month of employment and an additional \$125,000 due on the one year anniversary of his employment. Dr. Jonas was also granted options to purchase 2,210,000 shares of our common stock with an exercise price equal to the fair market value of our common stock on the day of the option grant, with one quarter of such options vesting on the one year anniversary of Dr. Jonas' employment and the rest on a monthly basis for three years thereafter.

We entered into a letter agreement with Dr. Kanes in May 2013 and he assumed the role of Chief Medical Officer in August 2013. The agreement entitles Dr. Kanes to an initial base salary of \$325,000 and eligibility in our bonus pool, based upon achievements agreed to between Dr. Kanes and our Chief



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Executive Officer. Dr. Kanes is also entitled to a signing bonus, with \$65,000 paid out during his first month of employment and an additional \$65,000 due on the one year anniversary of his employment. Dr. Kanes was also granted options to purchase 700,000 shares of our common stock with an exercise price equal to the fair market value of our common stock on the day of the option grant, with one quarter of such options vesting on the one year anniversary of Dr. Kanes' employment and the rest on a monthly basis for three years thereafter.

We entered into a letter agreement with Dr. Robichaud in September 2011 and he assumed the role of Chief Scientific Officer in November 2011. The agreement entitles Dr. Robichaud to an initial base salary of \$300,000 and eligibility in our bonus pool of up to 20% of his base salary, based upon achievements agreed to between Dr. Robichaud and our Chief Executive Officer. Dr. Robichaud was also entitled to a signing bonus, with \$65,000 paid out during his first month of employment and an additional \$50,000 due on the one year anniversary of his employment. Dr. Robichaud was also granted options to purchase 700,000 shares of our common stock with an exercise price equal to the fair market value of our common stock on the day of the option grant, with one quarter of such options vesting on the one year anniversary of Dr. Robichaud employment and the rest on a monthly basis for three years thereafter.

### ***Payments provided upon termination without cause***

Dr. Robichaud's letter agreement entitles him to six months of pay as severance based on his base salary as of the date of his termination if he is terminated without cause. Cause is defined to include any act of Dr. Robichaud's that is (i) in material breach of his letter agreement, (ii) a material failure to adhere to any company policy applicable to employees, (iii) an appropriation (or attempted appropriation) of a company business opportunity, (iv) a misappropriation of any company funds or property, (v) a conviction of a felony, (vi) a willful misconduct, (vii) a gross negligence in the performance of his duties, (viii) a behavior that is materially injurious to the company and (ix) a commission of an intentional act constituting fraud, embezzlement, breach of any fiduciary duty owed to the company or its stockholders, or other material act of dishonesty with respect to the company.

The other named executive officers are not entitled to severance.

### ***Employee confidentiality, non-competition, non-solicitation and assignment agreements***

Each of our named executive officers has entered into a standard form agreement with respect to confidential information and assignment of inventions. Among other things, this agreement obligates each named executive officer to refrain from disclosing any of our proprietary information received during the course of employment and to assign to us any inventions conceived or developed during the course of employment. Such agreement also provides that during the period of the named executive officer's employment and for 12 months thereafter, the named executive officer will not compete with us and will not solicit our employees, consultants, customers or suppliers.

### Outstanding Equity Awards at Fiscal Year End

The following table presents the outstanding equity awards held by each of our named executive officers as of December 31, 2013.

Name	Option Awards				Stock Awards	
	Number of Securities Underlying Unexercised Options (#) Exercisable	Number of Securities Underlying Unexercised Options (#) Unexercisable	Option Exercise Price (\$)	Option Expiration Date	Number of Shares or Units of Stock That Have Not Vested (#)	Market Value of Shares or Units of Stock That Have Not Vested (\$) <sup>(4)</sup>
Jeffrey M. Jonas, M.D. <sup>(1)</sup>	—	2,210,000	0.14	8/12/2023	—	—
Kevin P. Starr	—	—	—	—	—	—
Stephen J. Kanes, M.D., Ph.D. <sup>(2)</sup>	—	700,000	0.14	7/23/2023	—	—
Albert J. Robichaud, Ph.D. <sup>(3)</sup>	—	—	—	—	335,417	144,229

- (1) Dr. Jonas' options represent options to purchase shares of our common stock granted on August 12, 2013. The shares underlying these options vest as follows: 25% vest on August 12, 2014, with the remainder of the shares vesting in equal monthly installments over the following three years.
- (2) Dr. Kanes' options represent options to purchase shares of our common stock granted on July 23, 2013. The shares underlying these options vest as follows: 25% vest on July 18, 2013, with the remainder of the shares vesting in equal monthly installments over the following three years.
- (3) Dr. Robichaud was granted restricted stock on January 6, 2012. The shares underlying this grant vest as follows: 25% vest on November 7, 2012 with the remainder of the shares vesting in equal monthly installments over the following 36 months.
- (4) Amounts represent the market value using a \$0.43 fair market value of one share of common stock as determined by the board of directors in December 2013.

### Director Compensation

The following table sets forth a summary of the compensation we paid to our nonemployee directors during 2013. Other than as set forth in the table and described more fully below, we did not pay any compensation, reimburse any expense of, make any equity awards or non-equity awards to, or pay any other compensation to any of the other nonemployee members of our board of directors in 2013. We reimburse nonemployee directors for reasonable travel expenses. Dr. Jonas, our President and Chief Executive Officer, receives no compensation for his service as a director, and, consequently, is not included in this table. The compensation received by Dr. Jonas as an employee during 2013 is presented in the "Summary Compensation Table" above.

Name	Fees Earned or Paid in Cash (\$)	Option Awards (\$) <sup>(1)</sup>	All Other Compensation (\$)	Total (\$)
Robert T. Nelsen	—	—	—	—
Steven Paul, M.D.	—	—	219,835 <sup>(2)</sup>	219,835
Kevin P. Starr	—	—	—	—

- (1) Amounts represent the aggregate grant-date fair value of option awards granted to our directors in 2013 computed in accordance with FASB ASC Topic 718. The assumptions used in the valuation of these awards are consistent with the valuation methodologies specified in the notes to our financial statements and discussions in "Management's Discussion and Analysis of Financial Condition and Result of Operations." included elsewhere in this prospectus. The amounts above reflect our aggregate accounting expense for these awards and do not necessarily correspond to the actual value that will be recognized by the directors.

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(2) The amounts paid to Steven Paul, M.D. is made through our consulting arrangement with Third Rock Ventures LLC.

In March 2014, our board of directors adopted a nonemployee director compensation policy, that will be effective as of the completion of this offering, that is designed to provide a total compensation package that enables us to attract and retain, on a long-term basis, high caliber nonemployee directors. Under the policy, all nonemployee directors will be paid cash compensation from and after the completion of this offering, as set forth below:

	<u>Annual Retainer</u>
<b>Board of Directors:</b>	
All nonemployee members	\$ 35,000
Additional retainer for Non-Executive Chairman of the Board	\$ 35,000
<b>Audit Committee:</b>	
Chairman	\$ 15,000
Non-Chairman members	\$ 7,500
<b>Compensation Committee:</b>	
Chairman	\$ 10,000
Non-Chairman members	\$ 5,000
<b>Nominating and Corporate Governance Committee:</b>	
Chairman	\$ 7,500
Non-Chairman members	\$ 3,000

Under the nonemployee director compensation policy, each person who is initially appointed or elected to the board of directors will be eligible for an option grant to purchase up to \_\_\_\_\_ shares of our common stock under our stock option plan on the date he or she first becomes a nonemployee director, which will vest annually over a three-year period. In addition, on the date of the annual meeting of stockholders, each continuing nonemployee director who has served on the board of directors for a minimum of six months will be eligible to receive an annual option grant to purchase up to \_\_\_\_\_ shares of our common stock, which will vest in full upon the earlier of the first anniversary of the date of grant or the date of the following annual meeting of stockholders. All of the foregoing options will be granted at fair market value on the date of grant.

### **Compensation Risk Assessment**

We believe that although a portion of the compensation provided to our executive officers and other employees is performance-based, our executive compensation program does not encourage excessive or unnecessary risk-taking. This is primarily due to the fact that our compensation programs are designed to encourage our executive officers and other employees to remain focused on both short-term and long-term strategic goals, in particular in connection with our pay-for-performance compensation philosophy. As a result, we do not believe that our compensation programs are reasonably likely to have a material adverse effect on the company.

### **Stock Option Plans**

#### **2011 Stock Option Plan**

The 2011 Stock Option and Grant Plan, or 2011 Stock Option Plan, was approved by our board of directors and our stockholders on September 30, 2011 and was most recently amended on February 12, 2014. Under the 2011 Stock Option Plan, 9,900,000 shares of common stock have been

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reserved for issuance in the form of incentive stock options, non-qualified stock options, restricted stock, unrestricted stock or any combination of the foregoing. The shares issuable pursuant to awards granted under the 2011 Stock Option Plan are authorized but unissued shares.

The 2011 Stock Option Plan is administered by our board or at the discretion of the board, a committee of the board comprised of not less than two (2) directors, which has full power to select the employees, directors and service providers to whom awards will be granted and to determine the specific terms and conditions of each award, subject to the provisions of the 2011 Stock Option Plan.

The option exercise price of each option granted under the 2011 Stock Option Plan is determined by our board and may not be less than the fair market value of a share of common stock on the date of grant. The term of each option is fixed by the board and may not exceed ten years from the date of grant. The board determines at what time or times each option may be exercised when granting the option.

The 2011 Stock Option Plan provides that, upon a sale transaction of the company, unless provision is made in connection with the sale transaction in the sole discretion of the parties thereto for the assumption or continuation of the awards by the successor entity or substitution of the awards with new awards of the successor entity, with appropriate adjustment, all options not exercised will terminate upon the closing of the sale transaction.

Our board may amend the 2011 Stock Option Plan but no such action may adversely affect the rights of an award holder without such holder's consent. Approval by our stockholders of amendments to the 2011 Stock Option Plan must be obtained if required by law.

As of March 31, 2014, options to purchase 4,853,500 shares of common stock were outstanding under the 2011 Stock Option Plan. Our board has determined not to make any further awards under the 2011 Stock Option Plan following the completion of this offering.

### **2014 Stock Option Plan**

On \_\_\_\_\_, 2014, our board of directors adopted and thereafter our stockholders approved our 2014 Stock Option and Incentive Plan, or 2014 Stock Option Plan, which will become effective upon completing of this offering and will replace the 2011 Stock Option Plan. Our 2014 Stock Option Plan provides us flexibility to use various equity-based incentive and other awards as compensation tools to motivate our workforce. These tools include stock options, stock appreciation rights, restricted stock, restricted stock units, unrestricted stock, performance share awards and cash-based awards. The 2014 Stock Option Plan will become effective immediately prior to the completion of this offering.

We have initially reserved \_\_\_\_\_ shares of common stock for the issuance of awards under the 2014 Stock Option Plan (including \_\_\_\_\_ shares of common stock reserved for issuance under our 2011 Stock Option Plan, which will be added to the shares reserved under the 2014 Stock Option Plan), which will be cumulatively increased by \_\_\_\_\_ % of the number of shares of common stock issued and outstanding on the immediately preceding December 31. This number is subject to adjustment in the event of a stock split, stock dividend or other change in our capitalization.

The shares issuable pursuant to awards granted under the 2014 Stock Option Plan will be authorized but unissued shares or shares that we reacquire. The shares of common stock underlying any awards from the 2014 Stock Option Plan and the 2011 Stock Option Plan that are forfeited, cancelled, held back upon exercise or settlement of an award to satisfy the exercise price or tax withholding, reacquired by us prior to vesting, satisfied without any issuance of common stock, expire or are otherwise terminated (other than by exercise) under the 2014 Stock Option Plan will be added back to the shares available for issuance under the 2014 Stock Option Plan.

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Under the 2014 Stock Option Plan, stock options or stock appreciation rights with respect to no more than shares may be granted to any one individual in any one calendar year and the maximum aggregate number of shares that may be issued in the form of incentive stock options shall not exceed the initial number of shares reserved and available for issuance under the 2014 Stock Option Plan.

The 2014 Stock Option Plan will be administered by the compensation committee of the board of directors. The compensation committee has full power to select, from among the individuals eligible for awards, the individuals to whom awards will be granted, to make any combination of awards to participants, and to determine the specific terms and conditions of each award, subject to the provisions of the 2014 Stock Option Plan. Employees, nonemployee directors and other key persons (including consultants) are eligible to receive awards under the 2014 Stock Option Plan.

The 2014 Stock Option Plan permits the granting of both options to purchase common stock intended to qualify as incentive stock options under Section 422 of the Code and options that do not so qualify. The exercise price of each stock option will be determined by our compensation committee but may not be less than 100% of the fair market value of our common stock on the date of grant or, in the case of an incentive stock option granted to a 10% owner, less than 110% of the fair market value of our common stock on the date of grant. The term of each stock option will be fixed by the compensation committee and may not exceed ten years from the date of grant (or five years in the case of an incentive stock option granted to a 10% owner). The compensation committee will also determine vesting schedule for granted stock options.

The compensation committee may award stock appreciation rights subject to such conditions and restrictions as it may determine. Stock appreciation rights entitle the recipient to shares of common stock, or cash, equal to the value of the appreciation in our stock price over the exercise price. The exercise price of each stock appreciation right may not be less than 100% of the fair market value of the common stock on the date of grant.

The compensation committee may award restricted stock or restricted stock units to participants subject to such conditions and restrictions as it may determine. These conditions and restrictions may include the achievement of certain performance goals and/or continued employment or service with us through a specified vesting period. The compensation committee may also grant cash-based awards to participants subject to such conditions and restrictions as it may determine. Our compensation committee may also grant shares of common stock that are free from any restrictions under the 2014 Stock Option Plan. Unrestricted stock may be granted to participants in recognition of past services or for other valid consideration and may be issued in lieu of cash compensation due to such participant.

The compensation committee may grant performance share awards to participants that entitle the recipient to receive share awards of common stock upon the achievement of certain performance goals and such other conditions as our compensation committee shall determine.

The compensation committee may grant cash bonuses under the 2014 Stock Option Plan to participants, subject to the achievement of certain performance goals.

The compensation committee may grant performance-based awards to participants in the form of restricted stock, restricted stock units, performance shares or cash-based awards upon the achievement of certain performance goals and such other conditions as the compensation committee shall determine. The compensation committee may grant such performance-based awards under the 2014 Stock Option Plan that are intended to qualify as "performance-based compensation" under Section 162(m) of the Code. Those awards would only vest or become payable upon the attainment of performance goals that are established by our compensation committee and related to one or more performance criteria. The performance criteria that could be used with respect to any such awards

include: total shareholder return, earnings before interest, taxes, depreciation and amortization, net income (loss) (either before or after interest, taxes, depreciation and/or amortization), changes in the market price of our common stock, economic value-added, sales or revenue, development, clinical or regulatory milestones, acquisitions or strategic transactions, operating income (loss), cash flow (including, but not limited to, operating cash flow and free cash flow), return on capital, assets, equity, or investment, return on sales, gross or net profit levels, productivity, expense, margins, operating efficiency, customer satisfaction, working capital, earnings (loss) per share of stock, sales or market shares and number of customers, any of which may be measured either in absolute terms or as compared to any incremental increase or as compared to results of a peer group. From and after the time that we become subject to Section 162(m) of the Code, the maximum award that is intended to qualify as “performance-based compensation” under Section 162(m) of the Code that may be made to any one employee during any one calendar year period is \_\_\_\_\_ shares with respect to a stock-based award and \$ \_\_\_\_\_ with respect to a cash-based award.

The 2014 Stock Option Plan provides that upon the effectiveness of a “sale event,” as defined in the 2014 Stock Option Plan, all options and stock appreciation rights that are not exercisable immediately prior to the effective time of the sale event shall become fully exercisable as of the effective time of the sale event, all other awards with time-based vesting, conditions or restrictions, shall become fully vested and nonforfeitable as of the effective time of the sale event and all awards with conditions and restrictions relating to the attainment of performance goals may become vested and nonforfeitable in the discretion of the compensation committee and all awards granted under the 2014 Stock Option Plan shall terminate. In addition, in connection with the termination of the 2014 Stock Option Plan upon a sale event, we may make or provide for a cash payment to participants holding options and stock appreciation rights equal to the difference between the per share cash consideration payable to stockholders in the sale event and the exercise price of the options or stock appreciation rights.

Our board of directors may amend or discontinue the 2014 Stock Option Plan and our compensation committee may amend or cancel outstanding awards for purposes of satisfying changes in law or any other lawful purpose, including option repricing, but no such action may adversely affect rights under an award without the holder’s consent. Certain amendments to the 2014 Stock Option Plan may require the approval of our stockholders.

No awards may be granted under the 2014 Stock Option Plan after the date that is ten years from the date of stockholder approval of the 2014 Stock Option Plan.

#### **Senior Executive Cash Incentive Bonus Plan**

On \_\_\_\_\_, 2014, our board of directors adopted the Senior Executive Cash Incentive Bonus Plan, or the Bonus Plan, which will become effective upon completion of this offering. The Bonus Plan provides for cash bonus payments based upon the attainment of performance targets established by our compensation committee. The payment targets will be related to corporate, financial and operational measures or objectives, or Corporate Performance Goals, as well as individual performance objectives.

Our compensation committee may select Corporate Performance Goals from among the following: cash flow (including, but not limited to, operating cash flow and free cash flow); sales or revenue; corporate revenue; earnings before interest, taxes, depreciation and amortization; net income (loss) (either before or after interest, taxes, depreciation and/or amortization); changes in the market price of our common stock; economic value-added; development, clinical or regulatory milestones; acquisitions or strategic transactions; operating income (loss); return on capital, assets, equity, or

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investment; stockholder returns; return on sales; gross or net profit levels; productivity; expense efficiency; margins; operating efficiency; customer satisfaction; working capital; earnings (loss) per share of our common stock; bookings, new bookings or renewals; sales or market shares; number of customers; number of new customers or customer references; operating income and/or net annual recurring revenue, any of which may be measured in absolute terms, as compared to any incremental increase, in terms of growth, as compared to results of a peer group, against the market as a whole, compared to applicable market indices and/or measured on a pre-tax or post-tax basis.

Each executive officer who is selected to participate in the Bonus Plan will have a target bonus opportunity set for each performance period. The bonus formulas will be adopted in each performance period by the compensation committee and communicated to each executive. The Corporate Performance Goals will be measured at the end of each performance period after our financial reports have been published or such other appropriate time as the compensation committee determines. If the Corporate Performance Goals and individual performance objectives are met, payments will be made as soon as practicable following the end of each performance period. Subject to the rights contained in any agreement between the executive officer and the company, an executive officer must be employed by the company on the bonus payment date to be eligible to receive a bonus payment. The Bonus Plan also permits the compensation committee to approve additional bonuses to executive officers in its sole discretion.

### **Other Compensation**

We currently maintain broad-based benefits that are provided to all employees, including health insurance, life and disability insurance and dental insurance.

## CERTAIN RELATIONSHIPS AND RELATED PARTY TRANSACTIONS

Other than compensation arrangements, we describe below the transactions, and series of similar transactions, since January 1, 2011, to which we were a party or will be a party, in which:

- the amounts involved exceeded or will exceed \$120,000; and
- any of our directors, executive officers or holders of more than 5% of our capital stock, or any member of the immediate family of the foregoing persons, had or will have a direct or indirect material interest.

In connection with this offering, we plan to adopt a written policy, effective upon completion of this offering, that requires all future transactions between us and any director, executive officer, holder of 5% or more of any class of our capital stock or any member of the immediate family of, or entities affiliated with, any of them, or any other related persons (as defined in Item 404 of Regulation S-K) or their affiliates, in which the amount involved is equal to or greater than \$120,000, be approved in advance by our audit committee. Any request for such a transaction must first be presented to our audit committee for review, consideration and approval. In approving or rejecting any such proposal, our audit committee is to consider the relevant facts and circumstances available and deemed relevant to the audit committee, including, but not limited to, the extent of the related party's interest in the transaction, and whether the transaction is on terms no less favorable to us than terms we could have generally obtained from an unaffiliated third party under the same or similar circumstances.

All of the transactions described below were entered into prior to the adoption of this written policy but each was approved by our board of directors. Prior to our board of directors' consideration of a transaction with a related person, the material facts as to the related person's relationship or interest in the transaction were disclosed to our board of directors, and the transaction was not approved by our board of directors unless a majority of the directors approved the transaction. Our current policy with respect to approval of related person transactions is not set forth in writing.

### Private Placements of Securities

#### ***Restricted stock purchase***

On September 1, 2011, we entered into a restricted stock purchase agreement with Steven Paul, M.D. pursuant to which we issued to him an aggregate of 2,500,000 shares of our common stock to have at a price of \$0.0001 per share, for an aggregate consideration of \$250.

#### ***Series A preferred stock financing***

On September 30, 2011, we entered into a securities purchase agreement with TRV pursuant to which we agreed to issue, in a series of closings, an aggregate of up to 35,000,000 shares of our Series A redeemable convertible preferred stock at a price of \$1.00 per share. On September 12, 2013, we entered into a joinder and amendment agreement with TRV and ARCH, pursuant to which we increased the number of shares of Series A redeemable convertible preferred stock to be issued under such agreement to 37,500,000.



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The following table summarizes the participation in the Series A preferred stock financing by any of our directors, executive officers, holders of more than 5% of our voting securities, or any member of the immediate family of the foregoing persons.

<u>Name</u>	<u>Shares of Series A Preferred</u>	<u>Aggregate Purchase Price Paid</u>	<u>Date Purchased</u>
Third Rock Ventures II, L.P.	6,000,000	\$ 6,000,000	9/30/2011
Third Rock Ventures II, L.P.	4,000,000	\$ 4,000,000	4/9/2012
Third Rock Ventures II, L.P.	5,000,000	\$ 5,000,000	11/12/2012
Third Rock Ventures II, L.P.	5,000,000	\$ 5,000,000	3/18/2013
Third Rock Ventures II, L.P.	5,000,000	\$ 5,000,000	7/1/2013
Third Rock Ventures II, L.P.	7,500,000	\$ 7,500,000	9/12/2013
ARCH Venture Fund VII, L.P.	5,000,000	\$ 5,000,000	9/12/2013

### **Series B preferred stock financing**

On October 15, 2013, we entered into a securities purchase agreement with TRV and ARCH pursuant to which we agreed to issue, in a series of closings, up to an aggregate of 13,333,332 shares of our Series B redeemable convertible preferred stock at a price of \$1.50 per share. On February 12, 2014, we entered into an amendment to the securities purchase agreement with TRV and ARCH pursuant to which we decreased the number of shares of Series B redeemable convertible preferred stock to be issued thereunder to 9,999,999.

The following table summarizes the participation in the Series B preferred stock financing by any of our directors, executive officers, holders of more than 5% of our voting securities, or any member of the immediate family of the foregoing persons.

<u>Name</u>	<u>Shares of Series B Preferred</u>	<u>Aggregate Purchase Price Paid</u>	<u>Date Purchased</u>
ARCH Venture Fund VII, L.P.	5,000,000	\$ 7,500,000	1/7/2014
ARCH Venture Fund VII, L.P.	2,500,000	\$ 3,750,000	2/12/2014
Third Rock Ventures II, L.P.	1,666,666	\$ 2,500,000	1/7/2014
Third Rock Ventures II, L.P.	833,333	\$ 1,250,000	2/12/2014

### **Series C preferred stock financing**

On March 11, 2014, we entered into a securities purchase agreement with TRV, ARCH, and certain other investors pursuant to which we agreed to issue in one closing an aggregate of 8,973,905 shares of our Series C redeemable convertible preferred stock at a price of \$4.2345 per share.

The following table summarizes the participation in the Series C preferred stock financing by any of our directors, executive officers, holders of more than 5% of our voting securities, or any member of the immediate family of the foregoing persons.

<u>Name</u>	<u>Shares of Series C Preferred</u>	<u>Aggregate Purchase Price Paid</u>	<u>Date Purchased</u>
ARCH Venture Fund VII, L.P.	885,583	\$ 3,750,000	3/11/2014
Third Rock Ventures II, L.P.	295,194	\$ 1,250,000	3/11/2014
Fidelity Management Research Company & Affiliates	3,542,331	\$ 15,000,000	3/11/2014

### **Agreements with Stockholders**

In connection with the Series C preferred stock financing, we entered into the Second Amended and Restated Investors' Rights Agreement, or investor rights agreement, dated as of March 11, 2014, with certain of our stockholders, including our principal stockholders and their affiliates and the Second Amended and Restated Stockholders Agreement, or Stockholders Agreement, dated as of March 11, 2014, with certain of our stockholders, including our principal stockholders and their affiliates. All of the provisions of these agreements will terminate immediately upon completion of the offering, other than the provisions relating to registration rights, which will continue in effect following completion of the offering and entitle the holders of such rights to have us register their shares of our common stock for sale in the United States. See "Description of Capital Stock—Registration Rights."

During the fiscal years ended December 31, 2011, 2012 and 2013, we incurred consulting fees to Third Rock Ventures, LLC, or TRV, in the amount of \$1,279, \$908 and \$598, respectively. TRV is a management company that is party to a services agreement with Third Rock Ventures, L.P., the beneficial owner of more than 5% of our voting securities. Messrs. Starr and Paul are members of our board of directors, and Mr. Starr is a managing member of TRV GP, LLC, which is the general partner of Third Rock Ventures GP, L.P., the general partner of Third Rock Ventures, L.P. and a managing member of TRV. These consulting fees were paid to TRV in amounts mutually agreed upon in advance by us and TRV in consideration of certain strategic and ordinary course business operations consulting services provided to us on an as-needed basis, from time to time and at our request, by individuals related to TRV, including Mr. Paul but not including Mr. Starr. Such fees were payable pursuant to invoices submitted to us by TRV from time to time. None of these consulting fees were paid directly or indirectly to Messrs. Starr and Paul. The consulting fees paid to TRV did not exceed 5% of the consolidated gross revenue of TRV during any of these fiscal years.

### **Executive Officer and Director Compensation**

See "Executive and Director Compensation" for information regarding compensation of directors and executive officers.

### **Employment Agreements**

We have entered into offer letters or employment agreements with our executive officers. For more information regarding our agreements with our named executive officers for the fiscal year ended December 31, 2013, see "Executive and Director Compensation—Narrative to Summary Compensation Table—Employment arrangements with our named executive officers."

### **Indemnification Agreements**

We have entered into or plan to enter into indemnification agreements with each of our directors and officers, the form of which is attached as an exhibit to the registration statement of which this prospectus is a part. The indemnification agreements and our amended and restated certificate of incorporation and amended and restated by-laws require us to indemnify our directors and officers to the fullest extent permitted by Delaware law.

**PRINCIPAL STOCKHOLDERS**

The following table presents information concerning the beneficial ownership of the shares of our common stock as of April 30, 2014, by:

- each person we know to be the beneficial owner of 5% or more of our outstanding shares of our capital stock;
- each of our directors;
- each of our named executive officers; and
- all of our executive officers and directors as a group.

We have determined beneficial ownership in accordance with SEC rules. The information does not necessarily indicate beneficial ownership for any other purpose. Under these rules, a person is deemed to be a beneficial owner of our common stock if that person has a right to acquire ownership within 60 days by the exercise of vested options or the conversion of our redeemable convertible preferred stock. A person is also deemed to be a beneficial holder of our common stock if that person has or shares voting power, which includes the power to vote or direct the voting of our common stock, or investment power, which includes the power to dispose of or to direct the disposition of such capital stock. Except in cases where community property laws apply or as indicated in the footnotes to this table, we believe that each stockholder identified in the table possesses sole voting and investment power over all shares of common stock shown as beneficially owned by the stockholder.

Percentage of beneficial ownership in the table below is based on 62,880,154 shares of common stock deemed to be outstanding as of April 30, 2014, assuming the conversion of all outstanding shares of redeemable convertible preferred stock into common stock, and shares of common stock outstanding after the completion of this offering. The table below assumes that the underwriters do not exercise their over-allotment option. If the over-allotment option is exercised in full, we will sell an aggregate of \_\_\_\_\_ additional shares of common stock. Shares of common stock subject to options that are currently exercisable or exercisable within 60 days of April 30, 2014 are considered outstanding and beneficially owned by the person holding the options for the purpose of computing the percentage ownership of that person but are not treated as outstanding for the purpose of computing the percentage ownership of any other person. Unless indicated below, the address of each individual listed below is c/o Sage Therapeutics, Inc., 215 First Street Cambridge, MA 02142.

Name and Address of Beneficial Owner <sup>(1)</sup>	Shares Beneficially Owned Prior to Offering		Shares Beneficially Owned After the Offering	
	Number	Percent	Number	Percent
<b>5% Stockholders</b>				
Third Rock Ventures II, L.P. <sup>(2)</sup>	36,795,193	58.5%		
ARCH Venture Fund VII, L.P. <sup>(3)</sup>	13,385,583	21.3%		
Entities Affiliated with Fidelity Investment <sup>(4)</sup>	3,542,331	5.6%		
<b>Named Executive Officers and Directors</b>				
Jeffrey M. Jonas, M.D. <sup>(5)</sup>	—	*		
<b>Named Executive Officers</b>				
Albert J. Robichaud, Ph.D. <sup>(6)</sup>	707,292	1.1%		
Stephen J. Kanes, M.D., Ph.D. <sup>(7)</sup>	2,604	*		
Kimi Iguchi <sup>(8)</sup>	311,042	*		
<b>Other Directors</b>				
Robert T. Nelsen <sup>(9)</sup>	13,385,583	21.3%		
Steven Paul, M.D. <sup>(10)</sup>	2,500,000	4.0%		
Kevin P. Starr <sup>(11)</sup>	—	—		
Howard Pien <sup>(12)</sup>	—	—		
<b>All directors and executive officers as a group (8 persons)</b>	<b>16,906,521</b>	<b>26.9%</b>		

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- \* Indicates beneficial ownership of less than one percent.
- (1) Unless otherwise indicated, the address for each beneficial owner is c/o Sage Therapeutics, Inc., 215 First Street, Cambridge, Massachusetts 02142.
  - (2) The address for Third Rock Ventures II, L.P. ("TRV LP") is 29 Newbury Street, 3rd Floor, Boston, MA 02116. Consists of (i) 32,500,000 shares of common stock issuable upon conversion of shares of Series A convertible preferred stock, (ii) 2,499,999 shares of common stock issuable upon conversion of shares of Series B convertible preferred stock, (iii) 295,194 shares of common stock issuable upon conversion of shares of Series C convertible preferred stock and (iv) 1,500,000 shares of common stock. All shares are held directly by TRV LP. Each of Third Rock Ventures II GP, L.P. ("TRV GP"), the general partner of TRV LP, Third Rock Ventures II GP, LLC ("TRV LLC"), the general partner of TRV GP, and Mark Levin, Kevin Starr and Robert Tepper, the managers of TRV LLC, may be deemed to share voting and investment power over the shares held of record by TRV LP. Each of TRV GP, TRV LLC, Mark Levin, Kevin Starr and Robert Tepper disclaims beneficial ownership of all shares held by TRV LP except to the extent of their pecuniary interest therein. Mr. Starr is a member of our board of directors.
  - (3) The address for ARCH Venture Fund VII, L.P., or ARCH, is 8725 West Higgins Road, Suite 290, Chicago, IL 60631. Consists of (a) 5,000,000 shares of common stock issuable upon conversion of series A convertible preferred stock held by ARCH, (b) 7,500,000 shares of common stock issuable upon conversion of series B convertible preferred stock held by ARCH and (c) 885,583 shares of common stock issuable upon conversion of series C convertible preferred stock held by ARCH. ARCH Venture Partners VII, L.P. (the "GPLP"), as the sole general partner of ARCH, may be deemed to beneficially own certain of the shares held by ARCH. The GPLP disclaims beneficial ownership of all shares held by ARCH in which the GPLP does not have an actual pecuniary interest. ARCH Venture Partners VII, LLC (the "GPLLC"), as the sole general partner of the GPLP, may be deemed to beneficially own certain of the shares held by ARCH. The GPLLC disclaims beneficial ownership of all shares held by ARCH in which it does not have an actual pecuniary interest. The managing directors of the GPLLC, Robert T. Nelsen, Keith Crandell and Clinton Bybee (together, the "Managing Directors"), are deemed to have voting and dispositive power over the shares held by ARCH, and may be deemed to beneficially own certain of the shares held by ARCH. Mr. Nelsen, a member of our board of directors is one of the Managing Directors. The Managing Directors disclaim beneficial ownership of all shares held by ARCH in which they do not have an actual pecuniary interest.
  - (4) Fidelity Management & Research Company, or Fidelity, 82 Devonshire Street, Boston, Massachusetts 02109, a wholly owned subsidiary of FMR LLC and an investment adviser registered under Section 203 of the Investment Advisers Act of 1940, is the beneficial owner of shares of common stock as a result of acting as investment adviser to various investment companies registered under Section 8 of the Investment Company Act of 1940. Consists of (a) 542,148 shares of common stock issuable upon conversion of shares of Series C convertible preferred stock held by Fidelity Select Portfolios: Biotech Portfolio, (b) 81,574 shares of common stock issuable upon conversion of shares of Series C convertible preferred stock held by Fidelity Advisor Series VII: Fidelity Advisor Biotechnology Fund, (c) 107,310 shares of common stock issuable upon conversion of shares of Series C convertible preferred stock held by Fidelity Group Trust for Employee Benefit Plans: Fidelity Growth Company Commingled Pool, (d) 493,865 shares of common stock issuable upon conversion of shares of Series C convertible preferred stock held by Fidelity Mt. Vernon Street Trust: Fidelity Series Growth Company Fund and (e) 2,317,434 shares of common stock issuable upon conversion of shares of Series C convertible preferred stock held by Fidelity Mt. Vernon Street Trust: Fidelity Growth Company Fund. Edward C. Johnson 3d and FMR LLC, through its control of Fidelity, and the funds each has sole power to dispose of the shares owned by the Funds. Members of the family of Edward C. Johnson 3d, Chairman of FMR LLC, are the predominant owners, directly or through trusts, of Series B voting common shares of FMR LLC, representing 49% of the voting power of FMR LLC.

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The Johnson family group and all other Series B shareholders have entered into a shareholders' voting agreement under which all Series B voting common shares will be voted in accordance with the majority vote of Series B voting common shares. Accordingly, through their ownership of voting common shares and the execution of the shareholders' voting agreement, members of the Johnson family may be deemed, under the Investment Company Act of 1940, to form a controlling group with respect to FMR LLC. Neither FMR LLC nor Edward C. Johnson 3d, Chairman of FMR LLC, has the sole power to vote or direct the voting of the shares owned directly by the Fidelity Funds, which power resides with the Funds' Boards of Trustees. Fidelity carries out the voting of the shares under written guidelines established by the Funds' Boards of Trustees.

- (5) Consists of 2,210,000 options to purchase shares of our common stock, none of which will vest within 60 days of April 30, 2014.
- (6) Consists of 700,000 shares of restricted stock and 70,000 options to purchase shares of our common stock. 7,292 of Dr. Robichaud's options will vest within 60 days of April 30, 2014.
- (7) Consists of 725,000 options to purchase shares of our common stock, 2,604 of which will vest within 60 days of April 30, 2014.
- (8) Consists of 290,000 shares of restricted stock and 190,000 options to purchase shares of our common stock. 21,042 of Ms. Iguchi's options will vest within 60 days of April 30, 2014.
- (9) Consists of the shares described in note (3) above. Mr. Nelsen is a managing director of GPLLC, which is the sole general partner of GPLP, which is the sole general partner of ARCH, and as such may be deemed to beneficially own such shares. Mr. Nelsen disclaims beneficial ownership of such shares except to the extent of any pecuniary interest therein.
- (10) Consists of 2,500,000 shares of our common stock purchased by Dr. Paul on September 1, 2011, pursuant to a restricted stock purchase agreement with us.
- (11) Investment decisions with respect to the shares held by TRV LP are made by an investment committee at TRV GP comprised of Mark Levin, Kevin Starr, Bob Tepper, Neil Exter, Kevin Gillis, Lou Tartaglia, Craig Muir, Cary Pfeffer, Alexis Borisy and Craig Greaves. No stockholder, director, officer, manager, member or employee of TRV GP or TRV LLC has beneficial ownership (within the meaning of Rule 13d-3 promulgated under the Exchange Act) of any shares held by TRV LP.
- (12) Consists of 75,000 options to purchase shares of our common stock, none of which will vest within 60 days of April 30, 2014.

## DESCRIPTION OF CAPITAL STOCK

Upon the completion of this offering, our authorized capital stock will consist of \_\_\_\_\_ shares of common stock, par value \$0.0001 per share, and \_\_\_\_\_ shares of preferred stock, par value \$0.0001 per share, all of which will be undesignated, and there will be \_\_\_\_\_ shares of common stock outstanding and no shares of preferred stock outstanding. As of March 31, 2014, we had approximately \_\_\_\_\_ record holders of our capital stock. All of our outstanding shares of redeemable convertible preferred stock will automatically convert into shares of our common stock upon the completion of this offering. In addition, upon completion of this offering, \_\_\_\_\_ options to purchase shares of our common stock will be outstanding and \_\_\_\_\_ shares of our common stock will be reserved for future grants under our stock option plans.

The following description of our capital stock and provisions of our amended and restated certificate of incorporation and amended and restated by-laws are summaries of material terms and provisions and are qualified by reference to our amended and restated certificate of incorporation and amended and restated by-laws, copies of which have been filed with the SEC as exhibits to the registration statement of which this prospectus is a part. The descriptions of our common stock and preferred stock reflect amendments to our amended and restated certificate of incorporation and amended and restated by-laws that will become effective immediately prior to the completion of this offering.

### Common Stock

Upon the completion of this offering, we will be authorized to issue one class of common stock. Holders of our common stock are entitled to one vote for each share of common stock held of record for the election of directors and on all matters submitted to a vote of stockholders. Holders of our common stock are entitled to receive dividends ratably, if any, as may be declared by our board of directors out of legally available funds, subject to any preferential dividend rights of any preferred stock then outstanding. Upon our dissolution, liquidation or winding up, holders of our common stock are entitled to share ratably in our net assets legally available after the payment of all our debts and other liabilities, subject to the preferential rights of any preferred stock then outstanding. Holders of our common stock have no preemptive, subscription, redemption or conversion rights. The rights, preferences and privileges of holders of common stock are subject to, and may be adversely affected by, the rights of the holders of shares of any series of preferred stock that we may designate and issue in the future. Except as described under "Antitakeover Effects of Delaware Law and Provisions of our Amended and Restated Certificate of Incorporation and Amended and Restated By-laws" below, a majority vote of the holders of common stock is generally required to take action under our amended and restated certificate of incorporation and amended and restated by-laws.

### Preferred Stock

Upon the completion of this offering, our board of directors will be authorized, without action by the stockholders, to designate and issue up to an aggregate of \_\_\_\_\_ shares of preferred stock in one or more series. Our board of directors can designate the rights, preferences and privileges of the shares of each series and any of its qualifications, limitations or restrictions. Our board of directors may authorize the issuance of preferred stock with voting or conversion rights that could adversely affect the voting power or other rights of the holders of common stock. The issuance of preferred stock, while providing flexibility in connection with possible future financings and acquisitions and other corporate purposes could, under certain circumstances, have the effect of restricting dividends on our common stock, diluting the voting power of our common stock, impairing the liquidation rights of our common stock, or delaying, deferring or preventing a change in control of our company, which might harm the

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market price of our common stock. See also “Antitakeover Effects of Delaware Law and Provisions of our Amended and Restated Certificate of Incorporation and Amended and Restated By-laws—Provisions of our amended and restated certificate of incorporation and amended and restated by-laws—Undesignated preferred stock” below.

Our board of directors will make any determination to issue such shares based on its judgment as to our company's best interests and the best interests of our stockholders. Upon the completion of this offering, we will have no shares of preferred stock outstanding and we have no current plans to issue any shares of preferred stock following completion of this offering.

### **Registration Rights**

Upon the completion of this offering, the holders of 56,723,904 shares of our common stock, including shares issuable upon the conversion of our convertible preferred stock or their permitted transferees, are entitled to rights with respect to the registration of these securities under the Securities Act. These rights are provided under the terms of the investor rights agreement. The investor rights agreement includes demand registration rights, short-form registration rights and piggyback registration rights. All fees, costs and expenses of underwritten registrations under the investor rights agreement will be borne by us and all selling expenses, including underwriting discounts and selling commissions, will be borne by the holders of the shares being registered.

#### ***Demand registration rights***

Upon the completion of this offering, the holders of 56,723,904 shares of our common stock, including shares issuable upon the conversion of our convertible preferred stock or their permitted transferees, are entitled to demand registration rights. Under the terms of the investor rights agreement, we will be required, upon the written request of holders of 25% of these securities, to file a registration statement and use commercially reasonable efforts to effect the registration of all or a portion of these shares for public resale. We are required to effect only two registrations pursuant to this provision of the investor rights agreement. A demand for registration may not be made until 180 days after the completion of this offering.

#### ***Short form registration rights***

Upon the completion of this offering, the holders of 56,723,904 shares of our common stock, including shares issuable upon the conversion of our convertible preferred stock or their permitted transferees, are also entitled to short form registration rights. Pursuant to the investor rights agreement, if we are eligible to file a registration statement on Form S-3, upon the request of 15% of these holders to sell registrable securities at an aggregate price of at least \$0.1 million, we will be required to use our commercially reasonable efforts to effect a registration of such shares. We are required to effect only two registrations in any twelve month period pursuant to this provision of the investor rights agreement.

#### ***Piggyback registration rights***

The holders of 56,723,904 shares of our common stock, including shares issuable upon the conversion of our convertible preferred stock or their permitted transferees, are entitled to piggyback registration rights. If we register any of our securities either for our own account or for the account of other security holders, the holders of these shares are entitled to include their shares in the registration. Subject to certain exceptions contained in the investor rights agreement, we and the underwriters may limit the number of shares included in the underwritten offering if the underwriters determine in good faith that marketing factors require a limitation of the number of shares to be underwritten.

### ***Indemnification***

Our investor rights agreement contains customary cross-indemnification provisions, under which we are obligated to indemnify holders of registrable securities in the event of material misstatements or omissions in the registration statement attributable to us, and they are obligated to indemnify us for material misstatements or omissions attributable to them.

### ***Expiration of registration rights***

The registration rights granted under the investor rights agreement will terminate upon the earlier of (i) a deemed liquidation event, as defined in our amended and restated certificate of incorporation, (ii) at such time when all registrable securities could be sold without restriction under Rule 144 of the Securities Act or (iii) the fifth anniversary of our initial public offering.

### **Antitakeover Effects of Delaware Law and Provisions of Our Amended and Restated Certificate of Incorporation and Amended and Restated By-Laws**

Certain provisions of the Delaware General Corporation Law and of our amended and restated certificate of incorporation and amended and restated by-laws that will become effective upon the completion of this offering could have the effect of delaying, deferring or discouraging another party from acquiring control of us. These provisions, which are summarized below, are expected to discourage certain types of coercive takeover practices and inadequate takeover bids and, as a consequence, they might also inhibit temporary fluctuations in the market price of our common stock that often result from actual or rumored hostile takeover attempts. These provisions are also designed in part to encourage anyone seeking to acquire control of us to first negotiate with our board of directors. These provisions might also have the effect of preventing changes in our management. It is possible that these provisions could make it more difficult to accomplish transactions that stockholders might otherwise deem to be in their best interests. However, we believe that the advantages gained by protecting our ability to negotiate with any unsolicited and potentially unfriendly acquirer outweigh the disadvantages of discouraging such proposals, including those priced above the then-current market value of our common stock, because, among other reasons, the negotiation of such proposals could improve their terms.

### ***Delaware takeover statute***

Upon completion of this offering, we will be subject to the provisions of Section 203 of the Delaware General Corporation Law. In general, Section 203 prohibits a publicly held Delaware corporation from engaging in a "business combination" with an "interested stockholder" for a three-year period following the time that this stockholder becomes an interested stockholder, unless the business combination is approved in a prescribed manner. Under Section 203, a business combination between a corporation and an interested stockholder is prohibited unless it satisfies one of the following conditions:

- before the stockholder became interested, our board of directors approved either the business combination or the transaction which resulted in the stockholder becoming an interested stockholder;
- upon consummation of the transaction which resulted in the stockholder becoming an interested stockholder, the interested stockholder owned at least 85% of the voting stock of the corporation outstanding at the time the transaction commenced, excluding for purposes of determining the voting stock outstanding, shares owned by persons who are directors and also officers, and employee stock plans, in some instances, but not the outstanding voting stock owned by the interested stockholder; or



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• at or after the time the stockholder became interested, the business combination was approved by our board of directors and authorized at an annual or special meeting of the stockholders by the affirmative vote of at least two-thirds of the outstanding voting stock which is not owned by the interested stockholder.

Section 203 defines a business combination to include:

- any merger or consolidation involving the corporation and the interested stockholder;
- any sale, transfer, lease, pledge, exchange, mortgage or other disposition involving the interested stockholder of 10% or more of the assets of the corporation;
- subject to exceptions, any transaction that results in the issuance or transfer by the corporation of any stock of the corporation to the interested stockholder;
- subject to exceptions, any transaction involving the corporation that has the effect of increasing the proportionate share of the stock of any class or series of the corporation beneficially owned by the interested stockholder; or
- the receipt by the interested stockholder of the benefit of any loans, advances, guarantees, pledges or other financial benefits provided by or through the corporation.

In general, Section 203 defines an interested stockholder as any entity or person beneficially owning 15% or more of the outstanding voting stock of the corporation and any entity or person affiliated with or controlling or controlled by the entity or person.

### ***Provisions of our amended and restated certificate of incorporation and amended and restated by-laws***

Our amended and restated certificate of incorporation and amended and restated by-laws to be in effect upon completion of this offering will include a number of provisions that may have the effect of delaying, deferring or discouraging another party from acquiring control of us and encouraging persons considering unsolicited tender offers or other unilateral takeover proposals to negotiate with our board of directors rather than pursue non-negotiated takeover attempts. These provisions include the items described below.

***Board composition and filling vacancies.*** In accordance with our amended and restated certificate of incorporation, our board is divided into three classes serving staggered three-year terms, with one class being elected each year. Our amended and restated certificate of incorporation also provides that directors may be removed only for cause and then only by the affirmative vote of the holders of 75% or more of the shares then entitled to vote at an election of directors. Furthermore, any vacancy on our board of directors, however occurring, including a vacancy resulting from an increase in the size of our board, may only be filled by the affirmative vote of a majority of our directors then in office even if less than a quorum.

***No written consent of stockholders.*** Our amended and restated certificate of incorporation provides that all stockholder actions are required to be taken by a vote of the stockholders at an annual or special meeting, and that stockholders may not take any action by written consent in lieu of a meeting. This limit may lengthen the amount of time required to take stockholder actions and would prevent the amendment of our by-laws or removal of directors by our stockholder without holding a meeting of stockholders.

***Meetings of stockholders.*** Our amended and restated by-laws provide that only a majority of the members of our board of directors then in office may call special meetings of stockholders and only those matters set forth in the notice of the special meeting may be considered or acted upon at a

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special meeting of stockholders. Our amended and restated by-laws limit the business that may be conducted at an annual meeting of stockholders to those matters properly brought before the meeting.

*Advance notice requirements.* Our amended and restated by-laws establish advance notice procedures with regard to stockholder proposals relating to the nomination of candidates for election as directors or new business to be brought before meetings of our stockholders. These procedures provide that notice of stockholder proposals must be timely given in writing to our corporate secretary prior to the meeting at which the action is to be taken. Generally, to be timely, notice must be received at our principal executive offices not less than 90 days or more than 120 days prior to the first anniversary date of the annual meeting for the preceding year. The notice must contain certain information specified in our amended and restated by-laws.

*Amendment to certificate of incorporation and by-laws.* As required by the Delaware General Corporation Law, any amendment of our amended and restated certificate of incorporation must first be approved by a majority of our board of directors, and if required by law or our amended and restated certificate of incorporation, must thereafter be approved by a majority of the outstanding shares entitled to vote on the amendment, and a majority of the outstanding shares of each class entitled to vote thereon as a class, except that the amendment of the provisions relating to stockholder action, directors, limitation of liability and the amendment of our amended and restated certificate of incorporation must be approved by not less than 75% of the outstanding shares entitled to vote on the amendment, and not less than 75% of the outstanding shares of each class entitled to vote thereon as a class. Our amended and restated by-laws may be amended by the affirmative vote of a majority vote of the directors then in office, subject to any limitations set forth in the amended and restated by-laws; and may also be amended by the affirmative vote of at least 75% of the outstanding shares entitled to vote on the amendment, or, if the board of directors recommends that the stockholders approve the amendment, by the affirmative vote of the majority of the outstanding shares entitled to vote on the amendment, in each case voting together as a single class.

*Undesignated preferred stock.* Our amended and restated certificate of incorporation provides for authorized shares of preferred stock. The existence of authorized but unissued shares of preferred stock may enable our board of directors to render more difficult or to discourage an attempt to obtain control of us by means of a merger, tender offer, proxy contest or otherwise. For example, if in the due exercise of its fiduciary obligations, our board of directors were to determine that a takeover proposal is not in the best interests of us or our stockholders, our board of directors could cause shares of preferred stock to be issued without stockholder approval in one or more private offerings or other transactions that might dilute the voting or other rights of the proposed acquirer or insurgent stockholder or stockholder group. In this regard, our amended and restated certificate of incorporation grants our board of directors broad power to establish the rights and preferences of authorized and unissued shares of preferred stock. The issuance of shares of preferred stock could decrease the amount of earnings and assets available for distribution to holders of shares of common stock. The issuance may also adversely affect the rights and powers, including voting rights, of these holders and may have the effect of delaying, deterring or preventing a change in control of us.

### **Transfer Agent and Registrar**

The transfer agent and registrar for our common stock is \_\_\_\_\_ . The transfer agent and registrar's address is \_\_\_\_\_ .

### **Listing**

We have applied to list our common stock on The NASDAQ Global Market under the symbol "SAGE."

## SHARES ELIGIBLE FOR FUTURE SALE

Prior to this offering, there has been no public market for our common stock. Future sales of our common stock in the public market, or the availability of such shares for sale in the public market, could adversely affect market prices prevailing from time to time. As described below, only a limited number of shares will be available for sale shortly after this offering due to contractual and legal restrictions on resale. Nevertheless, sales of our common stock in the public market after such restrictions lapse, or the perception that those sales may occur, could adversely affect the prevailing market price at such time and our ability to raise equity capital in the future.

Based on the number of shares of common stock outstanding as of March 31, 2014, upon completion of this offering, \_\_\_\_\_ shares of common stock will be outstanding, assuming no exercise of the underwriter's over-allotment option and no exercise of options. All of the shares sold in this offering will be freely tradable. The remaining shares of common stock outstanding after this offering will be restricted as a result of securities laws or lock-up agreements as described below. Following the expiration of the lock-up period, all shares will be eligible for resale in compliance with Rule 144 or Rule 701 under the Securities Act. "Restricted securities" as defined under Rule 144 of the Securities Act were issued and sold by us in reliance on exemptions from the registration requirements of the Securities Act. These shares may be sold in the public market only if registered or qualified for an exemption from registration, such as under Rule 144 or Rule 701 under the Securities Act.

### Rule 144

In general, under Rule 144 under the Securities Act, as in effect on the date of this prospectus, a person who is one of our affiliates and has beneficially owned shares of our common stock for at least six months would be entitled to sell within any three-month period a number of shares that does not exceed the greater of:

- one percent of the number of shares of common stock then outstanding, which will equal approximately \_\_\_\_\_ shares immediately after the completion of this offering; or
- the average weekly trading volume of our common stock on the NASDAQ Global Market during the four calendar weeks preceding the filing of a notice on Form 144 with respect to the sale.

Sales under Rule 144 by our affiliates or persons selling shares on behalf of our affiliates are also subject to manner of sale provisions and notice requirements and to the availability of current public information about us. For a person who has not been deemed to have been one of our affiliates at any time during the 90 days preceding a sale, sales of our securities held longer than six months, but less than one year, will be subject only to the current public information requirement.

In general, under Rule 144 under the Securities Act, as in effect on the date of this prospectus, a person who is not deemed to have been one of our affiliates at any time during the 90 days preceding a sale, and who has beneficially owned the shares proposed to be sold for at least six months, including the holding period of any prior owner other than an affiliate, is entitled to sell the shares without complying with the manner of sale, volume limitation or notice provisions of Rule 144, and will be subject only to the public information requirements of Rule 144. If such a person has beneficially owned the shares proposed to be sold for at least one year, including the holding period of any prior owner other than our affiliates, then such person is entitled to sell such shares without complying with any of the requirements of Rule 144. \_\_\_\_\_ shares of our common stock will qualify for resale under Rule 144 within 180 days of the date of this prospectus, subject to the lock-up agreements as described under "Lock-up Agreements" below and under "Underwriting" in this prospectus, and to the extent such shares have been released from any repurchase option that we may hold.

## Rule 701

Rule 701 under the Securities Act, or Rule 701, as in effect on the date of this prospectus, permits resales of shares in reliance upon Rule 144 but without compliance with certain restrictions of Rule 144, including the holding period requirement. Most of our employees, executive officers or directors who purchased shares under a written compensatory plan or contract may be entitled to rely on the resale provisions of Rule 701, but all holders of Rule 701 shares are required to wait until 90 days after the date of this prospectus before selling their shares. However, substantially all Rule 701 shares are subject to lock-up agreements as described below and under "Underwriting" included elsewhere in this prospectus and will become eligible for sale upon the expiration of the restrictions set forth in those agreements.

### Lock-up Agreements

In connection with this offering, we, each of our directors and executive officers, and holders holding shares of our outstanding stock have agreed that, subject to limited exceptions, which include:

- sales of securities acquired in open market transactions after the completion of this offering;
- transfers of securities (i) as a bona fide gift or gifts or (ii) by will or intestacy to the legal representative, heir, beneficiary or a member of the immediate family of the undersigned in a transaction not involving a disposition for value;
- if the holder is an individual, transfers of shares of our common stock or any security convertible into our common stock to any trust for the benefit of the holder or the immediate family of the undersigned, or limited partnerships the partners of which are the holder and/or the immediate family members of the holder, in each case for estate planning purposes;
- if the holder is a trust, distributions of shares of our common stock or any security convertible into our common stock to its beneficiaries in a transaction not involving a disposition for value;
- if the holder is a corporation, limited liability company, partnership or other entity, distribution of shares of our common stock or any security convertible into our common stock to members, stockholders, limited partners, subsidiaries or affiliates (as defined in Rule 405 promulgated under the Securities Act of 1933, as amended) of the holder or to any investment fund or other entity that controls or manages the holder in a transaction not involving a disposition for value;
- the receipt by the holder of shares of our common stock in connection with the conversion of our outstanding preferred stock into shares of our common stock;
- transfers to us pursuant to agreements under which we have the option to repurchase such shares or securities upon termination of service of the holder;
- the receipt by the holder from us of shares of our common stock upon the exercise of options; and
- the establishment of a trading plan that satisfies the requirements of Rule 10b5-1 under the Exchange Act for the transfer of shares of our common stock;

without the prior written consent of J.P. Morgan Securities LLC and Goldman, Sachs & Co. on behalf of the underwriters, we and they will not, during the period ending 180 days after the date of this prospectus, (1) offer, pledge, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase, lend, or otherwise transfer or dispose of, directly or indirectly, any shares of our common stock or any securities convertible into, or exercisable or exchangeable for, our common stock (including, without limitation, common stock or such other securities which may be deemed to be beneficially owned by such directors, executive officers, managers and members in accordance with the rules and regulations of the SEC and

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securities which may be issued upon exercise of a stock option or warrant) or publicly disclose the intention to make any offer, sale, pledge or disposition, (2) enter into any swap or other arrangement that transfers, in whole or in part, any of the economic consequences of ownership of our common stock or such other securities, whether any such transaction is to be settled by delivery of our common stock or such other securities, in cash or otherwise or (3) make any demand for or exercise any right with respect to the registration of any shares of our common stock or any security convertible into or exercisable or exchangeable for our common stock.

### **Registration Rights**

We are party to an investor rights agreement which provides that holders holding 56,723,904 of the shares of our convertible preferred stock have the right to demand that we file a registration statement or request that their shares of our common stock be covered by a registration statement that we are otherwise filing. See “Description of Capital Stock—Registration Rights” in this prospectus. Except for shares purchased by affiliates, registration of their shares under the Securities Act would result in these shares becoming freely tradable without restriction under the Securities Act immediately upon effectiveness of the registration, subject to the expiration of the lock-up period described above and under “Underwriting” in this prospectus, and to the extent such shares have been released from any repurchase option that we may hold.

### **Stock Option Plans**

As soon as practicable after the completion of this offering, we intend to file a Form S-8 registration statement under the Securities Act to register shares of our common stock subject to options outstanding or reserved for issuance under our stock plans. This registration statement will become effective immediately upon filing, and shares covered by this registration statement will thereupon be eligible for sale in the public markets, subject to Rule 144 limitations applicable to affiliates and any lock-up agreements. For a more complete discussion of our stock plans, see “Executive and Director Compensation—Stock Option Plans.”

## MATERIAL U.S. FEDERAL INCOME AND ESTATE TAX CONSIDERATIONS TO NON-U.S. HOLDERS

The following is a general discussion of material U.S. federal income and estate tax considerations relating to ownership and disposition of our common stock by a non-U.S. holder. For purposes of this discussion, the term “non-U.S. holder” means a beneficial owner of our common stock that is not, for U.S. federal income tax purposes:

- an individual who is a citizen or resident of the United States;
- a corporation, or other entity treated as a corporation for U.S. federal income tax purposes, created or organized in or under the laws of the United States or of any political subdivision of the United States;
- an estate the income of which is subject to U.S. federal income taxation regardless of its source; or
- a trust, if a U.S. court is able to exercise primary supervision over the administration of the trust and one or more U.S. persons (as defined in the Code) have authority to control all substantial decisions of the trust or if the trust has a valid election in effect to be treated as a U.S. person under applicable U.S. Treasury Regulations.

A modified definition of “non-U.S. holder” applies for U.S. federal estate tax purposes (as discussed below).

This discussion is based on current provisions of the Code, existing and proposed U.S. Treasury Regulations promulgated thereunder, current administrative rulings and judicial decisions, all as in effect as of the date of this prospectus and all of which are subject to change or to differing interpretation, possibly with retroactive effect. Any change could alter the tax consequences to non-U.S. holders described in this prospectus. In addition, the Internal Revenue Service, or the IRS, could challenge one or more of the tax consequences described in this prospectus.

We assume in this discussion that each non-U.S. holder holds shares of our common stock as a capital asset (generally, property held for investment) within the meaning of Section 1221 of the Code. This discussion does not address all aspects of U.S. federal income and estate taxation that may be relevant to a particular non-U.S. holder in light of that non-U.S. holder’s individual circumstances nor does it address any aspects of state, local or non-U.S. taxes, or U.S. federal taxes other than income and estate taxes. This discussion also does not consider any specific facts or circumstances that may apply to a non-U.S. holder and does not address the special tax rules applicable to particular non-U.S. holders, such as:

- insurance companies;
- tax-exempt organizations;
- financial institutions;
- brokers or dealers in securities;
- regulated investment companies;
- pension plans;
- controlled foreign corporations;
- passive foreign investment companies;
- owners that hold our common stock as part of a straddle, hedge, conversion transaction, synthetic security or other integrated investment;

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- certain U.S. expatriates;
- persons who have elected to mark securities to market;
- persons subject to the unearned income Medicare contribution tax;
- persons subject to the alternative minimum tax; or
- persons that acquire our common stock as compensation for services.

In addition, this discussion does not address the tax treatment of partnerships (including any entity or arrangement treated as a partnership for U.S. federal income tax purposes) or other entities that are transparent for U.S. federal income tax purposes or persons who hold their common stock through partnerships or other entities that are transparent for U.S. federal income tax purposes. In the case of a holder that is classified as a partnership for U.S. federal income tax purposes, the tax treatment of a person treated as a partner in such partnership for U.S. federal income tax purposes generally will depend on the status of the partner and the activities of the partner and the partnership. A person treated as a partner in a partnership or who holds their stock through another transparent entity should consult his, her or its own tax advisor regarding the tax consequences of the ownership and disposition of our common stock through a partnership or other transparent entity, as applicable.

Prospective investors should consult their own tax advisors regarding the U.S. federal, state, local and non-U.S. income and other tax considerations of acquiring, holding and disposing of our common stock.

### **Distributions on Our Common Stock**

We do not currently expect to pay dividends. See “Dividend Policy” above in this prospectus. However, in the event that we do pay distributions of cash or property on our common stock (or in the case of certain redemptions that are treated as distributions with respect to our common stock), those distributions generally will constitute dividends for U.S. federal income tax purposes to the extent paid from our current or accumulated earnings and profits, as determined under U.S. federal income tax principles. If a distribution exceeds our current and accumulated earnings and profits, the excess will be treated as a tax-free return of the non-U.S. holder’s investment, up to such holder’s tax basis in the common stock. Any remaining excess will be treated as capital gain, subject to the tax treatment described below under the heading “Gain on Sale, Exchange or Other Taxable Disposition of Common Stock.”

Subject also to the discussions below under the headings “Information Reporting and Backup Withholding Tax” and “Foreign Account Tax Compliance Act,” dividends paid to a non-U.S. holder generally will be subject to withholding of U.S. federal income tax at a 30% rate or such lower rate as may be specified by an applicable income tax treaty between the United States and such holder’s country of residence. If we determine, at a time reasonably close to the date of payment of a distribution on our common stock, that the distribution will not constitute a dividend because we do not anticipate having current or accumulated earnings and profits, we intend not to withhold any U.S. federal income tax on the distribution as permitted by U.S. Treasury Regulations. If we or another withholding agent apply over-withholding, a non-U.S. holder may be entitled to a refund or credit of any excess tax withheld by timely filing an appropriate claim with the IRS.

Dividends that are treated as effectively connected with a trade or business conducted by a non-U.S. holder within the United States, and, if an applicable income tax treaty so provides, that are attributable to a permanent establishment or a fixed base maintained by the non-U.S. holder within the United States, are generally exempt from the 30% withholding tax if the non-U.S. holder satisfies applicable certification and disclosure requirements. To obtain this exemption, a non-U.S. holder must

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generally provide us with a properly executed original and unexpired IRS Form W-8ECI properly certifying such exemption. However, such U.S. effectively connected income, net of specified deductions and credits, is taxed at the same graduated U.S. federal income tax rates applicable to U.S. persons (as defined in the Code). Any U.S. effectively connected income received by a non-U.S. holder that is a corporation may also, under certain circumstances, be subject to an additional “branch profits tax” at a 30% rate or such lower rate as may be specified by an applicable income tax treaty between the United States and such holder’s country of residence.

A non-U.S. holder of our common stock who claims the benefit of an applicable income tax treaty between the United States and such holder’s country of residence generally will be required to provide a properly executed IRS Form W-8BEN (or successor form) and satisfy applicable certification and other requirements. Non-U.S. holders are urged to consult their own tax advisors regarding their entitlement to benefits under a relevant income tax treaty.

A non-U.S. holder that is eligible for a reduced rate of U.S. withholding tax under an income tax treaty may obtain a refund or credit of any excess amounts withheld by timely filing an appropriate claim with the IRS.

Any documentation provided to an applicable withholding agent may need to be updated in certain circumstances. The certification requirements described above also may require a non-U.S. holder to provide its U.S. taxpayer identification number.

### **Gain on Sale, Exchange or Other Taxable Disposition of Common Stock**

Subject to the discussions below under the headings “Information Reporting and Backup Withholding Tax” and “Foreign Account Tax Compliance Act,” a non-U.S. holder generally will not be subject to U.S. federal income tax or withholding tax on gain recognized on a sale, exchange or other taxable disposition of our common stock (other than a redemption that is treated as a distribution for U.S. federal income tax purposes and taxed as described above) unless:

- the gain is effectively connected with the non-U.S. holder’s conduct of a trade or business in the United States, and, if an applicable income tax treaty so provides, the gain is attributable to a permanent establishment or fixed base maintained by the non-U.S. holder in the United States; in these cases, the non-U.S. holder will be taxed on a net income basis at the regular graduated rates and in the manner applicable to U.S. persons, and, if the non-U.S. holder is a foreign corporation, an additional branch profits tax at a rate of 30%, or a lower rate as may be specified by an applicable income tax treaty, may also apply;
- the non-U.S. holder is an individual present in the United States for 183 days or more in the taxable year of the disposition and certain other conditions are met, in which case the non-U.S. holder will be subject to a 30% tax (or such lower rate as may be specified by an applicable income tax treaty) on the amount by which the non-U.S. holder’s capital gains allocable to U.S. sources exceed capital losses allocable to U.S. sources during the taxable year of the disposition; or
- we are or were a “U.S. real property holding corporation” during a certain look-back period, unless our common stock is regularly traded on an established securities market and the non-U.S. holder held no more than five percent of our outstanding common stock, directly or indirectly, during the shorter of the five-year period ending on the date of the disposition or the period that the non-U.S. holder held our common stock. Generally, a corporation is a “U.S. real property holding corporation” if the fair market value of its “U.S. real property interests” equals or exceeds 50% of the sum of the fair market value of its worldwide real property interests plus



its other assets used or held for use in a trade or business. Although there can be no assurance, we believe that we have not been and are not currently, and we do not anticipate becoming, a “U.S. real property holding corporation” for U.S. federal income tax purposes.

If these exceptions do not apply, gain on the disposition of shares of our common stock will generally be taxed in the same manner as gain that is effectively connected with the conduct of a U.S. trade or business, except that the branch profits tax will not apply.

### **Information Reporting and Backup Withholding Tax**

We must report annually to the IRS and to each non-U.S. holder the gross amount of the distributions on our common stock paid to such holder and the tax withheld, if any, with respect to such distributions. Non-U.S. holders may have to comply with specific certification procedures to establish that the holder is not a U.S. person (as defined in the Code) in order to avoid backup withholding at the applicable rate with respect to dividends on our common stock. Generally, a holder will comply with such procedures if it provides a properly executed IRS Form W-8BEN or otherwise meets documentary evidence requirements for establishing that it is a non-U.S. holder, or otherwise establishes an exemption.

Information reporting and backup withholding generally will apply to the proceeds of a disposition of our common stock by a non-U.S. holder effected by or through the U.S. office of any broker, U.S. or foreign, unless the holder certifies its status as a non-U.S. holder and satisfies certain other requirements, or otherwise establishes an exemption. Generally, information reporting and backup withholding will not apply to a payment of disposition proceeds to a non-U.S. holder where the transaction is effected outside the United States through a non-U.S. office of a broker. However, for information reporting purposes, dispositions effected through a non-U.S. office of a broker with substantial U.S. ownership or operations generally will be treated in a manner similar to dispositions effected through a U.S. office of a broker. Non-U.S. holders should consult their own tax advisors regarding the application of the information reporting and backup withholding rules to them.

Copies of information returns may be made available to the tax authorities of the country in which the non-U.S. holder resides or is incorporated under the provisions of a specific treaty or agreement. Any documentation provided to an applicable withholding agent may need to be updated in certain circumstances.

Backup withholding is not an additional tax. Any amounts withheld under the backup withholding rules from a payment to a non-U.S. holder can be refunded or credited against the non-U.S. holder’s U.S. federal income tax liability, if any, provided that an appropriate claim is timely filed with the IRS.

### **Foreign Account Tax Compliance Act**

Legislation commonly referred to as the Foreign Account Tax Compliance Act and associated guidance, or collectively, FATCA, will generally impose a 30% withholding tax on any “withholdable payment” (as defined below) to a “foreign financial institution,” unless such institution enters into an agreement with the U.S. government to collect and provide to the U.S. tax authorities substantial information regarding U.S. account holders of such institution (which would include certain equity and debt holders of such institution, as well as certain account holders that are foreign entities with United States owners) or another applicable exception applies or such institution is compliant with applicable foreign law enacted in connection with an applicable intergovernmental agreement between the United States and a foreign jurisdiction. FATCA will also generally impose a 30% withholding tax on any “withholdable payment” (as defined below) to a foreign entity that is not a financial institution, unless such entity provides the withholding agent with a certification identifying the substantial U.S. owners of

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the entity (which generally includes any U.S. person who directly or indirectly owns more than 10% of the entity), if any, or another applicable exception applies or such entity is compliant with applicable foreign law enacted in connection with an applicable intergovernmental agreement between the United States and a foreign jurisdiction. Under certain circumstances, a non-U.S. holder might be eligible for refunds or credits of such taxes.

Under final regulations and other current guidance, “withholdable payments” will generally include dividends on our common stock paid on or after July 1, 2014 and the gross proceeds of a disposition of our common stock paid on or after January 1, 2017. The FATCA withholding tax will apply regardless of whether a payment would otherwise be exempt from or not subject to U.S. nonresident withholding tax (e.g., under the portfolio interest exemption or as capital gain). The IRS is authorized to provide, and has begun the process of providing, rules for coordinating the FATCA withholding regime with the existing nonresident withholding tax rules.

### **Federal Estate Tax**

Common stock owned or treated as owned by an individual who is a non-U.S. holder (as specially defined for U.S. federal estate tax purposes) at the time of death will be included in the individual's gross estate for U.S. federal estate tax purposes and, therefore, may be subject to U.S. federal estate tax, unless an applicable estate tax or other treaty provides otherwise.

**The preceding discussion of material U.S. federal tax considerations is for general information only. It is not tax advice. Prospective investors should consult their own tax advisors regarding the particular U.S. federal, state, local and non-U.S. tax consequences of purchasing, holding and disposing of our common stock, including the consequences of any proposed changes in applicable laws.**

## UNDERWRITING

We are offering the shares of common stock described in this prospectus through a number of underwriters. J.P. Morgan Securities LLC and Goldman, Sachs & Co. are acting as joint book-running managers of the offering and as representatives of the underwriters. We have entered into an underwriting agreement with the underwriters. Subject to the terms and conditions of the underwriting agreement, we have agreed to sell to the underwriters, and each underwriter has severally agreed to purchase, at the public offering price less the underwriting discounts and commissions set forth on the cover page of this prospectus, the number of shares of common stock listed next to its name in the following table:

<u>Name</u>	<u>Number of Shares</u>
J.P. Morgan Securities LLC	
Goldman, Sachs & Co.	
Leerink Partners LLC	
Canaccord Genuity Inc.	
<b>Total</b>	

The underwriters are committed to purchase all the common shares offered by us if they purchase any shares. The underwriting agreement also provides that if an underwriter defaults, the purchase commitments of non-defaulting underwriters may also be increased or the offering may be terminated.

The underwriters propose to offer the common shares directly to the public at the initial public offering price set forth on the cover page of this prospectus and to certain dealers at that price less a concession not in excess of \$        per share. Any such dealers may resell shares to certain other brokers or dealers at a discount of up to \$        per share from the initial public offering price. After the initial public offering of the shares, the offering price and other selling terms may be changed by the underwriters. Sales of shares made outside of the United States may be made by affiliates of the underwriters.

The underwriters have an option to buy up to additional shares of common stock from us to cover sales of shares by the underwriters which exceed the number of shares specified in the table above. The underwriters have 30 days from the date of this prospectus to exercise this over-allotment option. If any shares are purchased with this over-allotment option, the underwriters will purchase shares in approximately the same proportion as shown in the table above. If any additional shares of common stock are purchased, the underwriters will offer the additional shares on the same terms as those on which the shares are being offered.

The underwriting fee is equal to the public offering price per share of common stock less the amount paid by the underwriters to us per share of common stock. The underwriting fee is \$        per share. The following table shows the per share and total underwriting discounts and commissions to be paid to the underwriters assuming both no exercise and full exercise of the underwriters' option to purchase additional shares.

	<u>Without Over-Allotment Exercise</u>	<u>With Full Over-Allotment Exercise</u>
Per Share	\$	\$
Total	\$	\$

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We estimate that the total expenses of this offering, including registration, filing and listing fees, printing fees and legal and accounting expenses, but excluding the underwriting discounts and commissions, will be approximately \$ . We have agreed to reimburse the underwriters for expenses relating to clearance of this offering with the Financial Industry Regulatory Authority.

A prospectus in electronic format may be made available on the web sites maintained by one or more underwriters, or selling group members, if any, participating in the offering. The underwriters may agree to allocate a number of shares to underwriters and selling group members for sale to their online brokerage account holders. Internet distributions will be allocated by the representatives to underwriters and selling group members that may make Internet distributions on the same basis as other allocations.

We have agreed that we will not (i) offer, pledge, announce the intention to sell, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase or otherwise dispose of, directly or indirectly, or file with the SEC a registration statement under the Securities Act relating to, any shares of our common stock or securities convertible into or exchangeable or exercisable for any shares of our common stock, or publicly disclose the intention to make any offer, sale, pledge, disposition or filing, or (ii) enter into any swap or other arrangement that transfers all or a portion of the economic consequences associated with ownership of any shares of common stock or any such other securities (regardless of whether any of these transactions are to be settled by the delivery of shares of common stock or such other securities, in cash or otherwise), in each case without the prior written consent of J.P. Morgan Securities LLC and Goldman, Sachs & Co. for a period of 180 days after the date of this prospectus, other than the shares of our common stock to be sold hereunder and any shares of our common stock issued upon the exercise of options granted under our existing stock-based compensation plans.

Our directors and executive officers, and certain of our significant shareholders have entered into lock-up agreements with the underwriters prior to the commencement of this offering pursuant to which each of these persons or entities, with limited exceptions, for a period of 180 days after the date of this prospectus, may not, without the prior written consent of J.P. Morgan Securities LLC and Goldman, Sachs & Co., (1) offer, pledge, announce the intention to sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase, lend or otherwise transfer or dispose of, directly or indirectly, any shares of our common stock or any securities convertible into, or exercisable or exchangeable for, our common stock (including, without limitation, common stock or such other securities which may be deemed to be beneficially owned by such directors, executive officers, managers and members in accordance with the rules and regulations of the SEC and securities which may be issued upon exercise of a stock option or warrant) or (2) enter into any swap or other agreement that transfers, in whole or in part, any of the economic consequences of ownership of the common stock or such other securities, whether any such transaction described in clause (1) or (2) above is to be settled by delivery of common stock or such other securities, in cash or otherwise, or (3) make any demand for or exercise any right with respect to the registration of any shares of our common stock or any security convertible into or exercisable or exchangeable for our common stock. We have agreed to indemnify the underwriters against certain liabilities, including liabilities under the Securities Act.

We have applied to have our common stock approved for listing on The NASDAQ Global Market under the symbol "SAGE".

In connection with this offering, the underwriters may engage in stabilizing transactions, which involves making bids for, purchasing and selling shares of common stock in the open market for the purpose of preventing or retarding a decline in the market price of the common stock while this offering is in progress. These stabilizing transactions may include making short sales of the common stock,

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which involves the sale by the underwriters of a greater number of shares of common stock than they are required to purchase in this offering, and purchasing shares of common stock on the open market to cover positions created by short sales. Short sales may be “covered” shorts, which are short positions in an amount not greater than the underwriters’ over-allotment option referred to above, or may be “naked” shorts, which are short positions in excess of that amount. The underwriters may close out any covered short position either by exercising their over-allotment option, in whole or in part, or by purchasing shares in the open market. In making this determination, the underwriters will consider, among other things, the price of shares available for purchase in the open market compared to the price at which the underwriters may purchase shares through the over-allotment option. A naked short position is more likely to be created if the underwriters are concerned that there may be downward pressure on the price of the common stock in the open market that could adversely affect investors who purchase in this offering. To the extent that the underwriters create a naked short position, they will purchase shares in the open market to cover the position.

The underwriters have advised us that, pursuant to Regulation M of the Securities Act, they may also engage in other activities that stabilize, maintain or otherwise affect the price of the common stock, including the imposition of penalty bids. This means that if the representatives of the underwriters purchase common stock in the open market in stabilizing transactions or to cover short sales, the representatives can require the underwriters that sold those shares as part of this offering to repay the underwriting discount received by them.

These activities may have the effect of raising or maintaining the market price of the common stock or preventing or retarding a decline in the market price of the common stock, and, as a result, the price of the common stock may be higher than the price that otherwise might exist in the open market. If the underwriters commence these activities, they may discontinue them at any time. The underwriters may carry out these transactions on The NASDAQ Stock Market, in the over-the-counter market or otherwise.

Prior to this offering, there has been no public market for our common stock. The initial public offering price will be determined by negotiations between us and the representatives of the underwriters. In determining the initial public offering price, we and the representatives of the underwriters expect to consider a number of factors including:

- the information set forth in this prospectus and otherwise available to the representatives;
- our prospects and the history and prospects for the industry in which we compete;
- an assessment of our management;
- our prospects for future earnings;
- the general condition of the securities markets at the time of this offering;
- the recent market prices of, and demand for, publicly traded common stock of generally comparable companies; and
- other factors deemed relevant by the underwriters and us.

Neither we nor the underwriters can assure investors that an active trading market will develop for our common shares, or that the shares will trade in the public market at or above the initial public offering price.

Other than in the United States, no action has been taken by us or the underwriters that would permit a public offering of the securities offered by this prospectus in any jurisdiction where action for that purpose is required. The securities offered by this prospectus may not be offered or sold, directly or indirectly, nor may this prospectus or any other offering material or advertisements in connection with the offer and sale of any such securities be distributed or published in any jurisdiction, except

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under circumstances that will result in compliance with the applicable rules and regulations of that jurisdiction. Persons into whose possession this prospectus comes are advised to inform themselves about and to observe any restrictions relating to the offering and the distribution of this prospectus. This prospectus does not constitute an offer to sell or a solicitation of an offer to buy any securities offered by this prospectus in any jurisdiction in which such an offer or a solicitation is unlawful.

This document is only being distributed to and is only directed at (i) persons who are outside the United Kingdom or (ii) investment professionals falling within Article 19(5) of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005 (the "Order") or (iii) high net worth entities, and other persons to whom it may lawfully be communicated, falling within Article 49(2)(a) to (d) of the Order (all such persons together being referred to as "relevant persons"). The securities are only available to, and any invitation, offer or agreement to subscribe, purchase or otherwise acquire such securities will be engaged in only with, relevant persons. Any person who is not a relevant person should not act or rely on this document or any of its contents.

In relation to each Member State of the European Economic Area which has implemented the Prospectus Directive (each, a "Relevant Member State"), from and including the date on which the European Union Prospectus Directive (the "EU Prospectus Directive") was implemented in that Relevant Member State (the "Relevant Implementation Date") an offer of securities described in this prospectus may not be made to the public in that Relevant Member State prior to the publication of a prospectus in relation to the shares which has been approved by the competent authority in that Relevant Member State or, where appropriate, approved in another Relevant Member State and notified to the competent authority in that Relevant Member State, all in accordance with the EU Prospectus Directive, except that, with effect from and including the Relevant Implementation Date, an offer of securities described in this prospectus may be made to the public in that Relevant Member State at any time:

- to any legal entity which is a qualified investor as defined under the EU Prospectus Directive;
- to fewer than 100 or, if the Relevant Member State has implemented the relevant provision of the 2010 PD Amending Directive, 150 natural or legal persons (other than qualified investors as defined in the EU Prospectus Directive); or

in any other circumstances falling within Article 3(2) of the EU Prospectus Directive, provided that no such offer of securities described in this prospectus shall result in a requirement for the publication by us of a prospectus pursuant to Article 3 of the EU Prospectus Directive.

For the purposes of this provision, the expression an "offer of securities to the public" in relation to any securities in any Relevant Member State means the communication in any form and by any means of sufficient information on the terms of the offer and the securities to be offered so as to enable an investor to decide to purchase or subscribe for the securities, as the same may be varied in that Member State by any measure implementing the EU Prospectus Directive in that Member State. The expression "EU Prospectus Directive" means Directive 2003/71/EC (and any amendments thereto, including the 2010 PD Amending Directive, to the extent implemented in the Relevant Member State) and includes any relevant implementing measure in each Relevant Member State, and the expression "2010 PD Amending Directive" means Directive 2010/73/EU.

Certain of the underwriters and their affiliates have provided in the past to us and our affiliates and may provide from time to time in the future certain commercial banking, financial advisory, investment banking and other services for us and such affiliates in the ordinary course of their business, for which they have received and may continue to receive customary fees and commissions. In addition, from time to time, certain of the underwriters and their affiliates may effect transactions for their own account or the account of customers, and hold on behalf of themselves or their customers, long or short positions in our debt or equity securities or loans, and may do so in the future.

## LEGAL MATTERS

The validity of the common stock offered hereby will be passed upon for us by Goodwin Procter LLP, Boston, Massachusetts and for the underwriters by Ropes & Gray LLP, Boston, Massachusetts.

## EXPERTS

The financial statements as of December 31, 2013 and 2012 and for each of the two years in the period ended December 31, 2013 and, cumulatively, for the period from April 16, 2010 (date of inception) to December 31, 2013 included in this prospectus have been so included in reliance on the report of PricewaterhouseCoopers LLP, an independent registered public accounting firm, given on the authority of said firm as experts in auditing and accounting.

## WHERE YOU CAN FIND MORE INFORMATION

We have filed with the SEC a registration statement on Form S-1 under the Securities Act that registers the shares of our common stock to be sold in this offering. This prospectus does not contain all of the information set forth in the registration statement and the exhibits and schedules filed as part of the registration statement. For further information with respect to us and our common stock, we refer you to the registration statement and the exhibits and schedules filed as a part of the registration statement. Statements contained in this prospectus concerning the contents of any contract or any other document are not necessarily complete. If a contract or document has been filed as an exhibit to the registration statement, we refer you to the copy of the contract or document that has been filed. Each statement in this prospectus relating to a contract or document filed as an exhibit is qualified in all respects by the filed exhibit. The reports and other information we file with the SEC can be read and copied at the SEC's Public Reference Room at 100 F Street, NE, Washington D.C. 20549. Copies of these materials can be obtained at prescribed rates from the Public Reference Section of the SEC at the principal offices of the SEC, 100 F Street, NE, Washington D.C. 20549. You may obtain information regarding the operation of the public reference room by calling 1(800) SEC-0330. The SEC also maintains a web site (<http://www.sec.gov>) that contains reports, proxy and information statements and other information regarding issuers like us that file electronically with the SEC.

Upon completion of this offering, we will become subject to the reporting and information requirements of the Exchange Act and, as a result, will file periodic reports, proxy statements and other information with the SEC. These periodic reports, proxy statements and other information will be available for inspection and copying at the SEC's public reference room and the web site of the SEC referred to above.

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**REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

To the Board of Directors and Stockholders of  
Sage Therapeutics, Inc.:

In our opinion, the accompanying balance sheets and the related statements of operations and comprehensive loss, of changes in redeemable convertible preferred stock and stockholders' deficit and of cash flows present fairly, in all material respects, the financial position of Sage Therapeutics, Inc. (a development stage company) at December 31, 2013 and 2012 and the results of its operations and its cash flows for the years then ended and, cumulatively, for the period from April 16, 2010 (date of inception) to December 31, 2013 in conformity with accounting principles generally accepted in the United States of America. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits of these statements in accordance with the standards of the Public Company Accounting Oversight Board (United States), which require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

/s/ PricewaterhouseCoopers LLP

Boston, Massachusetts  
March 28, 2014

**SAGE THERAPEUTICS, INC.**  
**(A Development Stage Enterprise)**

**Balance Sheets**

(In thousands, except share and per share data)

	<u>December 31,</u>		<u>March 31,</u>	<u>Pro Forma</u>
	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>March 31,</u>
			(unaudited)	2014
				(unaudited)
<b>Assets</b>				
<b>Current assets:</b>				
Cash and cash equivalents	\$ 2,802	\$ 8,066	\$ 55,425	\$ 55,425
Prepaid expenses and other current assets	24	341	1,235	1,235
Total current assets	2,826	8,407	56,660	56,660
Property and equipment, net	130	86	78	78
Restricted cash	39	39	39	39
<b>Total assets</b>	<b><u>\$ 2,995</u></b>	<b><u>\$ 8,532</u></b>	<b><u>\$ 56,777</u></b>	<b><u>\$ 56,777</u></b>
<b>Liabilities, Redeemable Convertible Preferred Stock and Stockholders' Equity (Deficit)</b>				
<b>Current liabilities:</b>				
Accounts payable	\$ 1,314	\$ 1,988	\$ 1,626	\$ 1,626
Accrued expenses	105	327	1,462	1,462
Total current liabilities	1,419	2,315	3,088	3,088
<b>Other liabilities:</b>	<b>—</b>	<b>44</b>	<b>36</b>	<b>36</b>
<b>Total liabilities</b>	<b><u>1,419</u></b>	<b><u>2,359</u></b>	<b><u>3,124</u></b>	<b><u>3,124</u></b>
<b>Commitments and contingencies (Note 4)</b>				
Redeemable convertible preferred stock (Series A, B and C), \$0.0001 par value; 35,000,000, 37,750,000 and 56,723,905 shares authorized as of December 31, 2012 and 2013 and March 31, 2014 (unaudited), respectively; 15,000,000, 37,750,000 and 56,723,904 shares issued and outstanding at December 31, 2012 and 2013 and March 31, 2014 (unaudited), respectively; aggregate liquidation preference of \$40,663 and \$94,808 at December 31, 2013 and March 31, 2014 (unaudited), respectively; no shares issued or outstanding, pro forma at March 31, 2014 (unaudited)	14,970	37,709	91,011	—
<b>Stockholders' equity (deficit):</b>				
Common stock, \$0.0001 par value; 50,000,000, 66,000,000 and 70,623,905 shares authorized at December 31, 2012 and 2013 and March 31, 2014 (unaudited), respectively; 4,395,104, 5,111,721 and 5,293,853 shares issued and outstanding at December 31, 2012 and 2013 and March 31, 2014 (unaudited), respectively; 62,017,757 shares issued and outstanding, pro forma at March 31, 2014 (unaudited)	—	—	1	6
Additional paid-in capital	—	139	106	91,112
Deficit accumulated during the development stage	(13,394)	(31,675)	(37,465)	(37,465)
<b>Total stockholders equity (deficit)</b>	<b><u>(13,394)</u></b>	<b><u>(31,536)</u></b>	<b><u>(37,358)</u></b>	<b><u>53,653</u></b>
<b>Total liabilities, redeemable convertible preferred stock and stockholders' equity (deficit)</b>	<b><u>\$ 2,995</u></b>	<b><u>\$ 8,532</u></b>	<b><u>\$ 56,777</u></b>	<b><u>\$ 56,777</u></b>

*The accompanying notes are an integral part of these financial statements.*

**SAGE THERAPEUTICS, INC.**  
**(A Development Stage Enterprise)**  
**Statements of Operations and Comprehensive Loss**  
(In thousands, except share and per share data)

	Year Ended December 31,		Three Months Ended March 31,		Cumulative for the Period From April 16, 2010 (Date of Inception) to December 31, 2013	Cumulative for the Period From April 16, 2010 (Date of Inception) to March 31, 2014 (unaudited)
	2012	2013	(unaudited)			
	2013	2014				
Operating expenses:						
Research and development	\$ 7,229	\$ 14,357	\$ 2,583	\$ 4,173	\$ 24,095	\$ 28,268
General and administrative	2,402	3,922	806	1,617	7,529	9,146
Total operating expenses	<u>9,631</u>	<u>18,279</u>	<u>3,389</u>	<u>5,790</u>	<u>31,624</u>	<u>37,414</u>
Loss from operations	(9,631)	(18,279)	(3,389)	(5,790)	(31,624)	(37,414)
Interest income (expense), net	—	1	—	—	(46)	(46)
Other income (expense), net	(1)	(3)	—	—	(5)	(5)
Net loss and comprehensive loss	(9,632)	(18,281)	(3,389)	(5,790)	(31,675)	(37,465)
Accretion of redeemable convertible preferred stock to redemption value	(4)	(7)	—	(326)	(12)	(338)
Net loss attributable to common stockholders	<u>\$ (9,636)</u>	<u>\$ (18,288)</u>	<u>\$ (3,389)</u>	<u>\$ (6,116)</u>	<u>\$ (31,687)</u>	<u>\$ (37,803)</u>
Net loss per share attributable to common stockholders—basic and diluted	<u>\$ (2.74)</u>	<u>\$ (3.89)</u>	<u>\$ (0.76)</u>	<u>\$ (1.17)</u>		
Weighted average number of common shares used in net loss per share attributable to common stockholders—basic and diluted	<u>3,522,607</u>	<u>4,700,692</u>	<u>4,475,044</u>	<u>5,206,048</u>		
Pro forma net loss per share attributable to common stockholders—basic and diluted (unaudited)		<u>\$ (0.61)</u>		<u>\$ (0.11)</u>		
Weighted average number of common shares used in pro forma net loss per share attributable to common stockholders—basic and diluted (unaudited)		<u>29,970,555</u>		<u>52,839,137</u>		

*The accompanying notes are an integral part of these financial statements.*

**SAGE THERAPEUTICS, INC.**  
**(A Development Stage Enterprise)**

**Statements of Changes in Redeemable Convertible Preferred Stock and Stockholders' Deficit**

(In thousands, except share data)

	Series A, B and C Redeemable Convertible Preferred Stock		Common Stock		Additional Paid-in Capital	Deficit Accumulated During the Development Stage	Total Stockholders' Deficit
	Shares	Amount	Shares	Amount			
<b>Balances at April 16, 2010 (Inception)</b>							
Issuance of common stock	—	\$ —	1,500,000	\$ —	\$ —	\$ —	\$ —
Vesting of restricted stock	—	—	643,750	—	—	—	—
Issuance of Series A Preferred Stock, including conversion of convertible notes payable, net of issuance costs of \$29	6,000,000	5,971	—	—	—	—	—
Accretion of preferred stock issuance costs	—	1	—	—	—	(1)	(1)
Net loss	—	—	—	—	—	(3,760)	(3,760)
<b>Balances at December 31, 2011</b>	<b>6,000,000</b>	<b>5,972</b>	<b>2,143,750</b>	<b>—</b>	<b>—</b>	<b>(3,761)</b>	<b>(3,761)</b>
Issuance of Series A Preferred Stock, net of issuance costs of \$6	9,000,000	8,994	—	—	—	—	—
Issuance of common stock from exercise of stock options	—	—	17,500	—	—	—	—
Vesting of restricted stock	—	—	2,233,854	—	3	—	3
Accretion of preferred stock issuance costs	—	4	—	—	(3)	(1)	(4)
Net loss	—	—	—	—	—	(9,632)	(9,632)
<b>Balances at December 31, 2012</b>	<b>15,000,000</b>	<b>14,970</b>	<b>4,395,104</b>	<b>—</b>	<b>—</b>	<b>(13,394)</b>	<b>(13,394)</b>
Issuance of Series A Preferred Stock, net of issuance costs of \$18	22,750,000	22,732	—	—	—	—	—
Issuance of common stock from exercise of stock options	—	—	10,000	—	1	—	1
Vesting of restricted stock	—	—	556,617	—	20	—	20
Accretion of preferred stock issuance costs	—	7	—	—	(7)	—	(7)
Issuance of common stock in payment of licensing fees	—	—	150,000	—	64	—	64
Stock-based compensation expense	—	—	—	—	61	—	61
Net loss	—	—	—	—	—	(18,281)	(18,281)
<b>Balances at December 31, 2013</b>	<b>37,750,000</b>	<b>37,709</b>	<b>5,111,721</b>	<b>—</b>	<b>139</b>	<b>(31,675)</b>	<b>(31,536)</b>
Issuance of Series B Preferred Stock, net of issuance costs of \$5	9,999,999	14,995	—	—	—	—	—
Issuance of Series C Preferred Stock, net of issuance costs of \$19	8,973,905	37,981	—	—	—	—	—
Issuance of common stock from exercise of stock options	—	—	12,500	—	2	—	2
Vesting of restricted stock	—	—	119,632	1	4	—	5
Issuance of common stock in payment of consultant fees	—	—	50,000	—	127	—	127
Stock-based compensation expense	—	—	—	—	160	—	160
Accretion of redeemable convertible preferred stock to redemption value	—	326	—	—	(326)	—	(326)
Net loss	—	—	—	—	—	(5,790)	(5,790)
<b>Balances at March 31, 2014 (unaudited)</b>	<b>56,723,904</b>	<b>\$91,011</b>	<b>5,293,853</b>	<b>\$ 1</b>	<b>\$ 106</b>	<b>\$ (37,465)</b>	<b>\$ (37,358)</b>

*The accompanying notes are an integral part of these financial statements.*

**SAGE THERAPEUTICS, INC.**  
**(A Development Stage Enterprise)**

**Statements of Cash Flows**

(In thousands)

	Year Ended December 31,		Three Months Ended March 31,		Cumulative for the Period From April 16, 2010 (Date of Inception) to December 31, 2013	Cumulative for the Period From April 16, 2010 (Date of Inception) to March 31, 2014 (unaudited)
	2012	2013	2013	2014		
<b>Cash flows from operating activities</b>						
Net loss	\$(9,632)	\$(18,281)	\$(3,389)	\$(5,790)	\$ (31,675)	\$ (37,465)
Adjustments to reconcile net loss to net cash used in operating activities:						
Stock-based compensation expense	—	61	—	160	61	221
Non-cash interest expense	—	—	—	—	46	46
Licensing or consultant fees paid in common stock	—	64	—	127	64	191
Depreciation and amortization	44	47	11	11	95	106
Changes in operating assets and liabilities						
Prepaid expenses and other current assets	71	(317)	(49)	(52)	(341)	(393)
Accounts payable	609	674	279	(471)	1,988	1,517
Accrued expenses and other	(18)	236	108	399	343	742
Net cash used in operating activities	<u>(8,926)</u>	<u>(17,516)</u>	<u>(3,040)</u>	<u>(5,616)</u>	<u>(29,419)</u>	<u>(35,035)</u>
<b>Cash flows from investing activities</b>						
Purchase of property and equipment	(111)	(3)	(3)	(3)	(181)	(184)
Restricted cash	—	—	—	—	(39)	(39)
Net cash used in investing activities	<u>(111)</u>	<u>(3)</u>	<u>(3)</u>	<u>(3)</u>	<u>(220)</u>	<u>(223)</u>
<b>Cash flows from financing activities</b>						
Proceeds from convertible notes payable	—	—	—	—	2,000	2,000
Proceeds from the issuance of Series A preferred stock, net of issuance costs	8,994	22,732	5,000	—	35,651	35,651
Proceeds from the issuance of Series B preferred stock, net of issuance costs	—	—	—	14,995	—	14,995
Proceeds from the issuance of Series C preferred stock, net of issuance costs	—	—	—	37,981	—	37,981
Proceeds from the issuance of common stock and restricted stock, net	3	51	—	2	54	56
Net cash provided by financing activities	<u>8,997</u>	<u>22,783</u>	<u>5,000</u>	<u>52,978</u>	<u>37,705</u>	<u>90,683</u>
Net increase (decrease) in cash and cash equivalents	(40)	5,264	1,957	47,359	8,066	55,425
Cash and cash equivalents at beginning of period	2,842	2,802	2,802	8,066	—	—
Cash and cash equivalents at end of period	<u>\$ 2,802</u>	<u>\$ 8,066</u>	<u>\$ 4,759</u>	<u>\$55,425</u>	<u>\$ 8,066</u>	<u>\$ 55,425</u>
<b>Supplemental disclosure of non-cash investing and financing activities</b>						
Accretion of redeemable convertible preferred stock to redemption value	\$ 4	\$ 7	\$ —	\$ 326	\$ 12	\$ 338
Conversion of notes payable and accrued interest into Series A Preferred Stock	\$ —	\$ —	\$ —	\$ —	\$ 2,046	\$ 2,046
Deferred initial public offering costs included in accounts payable or accrued expenses	\$ —	\$ —	\$ —	\$ 842	\$ —	\$ 842

*The accompanying notes are an integral part of these financial statements.*

**SAGE THERAPEUTICS, INC.**  
**(A Development Stage Enterprise)**

**Notes to Financial Statements**

(Amounts in thousands, except share and per share data)

**1. Nature of the Business**

Sage Therapeutics, Inc. ("Sage" or the "Company") is a biopharmaceutical company committed to developing and commercializing novel medicines to treat life-threatening, rare central nervous system ("CNS") disorders, where there are inadequate or no approved existing therapies. The Company is targeting CNS indications where patient populations are easily identified, acute treatment is typically initiated in the hospital setting, clinical endpoints are well-defined, and development pathways are feasible. This focus allows the Company to make highly informed decisions when advancing its product candidates through the development process. The Company's initial product candidates are aimed at treating different stages of status epilepticus, a life-threatening condition in which the brain is in a state of persistent seizure.

The Company was incorporated under the laws of the state of Delaware on April 16, 2010 and commenced operations on January 19, 2011 as Sterogen Biopharma, Inc. On September 13, 2011, the Company changed its name to Sage Therapeutics, Inc. under its second Amended and Restated Certificate of Incorporation.

The Company is subject to risks and uncertainties common to early-stage companies in the biotechnology industry, including, but not limited to, development by competitors of new technological innovations, dependence on key personnel, protection of proprietary technology, compliance with government regulations, and ability to secure additional capital to fund operations.

The accompanying financial statements have been prepared on a basis which assumes that the Company will continue as a going concern and which contemplates the realization of assets and satisfaction of liabilities and commitments in the normal course of business. As of December 31, 2013 and March 31, 2014 (unaudited), the Company has experienced recurring losses and had an accumulated deficit of \$31,675 and \$37,465, respectively. Management believes that cash and cash equivalents of \$8,066 at December 31, 2013, combined with additional financing obtained in the three months ended March 31, 2014 (see Note 6), is sufficient to fund operations through December 31, 2014. The future viability of the Company is largely dependent on its ability to raise additional capital to finance its operations. Management expects that future sources of funding may include new or expanded partnering arrangements and sales of equity or debt securities. Adequate additional funding may not be available to the Company on acceptable terms or at all. The failure to raise capital as and when needed could have a negative impact on the Company's financial condition and ability to pursue business strategies. The Company may be required to delay, reduce the scope of or eliminate research and development programs, or obtain funds through arrangements with collaborators or others that may require the Company to relinquish rights to certain product candidates that the Company might otherwise seek to develop or commercialize independently.

At March 31, 2014, the Company is considered a development stage enterprise. Until planned principal operations have commenced and significant revenue is generated, financial statements prepared in accordance with accounting principles generally accepted in the United States of America are required to report cumulative statements of operations, stockholders' deficit and cash flows.

**2. Summary of Significant Accounting Policies**

The following is a summary of significant accounting policies followed in the preparation of these financial statements.

**SAGE THERAPEUTICS, INC.**  
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**Notes to Financial Statements**

(Amounts in thousands, except share and per share data)

***Basis of Presentation***

The financial statements have been prepared in conformity with accounting principles generally accepted in the United States of America.

***Use of Estimates***

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

***Unaudited Interim Financial Information***

The accompanying balance sheet as of March 31, 2014, the statements of operations and comprehensive loss and of cash flows for the three months ended March 31, 2013 and 2014 and for the cumulative period from inception (April 16, 2010) to March 31, 2014, and the statement of changes in redeemable convertible preferred stock and stockholders' deficit for the three months ended March 31, 2014 are unaudited. The unaudited interim financial statements have been prepared on the same basis as the audited annual financial statements and, in the opinion of management, reflect all adjustments, which include only normal recurring adjustments, necessary for a fair statement of the Company's financial position as of March 31, 2014 and the results of its operations and its cash flows for the three months ended March 31, 2013 and 2014 and for the cumulative period from inception (April 16, 2010) to March 31, 2014. The financial data and other information disclosed in these notes related to the three months ended March 31, 2013 and 2014 and for the cumulative period from inception (April 16, 2010) to March 31, 2014 are unaudited. The results for the three months ended March 31, 2014 are not necessarily indicative of results to be expected for the year ending December 31, 2014, any other interim periods or any future year or period.

***Unaudited Pro Forma Information***

The accompanying unaudited pro forma balance sheet as of March 31, 2014 has been prepared to give effect to the automatic conversion of all shares of redeemable convertible preferred stock outstanding as of March 31, 2014 into 56,723,904 shares of common stock as if the proposed initial public offering had occurred on March 31, 2014. In the accompanying statements of operations, unaudited pro forma basic and diluted net loss per share attributable to common stockholders for the year ended December 31, 2013 and the three months ended March 31, 2014 has been prepared to give effect to the automatic conversion of all outstanding shares of redeemable convertible preferred stock as if the proposed initial public offering had occurred on the later of January 1, 2013 or the issuance date of the redeemable convertible preferred stock. The unaudited pro forma net loss attributable to common stockholders used in the calculation of unaudited basic and diluted pro forma net loss per share attributable to common stockholders does not include the effects of the accretion of issuance costs and accruing dividends on redeemable convertible preferred stock because it assumes that the conversion of redeemable convertible preferred stock into common stock had occurred on the later of January 1, 2013 or the issuance date of the redeemable convertible preferred stock.

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**Notes to Financial Statements**

(Amounts in thousands, except share and per share data)

***Cash and Cash Equivalents***

The Company considers all highly liquid investments with an original maturity of three months or less at the date of purchase to be cash equivalents.

***Restricted Cash***

A deposit of \$39 was restricted from withdrawal as of December 31, 2012 and 2013 and March 31, 2014 (unaudited). The restriction is related to securing the Company's facility lease and expires in 2017 in accordance with the operating lease agreement. This balance is included in restricted cash on the accompanying balance sheets.

***Property and Equipment***

Property and equipment are recorded at cost and depreciated over their estimated useful lives using the straight-line method. Upon retirement or sale, the cost of assets disposed of and the related accumulated depreciation are removed from the accounts and any resulting gain or loss is credited or charged to income. Repairs and maintenance costs are expensed as incurred.

***Impairment of Long-Lived Assets***

Long-lived assets consist of property and equipment. Long-lived assets to be held and used are tested for recoverability whenever events or changes in business circumstances indicate that the carrying amount of the assets may not be fully recoverable. Factors that the Company considers in deciding when to perform an impairment review include significant underperformance of the business in relation to expectations, significant negative industry or economic trends, and significant changes or planned changes in the use of the assets. If an impairment review is performed to evaluate a long-lived asset for recoverability, the Company compares forecasts of undiscounted cash flows expected to result from the use and eventual disposition of the long-lived asset to its carrying value. An impairment loss would be recognized when estimated undiscounted future cash flows expected to result from the use of an asset are less than its carrying amount. The impairment loss would be based on the excess of the carrying value of the impaired asset over its fair value, determined based on discounted cash flows. To date, the Company has not recorded any impairment losses on long-lived assets.

***Research and Development***

Research and development expenses are comprised of costs incurred in performing research and development activities, including salaries and benefits, facilities costs, overhead costs, depreciation, contract services and other related costs. Research and development costs are expensed to operations as the related obligation is incurred.

***Research Contract Costs and Accruals***

The Company has entered into various research and development contracts with research institutions and other companies both inside and outside of the United States. These agreements are generally cancelable, and related payments are recorded as research and development expenses as incurred. The Company records accruals for estimated ongoing research costs. When evaluating the



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adequacy of the accrued liabilities, the Company analyzes progress of the studies, including the phase or completion of events, invoices received and contracted costs. Significant judgments and estimates may be made in determining the accrued balances at the end of any reporting period. Actual results could differ from the Company's estimates. The Company's historical accrual estimates have not been materially different from the actual costs.

**Patent Costs**

The Company expenses patent costs as incurred and classifies such costs as general and administrative expenses in the accompanying statements of operations.

**Stock-Based Compensation**

The Company recognizes compensation expense for all stock-based payment awards made to employees and nonemployee directors, including grants of stock options and restricted stock, based on estimated fair value on date of grant, over the requisite service period.

For stock options and restricted stock issued to nonemployee consultants, the Company recognizes the fair value of such instruments as an expense over the period in which the related services are received. The fair value of the awards and measurement of related stock-based compensation is subject to periodic adjustments as the underlying equity instruments vest.

The fair value of each stock option grant is estimated using the Black-Scholes option-pricing model. The Company has historically been a private company and lacks Company-specific historical and implied volatility information. Therefore, the Company estimates expected volatility based on the historical volatility of publicly traded peer companies and expects to continue to do so until such time as it has adequate historical data regarding the volatility of its traded stock price. The expected term of the Company's options has been determined utilizing the "simplified" method for awards that qualify as "plain-vanilla" options, while the expected term of its options granted to consultants and nonemployees has been determined based on the contractual term of the options. The risk-free interest rate is determined by reference to the U.S. Treasury yield curve in effect at the time of grant of the award for time periods approximately equal to the expected term of the award. Expected dividend yield is based on the fact that the Company never paid cash dividends and does not expect to pay any cash dividends in the foreseeable future.

The Company also applies a forfeiture rate in order to calculate stock-based compensation expense. To the extent actual forfeitures differ from the estimates, the difference will be recorded as a cumulative adjustment in the period the estimates are revised. The Company recognizes compensation expense for only the portion of awards that are expected to vest. Expected forfeitures are based on the Company's historical experience and management's expectations of future forfeitures.

**Basic and Diluted Net Income (Loss) Per Share**

The Company calculates its basic and diluted net income (loss) per share attributable to common stockholders in conformity with the two-class method required for companies with participating securities. Under the two-class method, the Company determines whether it has net income attributable to common stockholders, which includes the results of operations, capital contributions and

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deemed dividends less current period convertible preferred stock non-cumulative dividends. If it is determined that the Company does have net income attributable to common stockholders during a period, the related undistributed earnings are then allocated between common stock and the convertible preferred stock based on the weighted average number of shares outstanding during the period to determine the numerator for the basic net income per share attributable to common stockholders. In computing diluted net income attributable to common stockholders, undistributed earnings are re-allocated to reflect the potential impact of dilutive securities to determine the numerator for the diluted net income per share attributable to common stockholders. The Company's basic net income (loss) per share attributable to common stockholders is calculated by dividing the net income (loss) by the weighted average number of shares of common stock outstanding for the period. The diluted net income (loss) per share attributable to common stockholders is computed by giving effect to all potential dilutive common stock equivalents outstanding for the period. For purposes of this calculation, outstanding options to purchase common stock and unvested restricted common stock are considered common stock equivalents. In periods in which the Company reports a net loss attributable to common stockholders, diluted net loss per share is the same as basic net loss per share since common stock equivalents are excluded due to their effect being anti-dilutive.

***Risks and Uncertainties***

The product candidates developed by the Company require approvals from the U.S. Food and Drug Administration or foreign regulatory agencies prior to commercial sales. There can be no assurance that the Company's current and future product candidates will receive the necessary approvals. If the Company is denied approval or approval is delayed, it may have a material adverse impact on the Company's business and its financial statements.

The Company is subject to risks common to companies in the development stage including, but not limited to, dependency on the clinical and commercial success of its product candidates, ability to obtain regulatory approval of its product candidates, the need for substantial additional financing to achieve its goals, uncertainty of broad adoption of its approved products, if any, by physicians and consumers, significant competition and untested manufacturing capabilities.

***Concentration of Credit Risk and of Significant Suppliers***

Financial instruments that potentially expose the Company to concentrations of credit risk consist primarily of cash and cash equivalents. The Company has all cash and cash equivalents balances at one accredited financial institution, in amounts that exceed federally insured limits. The Company does not believe that it is subject to unusual credit risk beyond the normal credit risk associated with commercial banking relationships.

The Company is dependent on third-party manufacturers to supply products for research and development activities in its programs. In particular, the Company relies and expects to continue to rely on a small number of manufacturers to supply it with its requirements for the active pharmaceutical ingredients and formulated drugs related to these programs. These programs could be adversely affected by a significant interruption in the supply of active pharmaceutical ingredients and formulated drugs.

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***Income Taxes***

The Company accounts for income taxes under the asset and liability method. Under this method, deferred tax assets and liabilities are recognized for the estimated future tax consequences attributable to differences between financial statement carrying amounts of existing assets and liabilities and their respective tax bases. Deferred tax assets and liabilities are measured using enacted rates in effect for the year in which these temporary differences are expected to be recovered or settled. Valuation allowances are provided if based on the weight of available evidence, it is more likely than not that some or all of the deferred tax assets will not be realized.

***Fair Value Measurements***

Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. Financial assets and liabilities carried at fair value are to be classified and disclosed in one of the following three categories:

- Level 1 — Quoted market prices in active markets for identical assets or liabilities. At December 31, 2012 and 2013 and at March 31, 2014 (unaudited), the Company's Level 1 assets consisted of a money market fund totaling \$2,559, \$8,024 and \$55,502, respectively.
- Level 2 — Observable inputs other than Level 1 prices, such as quoted prices for similar assets or liabilities; quoted prices in markets that are not active; or other inputs that are observable or can be corroborated by observable market data for substantially the full term of the assets or liabilities. At December 31, 2012 and 2013 and March 31, 2014 (unaudited), the Company had no Level 2 assets or liabilities.
- Level 3 — Unobservable inputs that are supported by little or no market activity and that are significant to the fair value of the assets or liabilities. At December 31, 2012 and 2013 and March 31, 2014 (unaudited), the Company had no Level 3 assets or liabilities.

The Company's financial instruments generally consist of cash equivalents, accounts payable and accrued expenses. The carrying amounts for the applicable financial instruments reported in the balance sheets approximate their fair values at December 31, 2012 and 2013 and March 31, 2014 (unaudited).

***Deferred Offering Costs***

The Company capitalizes certain legal, accounting and other third-party fees that are directly associated with in-process equity financings as other assets until such financings are consummated. After consummation of the equity financing, these costs are recorded in stockholders' equity (deficit) as a reduction of additional paid-in capital generated as a result of the offering. As of March 31, 2014 (unaudited), the Company recorded \$842 of deferred offering costs, included in prepaid expenses and other current assets in the accompanying consolidated balance sheet, in contemplation of a probable 2014 equity financing. Should the equity financing no longer be considered probable of being consummated, the deferred offering costs would be expensed immediately as a charge to operating expenses in the consolidated statement of operations. The Company did not record any deferred offering costs as of December 31, 2013.

***Segment Data***

The Company manages its operations as a single segment for the purposes of assessing performance and making operating decisions. The Company's singular focus is on advancing

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medicines to treat central nervous system disorders, where there are inadequate or no approved existing therapies, including status epilepticus. All tangible assets are held within the U.S.

**Comprehensive Loss**

Comprehensive loss includes net loss as well as other changes in stockholders' equity (deficit) that result from transactions and economic events other than those with stockholders. For the years ended December 31, 2012 and 2013, for the three months ended March 31, 2013 and 2014 (unaudited) and for the cumulative periods from April 16, 2010 (date of inception) to December 31, 2013 and March 31, 2014 (unaudited), there was no difference between net loss and comprehensive loss.

**Government Grants**

The Company records amounts received under grants as a reduction to research and development expense in the period it has incurred the expenditures in compliance with the specific restrictions of the grant. The Company recorded \$96 and \$41 for the year ended December 31, 2013 and the three months ended March 31, 2014 (unaudited), respectively.

**Recently Issued Accounting Pronouncements**

In June 2011, the Financial Accounting Standards Board ("FASB") issued authoritative guidance that addresses the presentation of comprehensive income for annual reporting of financial statements. The guidance is intended to improve the comparability, consistency and transparency of financial reporting and to increase the prominence of items reported in other comprehensive income by eliminating the option to present components of other comprehensive income as part of the statement of changes in stockholders' equity. Under the amended guidance, a company may present the total of comprehensive income, the components of net income, and the components of other comprehensive income either in a single continuous statement of comprehensive income or in two separate but consecutive statements. In either case, a company is required to present each component of net income along with total net income, each component of other comprehensive income along with a total for other comprehensive income, and a total amount for comprehensive income. The amendment is effective for fiscal years ending, and interim periods within those years, beginning after December 15, 2011, and is applied retrospectively. The Company adopted this amendment in its financial statements by presenting comprehensive loss in a single continuous statement along with net loss.

In July 2013, the FASB issued changes to the presentation of an unrecognized tax benefit when a net operating loss carryforward, a similar tax loss, or a tax credit carryforward exists. These changes require an entity to present an unrecognized tax benefit as a liability in the financial statements if (i) a net operating loss carryforward, a similar tax loss, or a tax credit carryforward is not available at the reporting date under the tax law of the applicable jurisdiction to settle any additional income taxes that would result from the disallowance of a tax position, or (ii) the tax law of the applicable jurisdiction does not require the entity to use, and the entity does not intend to use, the deferred tax asset to settle any additional income taxes that would result from the disallowance of a tax position. Otherwise, an unrecognized tax benefit is required to be presented in the financial statements as a reduction to a deferred tax asset for a net operating loss carryforward, a similar tax loss, or a tax credit carryforward. These changes become effective for the Company on January 1, 2014. Management has determined that the adoption of these changes will not have a significant impact on the Company's financial statements.

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**Notes to Financial Statements**

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**3. Balance Sheet Components**

***Property and Equipment, net***

Property and equipment, net consists of the following:

	Useful Life (Years)	December 31,		March 31,
		2012	2013	2014 (unaudited)
Computer and office equipment	3	\$ 78	\$ 78	\$ 81
Furniture and equipment	5	100	103	103
		178	181	184
Less: Accumulated depreciation		(48)	(95)	(106)
Property and equipment, net		<u>\$130</u>	<u>\$ 86</u>	<u>\$ 78</u>

Depreciation expense for the years ended December 31, 2012 and 2013 and for the cumulative period from April 16, 2010 (date of inception) to December 31, 2013 was \$44, \$47 and \$95, respectively. Depreciation expense for the three months ended March 31, 2013 and 2014 (unaudited) and for the cumulative period from April 16, 2010 (date of inception) to March 31, 2014 (unaudited) was \$11, \$11 and \$106, respectively.

***Accrued Expenses***

Accrued expenses consist of the following:

	December 31,		March 31,
	2012	2013	2014 (unaudited)
Employee related expenses	\$ 21	\$ 49	\$ 329
Development costs	28	57	122
Professional services	28	190	820
Clinical trial	—	—	162
Other accrued expenses	28	31	29
Total accrued expenses	<u>\$105</u>	<u>\$327</u>	<u>\$ 1,462</u>

**4. Commitments and Contingencies**

***Operating Leases***

The Company rents its office space under an operating lease that was executed in 2011 and expires in 2017. In March 2013, the Company entered into a second lease for an additional 4,100 square feet. The second lease, which commenced on August 26, 2013, has a term of 42 months and rent expense of \$9 per month. Also in March 2013, the Company signed a sublease agreement to sublet 1,900 square feet. The sublease is for a term of 42 months and rental income is \$4 per month.

Rent expense, net of sublease income, for the years ended December 31, 2012 and 2013 and the cumulative period from April 16, 2010 (date of inception) to December 31, 2013 was \$194, \$274 and \$468, respectively, and for the three months ended March 31, 2013 and 2014 (unaudited) and the cumulative period from April 16, 2010 (date of inception) to March 31, 2014 (unaudited) was \$63, \$76 and \$580, respectively.

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Future minimum lease payments, net of sublease income, under non-cancelable operating leases are as follows at December 31, 2013:

<u>Years Ending December 31,</u>	
2014	\$ 311
2015	318
2016	324
2017	52
2018	—
Total	<u>\$1,005</u>

In connection with the execution of the Company's operating lease entered into in 2011, the Company gave the lessor a right to participate in a future financing through the purchase of up to \$250 in Series A Preferred Stock, at the same price as the other Series A shares are offered. The lessor exercised its right to purchase 250,000 shares of Series A Preferred Stock at \$1.00 per share in September 2013.

### **License Agreements**

#### **CyDex License Agreement**

In October 2011, the Company entered into a research and development license with CyDex Pharmaceuticals, Inc. ("CyDex") for the development of drug product using licensed technology for a period of one year. Under the terms of the license agreement, the Company paid an initial licensing fee of \$200 and an additional fee of \$100 for CyDex to perform research and development services to evaluate the licensed technology for formulation with the Company's developmental product.

The \$200 payment was recorded as research and development expense as the acquired technology was in-process research and development, and the \$100 payment was recorded to research and development expense in 2011 and 2012 as services were performed.

In December 2012, the Company exercised its option to enter into a commercial license and supply agreement for CyDex's proprietary technology and paid \$100 for the perpetual license, which was recorded as research and development expense.

In August 2013, the Company entered into a commercial license agreement as a result of which the December 2012 license was terminated and the December 2012 supply agreement was amended. Specifically, CyDex granted the Company an exclusive license to the CyDex technology for use in the fields of status epilepticus and traumatic brain injury. In exchange, the Company is required to pay upfront, milestone and royalty-based compensation. In addition, CyDex granted the Company a research license to Captisol for allopregnanolone for use in proof of concept studies. The August 2013 agreement will continue in effect unless and until terminated. In consideration for the amended license rights, the Company paid \$300. The Company is obligated to make milestone payments based on achievement of clinical development and regulatory milestones of \$900 and \$3,750, respectively. Also under this agreement, the Company is required to pay royalties in the low single digits based on levels of net sales.

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Under the amended supply agreement with CyDex, the Company is required to purchase all of its supply of Captisol from CyDex and CyDex is required to supply the Company with Captisol, subject to certain limitations.

At December 31, 2013 and March 31, 2014 (unaudited), the Company had not made any milestone or royalty payments.

In April 2014, the Company amended its commercial license and supply agreements with CyDex to expand the fields of use to include the treatment, prevention or diagnosis of any disease or symptom in humans or animals. In consideration for the amended terms, the Company paid \$200 upfront and is obligated to make milestone payments, once per field, based on the achievement of clinical development and regulatory milestones for the development of SAGE-547 in the fields of Status Epilepticus and Traumatic Brain Injury of \$750 and \$3,750, respectively. For the development in two additional fields, the Company is obligated to make milestone payments, once per field, based on the achievement of clinical development and regulatory milestones of \$1,250 and \$8,500, respectively.

***Washington University License Agreement***

In November 2013, the Company entered into a license agreement with Washington University whereby the Company was granted exclusive, worldwide rights to develop and commercialize a novel set of neuroactive steroids developed by Washington University. In exchange for development and commercialization rights, the Company paid an upfront, non-refundable payment of \$50 and is required to pay an annual license maintenance fee of \$15 on each subsequent anniversary date, until the first Phase 2 clinical study for a licensed product is initiated. The Company is obligated to make milestone payments based on achievement of clinical development and regulatory milestones of up to \$650 and \$500, respectively. Additionally, the Company fulfilled its obligation to issue Washington University 150,000 shares of common stock on December 13, 2013. The fair values of these shares totaling \$64 were recorded as research and development expense in 2013.

The Company is obligated to pay royalties of low single digits on net sales for licensed products covered under patent rights and royalties of low single digits on net sales for licensed products not covered under patent rights. Additionally, the Company has the right to sublicense and is required to make payments at varying percentages of sublicensing revenue received, initially in the mid-teens and descending to the mid-single digits over time.

At December 31, 2013 and March 31, 2014 (unaudited), the Company had not made any milestone or royalty payments.

***University of California License Agreement***

In October 2013, the Company entered into a non-exclusive license agreement with The Regents of the University of California whereby the Company was granted a non-exclusive license to certain clinical data and clinical material for use in the development and commercialization of biopharmaceutical products in the licensed field.

The Company will be required to pay clinical development milestones of up to \$100 and pay royalties of less than 1% on net sales for a period of fifteen years following the sale of the first commercial product.

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The license will terminate on the earlier to occur of (i) 27 years after the effective date or (ii) 15 years after the last-derived product is first commercially sold.

At December 31, 2013 and March 31, 2014 (unaudited), the Company had not made any milestone or royalty payments.

**Consulting Agreement**

In January 2014, the Company entered into a consulting agreement with a nonemployee advisor whereby the Company is obligated to make cash payments of up to \$2,000 and to issue up to 400,000 shares of common stock upon attainment of certain clinical development and regulatory milestones.

In January and March 2014, the first milestone for each of two programs included in the consulting agreement were met. Accordingly, the Company made cash payments of \$50 and issued 50,000 shares of the Company's common stock. In connection with the shares of common stock issued, the Company recorded \$127 as research and development expense for the three months ended March 31, 2014 (unaudited).

**5. Convertible Notes Payable**

In February and June 2011, the Company issued convertible promissory notes (the "Notes") to an investor in the aggregate amount of \$750 and \$1,250, respectively. The Notes accrued interest at a rate of 6% per annum, compounded annually. The notes along with accrued interest were due and payable upon the earlier of a financing or February 2013.

Upon the execution of the Series A Redeemable Convertible Preferred Stock Agreement on September 30, 2011, the Note and accrued interest converted into 2,046,192 shares of Series A redeemable convertible preferred stock ("Series A Preferred Stock"). The Company recorded interest expense related to the Notes of \$46 in 2011.

**6. Redeemable Convertible Preferred Stock**

As of December 31, 2013 and March 31, 2014 (unaudited), the Company's Certificate of Incorporation, as amended and restated, authorizes the Company to issue 37,750,000 shares and 56,723,905 shares, respectively, of \$0.0001 par value preferred stock.

The Company has issued Series A, Series B and Series C redeemable convertible preferred stock (collectively, the "Redeemable Preferred Stock"). The Redeemable Preferred Stock is classified outside of stockholders' equity (deficit) because the shares contain redemption features that are not solely within the control of the Company.

On September 30, 2011, the Company entered into an agreement that provided for the issuance of up to 35,000,000 shares of Series A Preferred Stock at \$1.00 per share. At the initial closing in September 2011, the Company issued 6,000,000 shares for net proceeds of \$3,925 and for the settlement of \$2,000 of convertible notes payable and accrued interest of \$46.

On April 9, 2012, the Company issued an additional 4,000,000 shares in the first tranche of Series A Preferred Stock at \$1.00 per share, resulting in net proceeds of \$4,000.



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On November 9, 2012, the Company issued an additional 5,000,000 shares in the first funding of the second tranche of Series A Preferred Stock at \$1.00 per share, resulting in net proceeds of \$4,994.

On March 18, 2013, the Company issued an additional 5,000,000 shares in the second funding of the second tranche of Series A Preferred Stock at \$1.00 per share, resulting in net proceeds of \$4,996.

On July 1, 2013, the Company issued an additional 5,000,000 shares in the third funding of the second tranche of Series A Preferred Stock at \$1.00 per share, resulting in net proceeds of \$4,999.

On September 12, 2013, the Company issued an additional 12,500,000 shares in the third tranche of Series A Preferred Stock at \$1.00 per share, resulting in net proceeds of \$12,487.

On October 18, 2013, the Company issued 250,000 shares of Series A Preferred Stock at \$1.00 per share, resulting in net proceeds of \$250.

The Company incurred issuance costs of \$29, \$6, and \$18 in 2011, 2012, and 2013, respectively, with the issuance of the Series A Preferred Stock which were recorded as a reduction of the proceeds received. These costs are accreted on a straight-line basis to the carrying value of preferred stock, beginning with the date of issue to the date of earliest redemption.

On October 15, 2013, the Company entered into a Stock Purchase Agreement whereby the Company would issue up to \$20,000 of Series B redeemable convertible preferred stock ("Series B Preferred Stock") at \$1.50 per share. The initial purchase and sale in the amount of \$10,000 could occur once certain development milestones had been successfully achieved. The second tranche of \$10,000 can be issued after the initial closing and at the discretion of the Board of Directors. In November 2013, the Company met the development milestones to issue the first tranche of the Series B Preferred Stock.

On January 7, 2014, the Company issued 6,666,666 shares of Series B Preferred Stock at \$1.50 per share, resulting in net proceeds of \$9,995.

On February 12, 2014, the Company issued 3,333,333 shares of Series B Preferred Stock at \$1.50 in a second closing, resulting in net proceeds of \$5,000. At that time, the Company decided not to draw on the remaining \$5,000 of the second tranche of the Series B Preferred Stock.

On March 11, 2014, the Company entered into a Stock Purchase Agreement whereby the Company issued 8,973,905 shares of Series C redeemable convertible preferred stock ("Series C Preferred Stock") at \$4.2345 per share for net proceeds of \$37,981.

The holders of the Redeemable Preferred Stock have the following rights and preferences:

**Voting Rights**

The holders of Redeemable Preferred Stock are entitled to vote, together with the holders of common stock, on all matters submitted to stockholders for a vote. Each preferred stockholder is

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entitled to the number of votes equal to the number of shares of common stock into which each share of Redeemable Preferred Stock is convertible at the time of such vote.

**Dividends**

The holders of Series A, Series B and Series C Preferred Stock are entitled to receive dividends in preference to any dividend on common stock at the rate of \$0.08, \$0.12 and \$0.34, respectively, per share per annum. Dividends are payable only when, as, and if declared by the Board of Directors. As of December 31, 2013 and March 31, 2014 (unaudited), no dividends had been declared or paid by the Company.

**Liquidation**

In the event of any liquidation, dissolution or winding up of the affairs of the Company, the holders of the Series A, Series B and Series C Preferred Stock shall be entitled to receive an amount per share equal to the original issue price of \$1.00, \$1.50 and \$4.2345, respectively, per share (the "Original Issue Price"), plus all accruing dividends, whether or not declared, payable in preference and priority to any payments made to the holders of the then outstanding common stock. In the event of a liquidation, dissolution or winding up of the affairs of the Company, holders of Series C Preferred Stock will be paid their liquidation preference amounts prior to the payment to holders of Series A Preferred Stock and Series B Preferred Stock of their liquidation preference amounts on a pari passu basis. Series A Preferred Stock and Series B Preferred Stock will be paid their liquidation preference amounts on a pari passu basis prior to the payment of any amounts to holders of common stock. If the liquidation proceeds exceed the liquidation preferences, then holders of the Series A, Series B and Series C Preferred Stock participate in the excess on an as-if converted basis with the common shareholders up to \$2.50, \$3.75 and \$10.58, respectively, per share.

**Redemption Rights**

Redeemable Preferred Stock is redeemable at the option of the preferred stockholders on or after September 30, 2020. If the holders of at least seventy-five percent of the then outstanding shares of Redeemable Preferred Stock exercise their redemption rights, the Company must notify all preferred stockholders of the election to exercise redemption rights. Under the terms of the Company's Certificate of Incorporation, as amended and restated on March 11, 2014, the holders of the Redeemable Preferred Stock who requested redemption of their Redeemable Preferred Stock are entitled to receive an amount per share equal to the Original Issue Price of \$1.00, \$1.50 or \$4.2345 for each share of Series A, Series B or Series C Preferred Stock, respectively, plus all accruing dividends, whether or not declared, and will be paid in three annual installments commencing not more than sixty days after receipt of notification by the Company.

If the Company does not have sufficient funds legally available to redeem all shares of Redeemable Preferred Stock to be redeemed at the redemption date, the Company shall redeem such shares ratably to the extent possible and shall redeem the remaining shares as soon as sufficient funds are legally available.

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**Conversion**

Each share of Redeemable Preferred Stock is convertible at any time at the option of the shareholder into fully paid and nonassessable shares of common stock determined by dividing the Original Issue Price by the Conversion Price in effect at the time of conversion. The initial Series A, Series B and Series C Conversion Price is \$1.00, \$1.50 and \$4.2345, respectively, per share (the "Conversion Price").

In addition to the above optional conversion feature, the Redeemable Preferred Stock includes a mandatory conversion feature whereby upon either of the following events, all outstanding shares of Redeemable Preferred Stock shall automatically be converted into shares of common stock at the then-effective conversion ratio: (i) Initial Public Offering resulting in a closing price of at least \$4.50 per share that results in at least \$30,000 in gross proceeds to the Company, or (ii) the date and time, or the occurrence of an event, specified by vote or written consent of the holders of at least 75% of the then outstanding shares of Redeemable Preferred Stock. All shares that are required to be surrendered per the provisions above will be deemed to have been retired and canceled and may not be reissued as shares of Redeemable Preferred Stock.

**7. Common Stock**

As of December 31, 2013 and March 31, 2014 (unaudited), the Company has authorized 66,000,000 and 70,623,905 shares, respectively, of common stock with a par value of \$0.0001 per share.

Each share of common stock entitles the holder to one vote on all matters submitted to a vote of the Company's stockholders. Common stockholders are entitled to receive dividends, as may be declared by the Board of Directors, if any, subject to the preferential dividend rights of the Series A, Series B and Series C preferred stockholders. As of December 31, 2013 and March 31, 2014 (unaudited), no dividends have been declared.

**8. Stock-Based Compensation**

In 2011, the Company adopted the 2011 Stock Option and Incentive Plan (the "2011 Stock Option Plan"). The 2011 Stock Option Plan provides for the grant of restricted stock awards, incentive stock options and non-statutory stock options to purchase up to 4,680,000 shares of the Company's common stock to employees, officers, directors and consultants of the Company. In August 2013, the Company increased its stock option pool to 8,400,000 shares. At December 31, 2013, there were 2,652,750 shares available for future issuance under the 2011 Stock Option Plan.

In March 2014, the Company increased its stock option pool to 9,900,000 shares. At March 31, 2014 (unaudited), there were 2,890,250 shares available for future issuance under the 2011 Stock Option Plan.

Terms of restricted stock awards and stock option agreements, including vesting requirements, are determined by the Board of Directors, subject to the provisions of the 2011 Stock Option Plan. Options and restricted stock awards granted by the Company generally vest based on the grantee's

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continued service with the Company during a specified period following grant. Awards generally vest ratably over four years, with a one-year cliff for new employee awards. During 2013, the Company also granted a pool of option awards which vest ratably over one year. All awards are exercisable from the date of grant for a period of ten years. The stock-based compensation expense recognized during 2013 and for the three months ended March 31, 2014 (unaudited) was as follows:

	<u>Year Ended</u> <u>December 31, 2013</u>	<u>Three Months Ended</u> <u>March 31, 2014</u> (unaudited)
Research and development	\$ 38	\$ 106
General and administrative	23	54
Total stock-based compensation expense	<u>\$ 61</u>	<u>\$ 160</u>

During the years ended December 31, 2011 and 2012 and the three months ended March 31, 2013, the Company did not record stock-based compensation expense as the amounts were inconsequential.

Prior to December 31, 2012, the estimated fair market value of the Company's common stock was determined solely by the Board of Directors on the date of grant. As of December 31, 2012 and forward, the Company secured a third-party valuation to assist the Board of Directors in the determination of the estimated fair market value of the Company's common stock.

For stock option awards, the fair value of the options is estimated at the grant date using the Black-Scholes option-pricing model, taking into account the terms and conditions upon which options are granted. The fair value of the options is amortized on a straight-line basis over the requisite service period of the awards. The weighted average grant date fair value per share relating to outstanding stock options granted under the 2011 Stock Option Plan during the year ended December 31, 2013 was \$0.12 and during the three months ended March 31, 2014 (unaudited) was \$2.22.

The fair value of each option granted to employees and directors during the year ended December 31, 2013 and the three months ended March 31, 2014 (unaudited) under the 2011 Stock Option Plan has been calculated on the date of grant using the following weighted average assumptions:

	<u>Year Ended</u> <u>December 31, 2013</u>	<u>Three Months Ended</u> <u>March 31, 2014</u> (unaudited)
Expected dividend yield	0.00%	0.00%
Expected volatility	99.89%	99.85%
Risk free interest rate	1.66%	1.98%
Expected life of option	6.04 years	5.98 years

*Expected dividend yield:* The Company has not paid and does not anticipate paying any dividends in the foreseeable future.

*Risk-free interest rate:* The Company determined the risk-free interest rate by using a weighted average equivalent to the expected term based on the U.S. Treasury yield curve in effect as of the date of grant.

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*Expected volatility:* As the Company has been operating as a private company, there is not sufficient historical volatility for the expected term of the options. Therefore, the Company used an average historical share price volatility based on an analysis of reported data for a peer group of comparable companies.

*Expected term (in years):* Expected term represents the period that the Company's share option grants are expected to be outstanding. As the Company has been operating as a private company, there is not sufficient historical share data to calculate the expected term of the options. Therefore, the Company elected to utilize the "simplified" method to value share option grants issued to employees. Under this approach, the weighted average expected life is presumed to be the average of the vesting term and the contractual term of the option.

Forfeitures are estimated at the time of grant and revised, if necessary, in subsequent periods if actual forfeitures differ from estimates. The Company estimates forfeitures based on historical termination behavior. For the year ended December 31, 2013 and for the three months ended March 31, 2014 (unaudited), a forfeiture rate of 10% was applied.

For options granted to nonemployees, the expected life of the option used is ten years, which is the contractual term of each such option. All other assumptions used to calculate the grant date fair value are generally consistent with the assumptions used for options granted to employees.

**Stock options**

During 2012 and 2013, the Company granted stock option awards to certain officers, employees, directors and consultants of the Company. During the year ended December 31, 2013 and the three months ended March 31, 2014 (unaudited), the Company recorded \$50 and \$138 of stock-based compensation expense, respectively, related to its stock option awards.

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The table below summarizes activity related to stock options:

	Shares	Weighted Average Exercise Price	Weighted Average Remaining Life (in years)	Aggregate Intrinsic Value
<b>Balance at April 16, 2010 (inception)</b>	—	\$ —		
Granted	17,500	0.01		
Exercised	(17,500)	0.01		
Forfeited	—	—		
<b>Outstanding as of December 31, 2012</b>	—	\$ —		
Granted	3,801,000	0.16		
Exercised	(10,000)	0.14		
Forfeited	—	—		
<b>Outstanding as of December 31, 2013</b>	3,791,000	\$ 0.16	9.60	\$ 1,038
Granted	1,075,000	1.47		
Exercised	(12,500)	0.14		
Forfeited	—	—		
<b>Outstanding as of March 31, 2014 (unaudited)</b>	4,853,500	\$ 0.45		
<b>Vested or expected to vest as of December 31, 2013</b>	3,187,758	\$ 0.16	9.60	\$ 874
<b>Exercisable as of December 31, 2013</b>	70,293	\$ 0.15	9.31	\$ 20
<b>Vested or expected to vest as of March 31, 2014 (unaudited)</b>	4,119,228	\$ 0.43	9.47	\$ 8,673
<b>Exercisable as of March 31, 2014 (unaudited)</b>	134,403	\$ 0.20	9.22	\$ 314

As of December 31, 2013 and March 31, 2014 (unaudited), the Company had unrecognized stock-based compensation expense related to its unvested stock option awards of \$344 and \$2,185, respectively, which is expected to be recognized over the remaining weighted average vesting period of 3.59 and 3.25 years, respectively.

The total fair value of shares vested for the years ended December 31, 2012 and 2013 was \$1 and \$9, respectively, and for the three months ended March 31, 2013 and 2014 (unaudited) was \$0 and \$81, respectively.

During the years ended December 31, 2012 and 2013, current and former employees of the Company exercised a total of 17,500 and 10,000 stock options, respectively, resulting in total proceeds of less than \$1 for the year ended December 31, 2012 and \$1 for the year ended December 31, 2013. The intrinsic value of stock options exercised during the years ended December 31, 2012 and 2013 was zero. During the three months ended March 31, 2014 (unaudited), stock option exercises resulted in proceeds of \$2. The intrinsic value of stock options exercised during the three months ended March 31, 2014 (unaudited) was \$30.

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**Restricted Stock Awards**

During 2011, 2012 and 2013 and the three months ended March 31, 2014 (unaudited), the Company granted restricted stock awards to certain officers, employees, directors, and consultants of the Company. During the year ended December 31, 2013 and the three months ended March 31, 2014 (unaudited), the Company recorded \$11 and \$22, respectively, of stock-based compensation expense related to its restricted stock awards. Stock-based compensation expense is recognized over the vesting period of the restricted stock awards.

The table below summarizes activity relating to restricted stock:

	<u>Shares</u>	<u>Weighted Average Grant Date Fair Value Per Share</u>
<b>Unvested restricted common stock as of April 16, 2010 (inception)</b>		
Issued	2,575,000	\$ 0.001
Vested	(643,750)	—
Forfeited	—	—
Repurchased	—	—
<b>Unvested restricted common stock as of December 31, 2011</b>	<u>1,931,250</u>	
Issued	1,767,500	\$ 0.01
Vested	(2,233,854)	—
Forfeited	—	—
Repurchased	(323,750)	—
<b>Unvested restricted common stock as of December 31, 2012</b>	<u>1,141,146</u>	
Issued	410,000	\$ 0.14
Vested	(556,617)	—
Forfeited	—	—
Repurchased	—	—
<b>Unvested restricted common stock as of December 31, 2013</b>	<u>994,529</u>	
Issued	—	—
Vested	(119,632)	—
Forfeited	—	—
Repurchased	(12,500)	—
<b>Unvested restricted common stock as of March 31, 2014 (unaudited)</b>	<u>862,397</u>	—

As of December 31, 2013, the Company had unrecognized stock-based compensation expense related to its unvested restricted stock awards of \$26, which is expected to be recognized over the remaining weighted average vesting period of 2.24 years. As of March 31, 2014 (unaudited), the Company had unrecognized stock-based compensation expense related to its unvested restricted stock awards of \$123, which is expected to be recognized over the remaining weighted average vesting period of 1.90 years.

During the years ended December 31, 2012 and 2013, current and former employees of the Company purchased a total of 1,767,500 and 410,000 shares of restricted stock, respectively, resulting in total proceeds of \$19 and \$50, respectively.

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In September 2011, the Company issued 2,500,000 shares of common stock to the founder of the Company for \$0.0001 per share which were subject to restrictions that were satisfied over a one-year vesting period. These shares were issued outside of the 2011 Stock Option Plan and do not deduct from the maximum number of shares reserved and available for issuance under the 2011 Stock Option Plan.

Unvested shares are subject to repurchase by the Company, at the issuance price, upon the employee's termination at the Company's sole discretion. In 2012, the Company repurchased 323,750 shares of restricted common stock issued to employees with a value of \$3 in conjunction with the employees' termination from the Company, and in the three months ended March 31, 2014 (unaudited) the Company repurchased 12,500 shares of restricted common stock issued to employees at their \$0.01 original purchase price per share.

**9. Net Loss Per Share and Pro Forma Net Loss Per Share**

The following table sets forth the computation of basic and diluted net loss per share attributable to common stockholders for the years ended December 31, 2012 and 2013 and for the three months ended March 31, 2013 and 2014 (unaudited):

	Year Ended December 31,		Three Months Ended March 31,	
	2012	2013	2013 (unaudited)	2014 (unaudited)
<b>Numerator:</b>				
Net loss attributable to common stockholders	\$ (9,636)	\$ (18,288)	\$ (3,389)	\$ (6,116)
<b>Denominator:</b>				
Weighted average common shares outstanding—basic	3,522,607	4,700,692	4,475,044	5,206,048
Dilutive effect of common share equivalents resulting from common share options and preferred common shares (as converted)	—	—	—	—
Weighted average common shares outstanding—diluted	<u>3,522,607</u>	<u>4,700,692</u>	<u>4,475,044</u>	<u>5,206,048</u>
Net loss per share attributable to common stockholders—basic and diluted	<u>\$ (2.74)</u>	<u>\$ (3.89)</u>	<u>\$ (0.76)</u>	<u>\$ (1.17)</u>



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The following common stock equivalents, presented on a weighted average basis, were excluded from the computation of diluted net loss per share attributable to common stockholders for the periods presented because including them would have been anti-dilutive:

	<u>Year Ended December 31,</u>		<u>Three Months Ended March 31,</u>	
	<u>2012</u>	<u>2013</u>	<u>2013</u>	<u>2014</u>
			(unaudited)	
Options to purchase common stock	—	2,413,407	—	3,998,711
Restricted stock	1,059,636	895,000	978,968	847,219
Convertible preferred stock (as converted to common stock)	9,617,486	25,269,863	15,722,222	47,633,089
	<u>10,677,122</u>	<u>28,578,270</u>	<u>16,701,190</u>	<u>52,479,019</u>

*Pro Forma Net Loss Per Share (Unaudited)*

The following table sets forth the computation of basic and diluted pro forma net loss per share attributable to common stockholders, giving effect to the conversion of all outstanding shares of preferred stock into common stock upon an assumed initial public offering:

	<u>Year Ended December 31, 2013</u>	<u>Three Months Ended March 31, 2014</u> (unaudited)
<b>Numerator:</b>		
Net loss	\$ (18,281)	\$ (5,790)
<b>Denominator:</b>		
Pro forma weighted average number of common shares—basic and diluted (unaudited)	<u>29,970,555</u>	<u>52,839,137</u>
Pro forma net loss per share attributable to common stockholders—basic and diluted (unaudited)	<u>\$ (0.61)</u>	<u>\$ (0.11)</u>

Outstanding options and unvested restricted stock were excluded from the computation of pro forma net loss per share because their effect would have been anti-dilutive.

**10. Income Taxes**

There is no provision for income taxes because the Company has historically incurred operating losses and maintains a full valuation allowance against its net deferred tax assets. The reported amount of income tax expense for the years differs from the amount that would result from applying domestic federal statutory tax rates to pretax losses primarily because of changes in valuation allowance.

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A reconciliation of the U.S. statutory rate to the Company's effective tax rate is as follows:

	Year Ended December 31,	
	2012	2013
Tax due at statutory rate	34.0%	34.0%
State taxes, net of federal	5.2	5.2
Permanent items	(0.1)	(0.1)
Research credits	0.8	1.5
Change in valuation allowance	(39.9)	(40.5)
Other	—	(0.1)
	<u>0.0%</u>	<u>0.0%</u>

Significant components of the Company's net deferred tax asset at December 31, 2012 and 2013 are as follows:

	December 31,	
	2012	2013
Net operating loss carryforwards	\$ 3,741	\$ 9,401
Capitalized start-up costs	1,382	2,694
Research and development tax credit carryforwards	100	369
Depreciation and amortization	77	239
Other	26	36
Total gross deferred tax asset	5,326	12,739
Valuation allowance	(5,326)	(12,739)
Net deferred tax asset	<u>\$ —</u>	<u>\$ —</u>

In 2013, in order to correct a prior-period error, the Company revised the components of its 2012 deferred tax assets by including capitalized start-up costs of \$1,382 previously not presented, with an offsetting reduction to net operating loss carryforwards. This revision, which the Company has concluded is immaterial to prior-period financial statements, had no effect on the Company's total deferred tax assets, balance sheet, statement of operations or statement of cash flows.

As of December 31, 2013, the Company had federal and state net operating loss carryforwards of \$23,965 and \$23,728, respectively, which begin to expire in 2031. As of December 31, 2013, the Company had federal and state research and development tax credits carryforwards of \$255 and \$172, respectively, which begin to expire in 2031 and 2027, respectively.

During the three months ended March 31, 2014 (unaudited), gross deferred tax assets increased by approximately \$2,300 due to the operating loss incurred during that period. This increase in gross deferred tax assets was offset by a corresponding increase in the valuation allowance.

Management of the Company has evaluated the positive and negative evidence bearing upon the realizability of its deferred tax assets, which are comprised principally of net operating loss carryforwards and capitalized start-up costs. Under the applicable accounting standards, management has considered

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the Company's history of losses and concluded that it is more likely than not that the Company will not recognize the benefits of federal and state deferred tax assets. Accordingly, a full valuation allowance of \$5,326 and \$12,739 has been established at December 31, 2012 and 2013, respectively.

Pursuant to Section 382 of the Internal Revenue Code, certain substantial changes in the Company's ownership may result in a limitation on the amount of net operating loss carryforwards and research and development credit carryforwards that may be used in future years. Utilization of the net operating loss ("NOL") and research and development credit carryforwards may be subject to a substantial annual limitation under Section 382 of the Internal Revenue Code of 1986 due to ownership change limitations that have occurred previously or that could occur in the future. These ownership changes may limit the amount of NOL and research and development credit carryforwards that can be utilized annually to offset future taxable income and tax, respectively. The Company has not completed a study to assess whether an ownership change has occurred, or whether there have been multiple ownership changes since its formation, due to significant complexity and related costs associated with such a study. There could also be additional ownership changes in the future which may result in additional limitations on the utilization of NOL carryforwards and credits.

The Company applies the authoritative guidance on accounting for and disclosure of uncertainty in tax positions, which requires the Company to determine whether a tax position of the Company is more likely than not to be sustained upon examination, including resolution of any related appeals or litigation processes, based on the technical merits of the position. For tax positions meeting the more likely than not threshold, the tax amount recognized in the financial statements is reduced by the largest benefit that has a greater than fifty percent likelihood of being realized upon the ultimate settlement with the relevant taxing authority.

The following is a rollforward of the Company's unrecognized tax benefits:

	Year Ended December 31,	
	2012	2013
Unrecognized tax benefit—as of the beginning of the year	\$ 504	\$1,477
Gross increases—tax positions of prior periods	—	—
Gross increases—current period tax positions	973	1,403
Unrecognized tax benefits—as of the end of the year	<u>\$1,477</u>	<u>\$2,880</u>

None of the unrecognized tax benefits presented in the table above would result in income tax expense or impact the Company's effective rate, if recognized.

The Company will recognize interest and penalties related to uncertain tax positions in income tax expense when in a taxable income position. As of December 31, 2012 and 2013, the Company had no accrued interest or penalties related to uncertain tax positions and no amounts have been recognized in the Company's statement of operations.

The Company files tax returns as prescribed by the tax laws of the jurisdictions in which it operates. In the normal course of business, the Company is subject to examination by federal and

**SAGE THERAPEUTICS, INC.**  
**(A Development Stage Enterprise)**

**Notes to Financial Statements**

(Amounts in thousands, except share and per share data)

state jurisdictions, where applicable. There are currently no pending tax examinations, and the Company's tax returns are open under statute from 2010 to the present. The Company's policy is to record interest and penalties related to income taxes as part of the tax provision.

**11. Employee Benefit Plan**

The Company maintains a 401(k) profit sharing plan (the "Plan") for its employees. Each participant in the Plan may elect to contribute a portion of his or her annual compensation to the Plan subject to annual limits established by the Internal Revenue Service. The Company is not required to match employee contributions to the Plan.

**12. Related Party Transactions**

Since inception, the Company has received consulting and management services from Third Rock Ventures LLC, which through its affiliates, has a controlling interest in the Company and owns Series A Preferred Stock and common stock at December 31, 2013. The Company has paid Third Rock Ventures LLC \$994, \$682 and \$2,661 for these services during the years ended December 31, 2012 and 2013 and for the cumulative period from April 16, 2010 (date of inception) to December 31, 2013, respectively. The Company paid Third Rock Ventures LLC \$213, \$125 and \$2,785 for these services during the three month ended March 31, 2013 and 2014 (unaudited) and for the cumulative period from April 16, 2010 (date of inception) to March 31, 2014 (unaudited), respectively. Amounts owed to Third Rock Ventures LLC and included in accounts payable at December 31, 2012 and 2013 were \$209 and \$125, respectively, and at March 31, 2014 (unaudited) was \$99.

**13. Subsequent Events**

For its financial statements as of December 31, 2013 and for the year then ended, the Company evaluated subsequent events through March 28, 2014, the date on which those financial statements were issued.

**14. Subsequent Events (Unaudited)**

For its interim financial statements as of March 31, 2014 and for the three months then ended, the Company evaluated subsequent events through May 9, 2014, the date on which those financial statements were issued.

Shares



Common Stock

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Preliminary Prospectus

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**J.P. Morgan**

**Goldman, Sachs & Co.**

**Leerink Partners**  
**Canaccord Genuity**

, 2014

Until , 2014, all dealers that effect transactions in these securities, whether or not participating in this offering, may be required to deliver a prospectus. This is in addition to the dealers' obligation to deliver a prospectus when acting as underwriters and with respect to their unsold allotments or subscriptions.

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**PART II****Information Not Required in Prospectus****Item 13. Other expenses of issuance and distribution**

The following table sets forth all expenses, other than the underwriting discounts and commissions, payable by Sage Therapeutics, Inc. (the "Company" or the "Registrant") in connection with the sale of the common stock being registered. All the amounts shown are estimates except the SEC registration fee and the FINRA filing fee.

	<u>Amount</u>
SEC registration fee	\$ *
FINRA filing fee	*
NASDAQ initial listing fee	*
Blue sky qualification fees and expenses	*
Printing and engraving expenses	*
Legal fees and expenses	*
Accounting fees and expenses	*
Transfer agent and registrar fees	*
Miscellaneous	*
Total	<u>\$ *</u>

\* To be filed by amendment.

**Item 14. Indemnification of directors and officers**

Section 145 of the Delaware General Corporation Law permits a corporation to include in its charter documents, and in agreements between the corporation and its directors and officers, provisions expanding the scope of indemnification beyond that specifically provided by the current law.

Section 145(a) of the Delaware General Corporation Law provides, in general, that a corporation may indemnify any person who was or is a party or is threatened to be made a party to any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative (other than an action by or in the right of the corporation), because he or she is or was a director, officer, employee or agent of the corporation, or is or was serving at the request of the corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise, against expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by the person in connection with such action, suit or proceeding, if he or she acted in good faith and in a manner he or she reasonably believed to be in or not opposed to the best interests of the corporation and, with respect to any criminal action or proceeding, had no reasonable cause to believe his or her conduct was unlawful.

Section 145(b) of the Delaware General Corporation Law provides, in general, that a corporation may indemnify any person who was or is a party or is threatened to be made a party to any threatened, pending or completed action or suit by or in the right of the corporation to procure a judgment in its favor because the person is or was a director, officer, employee or agent of the corporation, or is or was serving at the request of the corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise, against expenses (including attorneys' fees) actually and reasonably incurred by the person in connection with the defense or settlement of such action or suit if he or she acted in good faith and in a manner he or she reasonably believed to be in or not opposed to the best interests of the corporation, except that no indemnification shall be made with respect to any claim, issue or matter as to which he or she shall have been adjudged to be liable

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to the corporation unless and only to the extent that the Court of Chancery or other adjudicating court determines that, despite the adjudication of liability but in view of all of the circumstances of the case, he or she is fairly and reasonably entitled to indemnity for such expenses which the Court of Chancery or other adjudicating court shall deem proper.

Section 145(g) of the Delaware General Corporation Law provides, in general, that a corporation may purchase and maintain insurance on behalf of any person who is or was a director, officer, employee or agent of the corporation, or is or was serving at the request of the corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise against any liability asserted against such person and incurred by such person in any such capacity, or arising out of his or her status as such, whether or not the corporation would have the power to indemnify the person against such liability under Section 145 of the Delaware General Corporation Law.

The Company's amended and restated certificate of incorporation, which will become effective upon completion of the offering, provides for the indemnification of directors to the fullest extent permissible under Delaware law.

The Company's amended and restated by-laws, which will become effective upon completion of the offering, provide for the indemnification of officers, directors and third parties acting on the Company's behalf if such persons act in good faith and in a manner reasonably believed to be in and not opposed to the Company's best interest, and, with respect to any criminal action or proceeding, such indemnified party had no reason to believe his or her conduct was unlawful.

The Company is entering into indemnification agreements with each of its directors and executive officers, in addition to the indemnification provisions provided for in its charter documents, and the Company intends to enter into indemnification agreements with any new directors and executive officers in the future. These agreements will provide that we will indemnify each of our directors and executive officers, and such entities to the fullest extent permitted by law.

The underwriting agreement (to be filed as Exhibit 1.1 hereto) will provide for indemnification by the underwriters of the Company, and its executive officers and directors, and indemnification of the underwriters by the Company for certain liabilities, including liabilities arising under the Securities Act of 1933, as amended, in connection with matters specifically provided in writing by the underwriters for inclusion in the registration statement.

The Company intends to purchase and maintain insurance on behalf of any person who is or was a director or officer against any loss arising from any claim asserted against him or her and incurred by him or her in that capacity, subject to certain exclusions and limits of the amount of coverage.

### ***Item 15. Recent sales of unregistered securities***

In the three years preceding the filing of this registration statement, we have issued the following securities that were not registered under the Securities Act:

#### ***Issuances of capital stock***

On September 30, 2011, we issued 6,000,000 shares of our Series A redeemable convertible preferred stock to one investor for an aggregate consideration of \$6,000,000. On April 9, 2012, we issued 4,000,000 shares of our Series A redeemable convertible preferred stock to one investor for \$4,000,000. On November 9, 2012, we issued 5,000,000 shares of our Series A redeemable convertible preferred stock to one investor for \$5,000,000. On March 18, 2013, we issued 5,000,000 shares of our Series A redeemable convertible preferred stock to one investor for \$5,000,000. On

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July 1, 2013, we issued 5,000,000 shares of our Series A redeemable convertible preferred stock to one investor for \$5,000,000. On September 12, 2013, we issued 12,500,000 shares of our Series A redeemable convertible preferred stock to two investors for \$12,500,000. On October 18, 2013, we issued 250,000 shares of our Series A redeemable convertible preferred stock to one investor for \$250,000.

On December 13, 2013, we issued 150,000 shares of our common stock in connection with entering into a license agreement.

On January 7, 2014, we issued 6,666,666 shares of our Series B redeemable convertible preferred stock to two investors for aggregate consideration of \$10,000,000. On February 12, 2014, we issued an aggregate of 3,333,333 shares of our Series B redeemable convertible preferred stock to two investors for \$5,000,000.

On January 24, 2014, we issued 25,000 shares of our common stock to a nonemployee advisor upon attainment of certain clinical milestones.

On March 11, 2014, we issued 8,973,905 shares of our Series C redeemable convertible preferred stock to 13 investors for aggregate consideration of \$38,000,000.

On March 26, 2014, we issued 25,000 shares of our common stock to a nonemployee advisor upon attainment of certain clinical milestones.

No underwriters were used in the foregoing transactions. All sales of securities described above were made in reliance upon the exemption from registration provided by Section 4(2) of the Securities Act (and/or Regulation D promulgated thereunder) for transactions by an issuer not involving a public offering. All of the foregoing securities are deemed restricted securities for the purposes of the Securities Act.

### ***Grants of stock options and restricted stock***

Since January 1, 2011, we have granted stock options to purchase an aggregate of 4,893,500 shares of our common stock, with exercise prices ranging from \$0.0001 to \$2.54 per share, to employees, directors and consultants pursuant to our stock option plan. Since January 1, 2011, we have granted an aggregate of 4,752,500 shares of restricted stock. The issuances of these securities were exempt either pursuant to Rule 701, as a transaction pursuant to a compensatory benefit plan, or pursuant to Section 4(2), as a transaction by an issuer not involving a public offering.

### ***Item 16. Exhibits and financial statement schedules***

#### ***(a) Exhibits.***

The exhibits to the registration statement are listed in the Exhibit Index to this registration statement and are incorporated herein by reference.

#### ***(b) Financial statement schedules.***

None.

### ***Item 17. Undertakings***

Insofar as indemnification for liabilities arising under the Securities Act of 1933, as amended, may be permitted to directors, officers and controlling persons of the Registrant pursuant to the foregoing provisions, or otherwise, the Registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the Registrant of expenses incurred or paid by a director, officer or controlling person of the Registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the Registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act of 1933 and will be governed by the final adjudication of such issue.



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The undersigned Registrant hereby undertakes that:

- (a) The undersigned Registrant will provide to the underwriters at the closing specified in the underwriting agreement certificates in such denominations and registered in such names as required by the underwriters to permit prompt delivery to each purchaser.
- (b) For purposes of determining any liability under the Securities Act, the information omitted from the form of prospectus filed as part of this registration statement in reliance upon Rule 430A and contained in a form of prospectus filed by the Registrant pursuant to Rule 424(b)(1) or (4) or 497(h) under the Securities Act shall be deemed to be part of this registration statement as of the time it was declared effective.
- (c) For the purpose of determining any liability under the Securities Act, each post-effective amendment that contains a form of prospectus shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

**SIGNATURES**

Pursuant to the requirements of the Securities Act of 1933, as amended, the Registrant has duly caused this Registration Statement on Form S-1 to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Cambridge, Commonwealth of Massachusetts, on the \_\_\_\_\_ day of \_\_\_\_\_, 2014.

**SAGE THERAPEUTICS, INC.**

By: \_\_\_\_\_  
Jeffrey M. Jonas, M.D.  
*President and Chief Executive Officer*

**POWER OF ATTORNEY**

Each person whose individual signature appears below hereby authorizes and appoints Jeffrey M. Jonas and Kimi Iguchi and each of them, with full power of substitution and resubstitution and full power to act without the other, as his or her true and lawful attorney in fact and agent to act in his or her name, place and stead and to execute in the name and on behalf of each person, individually and in each capacity stated below, and to file any and all amendments to this Registration Statement, including any and all post effective amendments and amendments thereto, and any registration statement relating to the same offering as this Registration Statement that is to be effective upon filing pursuant to Rule 462(b) under the Securities Act of 1933, as amended, and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys in fact and agents, and each of them, full power and authority to do and perform each and every act and thing, ratifying and confirming all that said attorneys in fact and agents or any of them or their or his substitute or substitutes may lawfully do or cause to be done by virtue thereof.

Pursuant to the requirements of the Securities Act of 1933, as amended, this Registration Statement has been signed by the following persons in the capacities indicated below on the \_\_\_\_\_ day of \_\_\_\_\_, 2014.

<u>Signature</u>	<u>Title</u>	<u>Date</u>
_____ Jeffrey M. Jonas, M.D.	President, Chief Executive Officer and Director (Principal Executive Officer)	_____, 2014
_____ Kimi Iguchi	Chief Financial Officer (Principal Financial and Accounting Officer)	_____, 2014
_____ Robert T. Nelsen	Director	_____, 2014
_____ Steven Paul, M.D.	Director	_____, 2014
_____ Kevin P. Starr	Director	_____, 2014

**EXHIBIT INDEX**

<b>Exhibit No.</b>	<b>Description</b>
1.1*	Form of Underwriting Agreement
3.1	Third Amended and Restated Certificate of Incorporation of the Registrant, as currently in effect
3.2	Form of Fifth Amended and Restated Certificate of Incorporation of the Registrant, to be in effect upon completion of the offering
3.3	By-laws of the Registrant and the amendments thereto, as currently in effect
3.4	Form of Amended and Restated By-laws of the Registrant, to be in effect upon completion of the offering
4.1	Specimen Common Stock Certificate
4.2	Second Amended and Restated Investors' Rights Agreement by and among the Registrant and certain of its stockholders dated March 11, 2014
5.1*	Opinion of Goodwin Procter LLP
10.1	2011 Stock Option Plan and forms of award agreements thereunder
10.2*#	2014 Stock Option and Incentive Plan and forms of award agreements thereunder
10.3†*	Exclusive License Agreement by and between the Registrant and Washington University, dated November 11, 2013
10.4†*	Commercial License Agreement by and between the Registrant and CyDex Pharmaceuticals, Inc., dated August 21, 2013, as amended April 30, 2014
10.5†*	Non-Exclusive License Agreement by and between the Registrant and the Regents of University of California, dated October 23, 2013
10.6	Lease Agreement, by and between the Registrant and ARE-MA Region No. 38, LLC, dated December 11, 2011, as amended by First Amendment to Lease, by and between ARE-MA Region No. 38, LLC, dated October 26, 2012, and Second Amendment to Lease, by and between ARE-MA Region No. 38, LLC, dated May 9, 2013
10.7	Offer letter by and between the Registrant and Jeffrey M. Jonas, dated July 18, 2013
10.8	Offer letter by and between the Registrant and Albert J. Robichaud, dated September 25, 2011
10.9	Offer letter by and between the Registrant and Stephen J. Kanes, dated May 21, 2013
10.10	Offer letter by and between the Registrant and Kimi Iguchi, dated February 7, 2013
10.11	Non-Solicitation, Confidentiality and Assignment Agreement by and between the Registrant and Jeffrey M. Jonas, dated August 19, 2013
10.12	Non-Solicitation, Confidentiality and Assignment Agreement by and between the Registrant and Albert J. Robichaud, dated November 7, 2011
10.13	Non-Solicitation, Confidentiality and Assignment Agreement by and between the Registrant and Stephen J. Kanes, dated July 17, 2013
10.14	Non-Solicitation, Confidentiality and Assignment Agreement by and between the Registrant and Kimi Iguchi, dated March 8, 2013
10.15#	Senior Executive Cash Incentive Bonus Plan
10.16	Form of Indemnification Agreement to be entered into between the Registrant and its directors
10.17	Form of Indemnification Agreement to be entered into between the Registrant and its officers

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<b>Exhibit No.</b>	<b>Description</b>
10.18†*	Supply Agreement by and between the Registrant and CyDex Pharmaceuticals, Inc., dated December 13, 2012, as amended August 21, 2013 and April 30, 2014
21.1*	Subsidiaries of the Registrant
23.1*	Consent of PricewaterhouseCoopers LLP, Independent Registered Public Accounting Firm
23.2*	Consent of Goodwin Procter LLP (included in Exhibit 5.1)
24.1*	Power of Attorney (included on signature page)

\* To be filed by amendment.

† Application has been made to the Securities and Exchange Commission for confidential treatment of certain provisions. Omitted material for which confidential treatment has been requested has been filed separately with the Securities and Exchange Commission.

# Represents management compensation plan.

THIRD AMENDED AND RESTATED  
CERTIFICATE OF INCORPORATION  
OF  
SAGE THERAPEUTICS, INC.

(Pursuant to Sections 242 and 245 of the  
General Corporation Law of the State of Delaware)

Sage Therapeutics, Inc., a corporation organized and existing under and by virtue of the provisions of the General Corporation Law of the State of Delaware (the “**General Corporation Law**”),

**DOES HEREBY CERTIFY:**

1. That the name of this corporation is Sage Therapeutics, Inc., and that this corporation was originally incorporated pursuant to the General Corporation Law on April 16, 2010 under the name Sterogen Biopharma, Inc. That the Certificate of Incorporation was amended on November 5, 2010. An Amended and Restated Certificate of Incorporation was filed with the Secretary of State of the State of Delaware on September 30, 2011, and was amended on September 11, 2013. A Second Amended and Restated Certificate of Incorporation was filed with the Secretary of State of the State of Delaware on October 16, 2013 (the “**Amended and Restated Certificate of Incorporation**”).

2. That the Board of Directors of the corporation duly adopted resolutions proposing to amend and restate the Amended and Restated Certificate of Incorporation of this corporation, declaring said amendment and restatement to be advisable and in the best interests of this corporation and its stockholders, and authorizing the appropriate officers of this corporation to solicit the consent of the stockholders therefor, which resolution setting forth the proposed amendment and restatement is as follows:

**RESOLVED**, that the Amended and Restated Certificate of Incorporation of this corporation be amended and restated in its entirety to read as follows:

**FIRST:** The name of this corporation is Sage Therapeutics, Inc. (the “**Corporation**”).

**SECOND:** The address of the registered office of the Corporation in the State of Delaware is The Corporation Trust Center, 1209 Orange Street, in the City of Wilmington, New Castle County, Delaware 19801. The name of its registered agent at such address is The Corporation Trust Company.

**THIRD:** The nature of the business or purposes to be conducted or promoted is to engage in any lawful act or activity for which corporations may be organized under the General Corporation Law.

**FOURTH:** (i) The total number of shares of all classes of stock which the Corporation shall have authority to issue is 70,623,905 shares of Common Stock, \$0.0001 par

value per share (“**Common Stock**”) and 56,723,905 shares of Preferred Stock, \$0.0001 par value per share (as defined below), of which (A) 37,750,000 shares shall be designated “**Series A Preferred Stock**,” (B) 10,000,000 shares shall be designated “**Series B Preferred Stock**” and (C) 8,973,905 shares shall be designated “**Series C Preferred Stock**.” The Series A Preferred Stock, Series B Preferred Stock and Series C Preferred Stock shall collectively be referred herein as “**Preferred Stock**.”

The following is a statement of the designations and the powers, privileges and rights, and the qualifications, limitations or restrictions thereof in respect of each class of capital stock of the Corporation.

A. COMMON STOCK

1. General. The voting, dividend and liquidation rights of the holders of the Common Stock are subject to and qualified by the rights, powers and preferences of the holders of the Preferred Stock set forth herein.

2. Voting. The holders of the Common Stock are entitled to one vote for each share of Common Stock held at all meetings of stockholders (and written actions in lieu of meetings); provided, however, that, except as otherwise required by law, holders of Common Stock, as such, shall not be entitled to vote on any amendment to the Corporation’s Certificate of Incorporation (as the same may be amended, restated or modified from time to time, the “**Certificate of Incorporation**”) that relates solely to the terms of one or more outstanding series of Preferred Stock if the holders of such affected series are entitled, either separately or together with the holders of one or more other such series, to vote thereon pursuant to the Certificate of Incorporation or pursuant to the General Corporation Law. The number of authorized shares of Common Stock may be increased or decreased (but not below the number of shares thereof then outstanding) by (in addition to any vote of the holders of one or more series of Preferred Stock that may be required by the terms of the Certificate of Incorporation) the affirmative vote of the holders of shares of capital stock of the Corporation representing a majority of the votes represented by all outstanding shares of capital stock of the Corporation entitled to vote, irrespective of the provisions of Section 242(b)(2) of the General Corporation Law.

B. PREFERRED STOCK

Preferred Stock may be issued from time to time in one or more series, each of such series to consist of such number of shares and to have such terms, rights, powers and preferences, and the qualifications and limitations with respect thereto, as stated or expressed herein.

The rights, preferences, powers, privileges and restrictions, qualifications and limitations granted to and imposed on the Preferred Stock are set forth below. Unless otherwise indicated, references to “Sections” in this Part B of this Article Fourth refer to sections of Part B of this Article Fourth.

1. Dividends. From and after the date of the issuance of any shares of Preferred Stock, dividends at the rate per annum \$0.08 per share with respect to the Series A Preferred Stock, \$0.12 per share with respect to the Series B Preferred Stock and \$0.34 per share with

respect to the Series C Preferred Stock shall accrue on such shares of Preferred Stock (subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to the Preferred Stock) (the “**Accruing Dividends**”). Accruing Dividends shall accrue from day to day, whether or not declared, and shall be cumulative; provided however, that except as set forth in the following sentence of this Section 1 or in Subsections 2.1, 2.2 and 2.4.2 such Accruing Dividends shall be payable only when, as, and if declared by the Board of Directors of the Corporation (the “**Board of Directors**”) and the Corporation shall be under no obligation to pay such Accruing Dividends. The Corporation shall not declare, pay or set aside any dividends on shares of any other class or series of capital stock of the Corporation (other than dividends on shares of Common Stock payable in shares of Common Stock) unless (in addition to the obtaining of any consents required elsewhere in the Certificate of Incorporation) the holders of the Preferred Stock then outstanding shall first receive, or simultaneously receive, a dividend on each outstanding share of Preferred Stock in an amount at least equal to the greater of (i) the amount of the aggregate Accruing Dividends then accrued on such shares of Preferred Stock and not previously paid and (ii) (A) in the case of a dividend on Common Stock or any class or series that is convertible into Common Stock, that dividend per share of Preferred Stock as would equal the product of (1) the dividend payable on each share of such class or series determined, if applicable, as if all shares of such class or series had been converted into Common Stock and (2) the number of shares of Common Stock issuable upon conversion of a share of such class or series of Preferred Stock, in each case calculated on the record date for determination of holders entitled to receive such dividend or (B) in the case of a dividend on any class or series that is not convertible into Common Stock, at a rate per share of Preferred Stock determined by (1) dividing the amount of the dividend payable on each share of such class or series of capital stock by the original issuance price of such class or series of capital stock (subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to such class or series) and (2) multiplying such fraction by an amount equal to the Applicable Original Issue Price (as defined below); provided that, if the Corporation declares, pays or sets aside, on the same date, a dividend on shares of more than one class or series of capital stock of the Corporation, the dividend payable to the holders of Preferred Stock pursuant to this Section 1 shall be calculated based upon the dividend on the class or series of capital stock that would result in the highest Preferred Stock dividend. The “**Series A Original Issue Price**” shall mean \$1.00 per share, subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to the Series A Preferred Stock. The “**Series B Original Issue Price**” shall mean \$1.50 per share, subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to the Series B Preferred Stock. The “**Series C Original Issue Price**” shall mean \$4.2345 per share, subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to the Series C Preferred Stock. The “**Applicable Original Issue Price**” shall mean the Series A Original Issue Price, in the case of the Series A Preferred Stock, the Series B Original Issue Price, in the case of the Series B Preferred Stock, and the Series C Original Issue Price, in the case of the Series C Preferred Stock.

## 2. Liquidation, Dissolution or Winding Up; Certain Mergers, Consolidations and Asset Sales.

2.1 Preferential Payments to Holders of Series C Preferred Stock. In the event of any voluntary or involuntary liquidation, dissolution or winding up of the Corporation or Deemed Liquidation Event (as defined below), the holders of shares of Series C Preferred Stock then outstanding shall be entitled to be paid out of the assets of the Corporation available for distribution to its stockholders before any payment shall be made to the holders of Series A Preferred Stock, Series B Preferred Stock or Common Stock by reason of their ownership thereof, an amount per share equal to the Series C Original Issue Price plus any Accruing Dividends accrued but unpaid thereon, whether or not declared, together with any other dividends declared but unpaid thereon. If upon any such liquidation, dissolution or winding up of the Corporation or Deemed Liquidation Event, the assets of the Corporation available for distribution to its stockholders shall be insufficient to pay to the holders of shares of Series C Preferred Stock the full amount to which they shall be entitled under this Subsection 2.1, the holders of shares of Series C Preferred Stock shall share ratably in any distribution of the assets available for distribution in proportion to the respective amounts which would otherwise be payable in respect of the shares held by them upon such distribution if all amounts payable on or with respect to such shares were paid in full.

2.2 Preferential Payments to Holders of Series B Preferred Stock and Series A Preferred Stock. In the event of any voluntary or involuntary liquidation, dissolution or winding up of the Corporation or Deemed Liquidation Event, after the payment of all preferential amounts required to be paid to the holders of shares of Series C Preferred Stock in accordance with Subsection 2.1, the holders of shares of Series A Preferred Stock and Series B Preferred Stock then outstanding, on a *pari passu* basis, shall be entitled to be paid out of the assets of the Corporation available for distribution to its stockholders before any payment shall be made to the holders of Common Stock by reason of their ownership thereof, an amount per share equal to (i) in the case of the Series A Preferred Stock, the Series A Original Issue Price plus any Accruing Dividends accrued but unpaid thereon, whether or not declared, together with any other dividends declared but unpaid thereon and (ii) in the case of the Series B Preferred Stock, the Series B Original Issue Price plus any Accruing Dividends accrued but unpaid thereon, whether or not declared, together with any other dividends declared but unpaid thereon. If upon any such liquidation, dissolution or winding up of the Corporation or Deemed Liquidation Event, the assets of the Corporation available for distribution to its stockholders shall be insufficient to pay to the holders of shares of Series A Preferred Stock and Series B Preferred Stock the full amount to which they shall be entitled under this Subsection 2.2, the holders of shares of Series A Preferred Stock and Series B Preferred Stock shall share ratably in any distribution of the assets available for distribution in proportion to the respective amounts which would otherwise be payable in respect of the shares held by them upon such distribution if all amounts payable on or with respect to such shares were paid in full.

2.3 Distribution of Remaining Assets. In the event of any voluntary or involuntary liquidation, dissolution or winding up of the Corporation or Deemed Liquidation Event, after the payment of all preferential amounts required to be paid to the holders of shares of Preferred Stock in accordance with Subsections 2.1 and 2.2, the remaining assets of the Corporation available for distribution to its stockholders shall be distributed among the holders of the shares of Series A Preferred Stock, Series B Preferred Stock, Series C Preferred Stock and Common Stock, pro rata based on the number of shares held by each such holder, treating for this purpose all such securities as if they had been converted to Common Stock pursuant to the



terms of the Certificate of Incorporation immediately prior to such dissolution, liquidation or winding up of the Corporation or Deemed Liquidation Event; provided, however, that if (i) in the case of Series A Preferred Stock, the aggregate amount which the holders of Series A Preferred Stock are entitled to receive under Subsections 2.2 and 2.3 shall exceed \$2.50 per share (subject to appropriate adjustment in the event of a stock split, stock dividend, combination, reclassification, or similar event affecting the Series A Preferred Stock) (the “**Series A Maximum Participation Amount**”), (ii) in the case of Series B Preferred Stock, the aggregate amount which the holders of Series B Preferred Stock are entitled to receive under Subsections 2.2 and 2.3 shall exceed \$3.75 per share (subject to appropriate adjustment in the event of a stock split, stock dividend, combination, reclassification, or similar event affecting the Series B Preferred Stock) (the “**Series B Maximum Participation Amount**”), or (iii) in the case of Series C Preferred Stock, the aggregate amount which the holders of Series C Preferred Stock are entitled to receive under Subsections 2.1 and 2.3 shall exceed \$10.58 per share (subject to appropriate adjustment in the event of a stock split, stock dividend, combination, reclassification, or similar event affecting the Series C Preferred Stock) (the “**Series C Maximum Participation Amount**,” and together with the Series A Maximum Participation Amount and the Series B Maximum Participation Amount, the “**Applicable Maximum Participation Amount**”), each holder of each series of Preferred Stock shall be entitled to receive upon such liquidation, dissolution or winding up of the Corporation or Deemed Liquidation Event the greater of (i) the Applicable Maximum Participation Amount for such series of Preferred Stock and (ii) the amount such holder would have received if all shares of such series of Preferred Stock had been converted into Common Stock immediately prior to such liquidation, dissolution or winding up of the Corporation or Deemed Liquidation Event (such greater amount with respect to a series of Preferred Stock, the “**Liquidation Amount**”).

#### 2.4 Deemed Liquidation Events.

2.4.1 Definition. Each of the following events shall be considered a “**Deemed Liquidation Event**” unless (x) the holders of at least sixty-six percent (66%) of the then outstanding shares of Preferred Stock, voting together as a single class, and not as separate series, on an as-converted basis (the “**Requisite Preferred Vote**”) and (y) at any time when any shares of Series C Preferred Stock are outstanding, the holders of at least a majority of the then outstanding shares of Series C Preferred Stock (voting exclusively and as a separate class) (the “**Series C Vote**”) elect otherwise by written notice sent to the Corporation at least thirty (30) days prior to the effective date of any such event:

(a) a merger or consolidation in which

(i) the Corporation is a constituent party or

(ii) a subsidiary of the Corporation is a constituent party and the Corporation issues shares of its capital stock pursuant to such merger or consolidation,

except (A) any such merger or consolidation effected exclusively to change the domicile of the Corporation or (B) any such merger or consolidation involving the Corporation or a subsidiary in which the shares of capital stock of the Corporation outstanding immediately prior to such merger or consolidation continue to represent, or are converted into or exchanged for shares of

capital stock that represent, immediately following such merger or consolidation, at least a majority, by voting power, of the capital stock of (1) the surviving or resulting corporation or (2) if the surviving or resulting corporation is a wholly owned subsidiary of another corporation immediately following such merger or consolidation, the parent corporation of such surviving or resulting corporation; or

(b) the sale, lease, transfer, exclusive license or other disposition, in a single transaction or series of related transactions, by the Corporation or any subsidiary of the Corporation of all or substantially all the assets of the Corporation and its subsidiaries taken as a whole or the sale or disposition (whether by merger or otherwise) of one or more subsidiaries of the Corporation if substantially all of the assets of the Corporation and its subsidiaries taken as a whole are held by such subsidiary or subsidiaries, except where such sale, lease, transfer, exclusive license or other disposition is to a wholly owned subsidiary of the Corporation.

#### 2.4.2 Effecting a Deemed Liquidation Event; Redemption

(a) The Corporation shall not have the power to effect a Deemed Liquidation Event referred to in Section 2.4.1(a)(i) above unless the agreement or plan of merger or consolidation for such transaction (the “**Merger Agreement**”) provides that the consideration payable to the stockholders of the Corporation shall be allocated among the holders of capital stock of the Corporation in accordance with Sections 2.1, 2.2 and 2.3 above.

(b) In the event of a Deemed Liquidation Event referred to in Section 2.4.1(a)(ii), or 2.4.1(b) above, if the Corporation does not effect a dissolution of the Corporation under the General Corporation Law within ninety (90) days after such Deemed Liquidation Event, then (i) the Corporation shall send a written notice to each holder of Preferred Stock no later than the ninetieth (90<sup>th</sup>) day after the Deemed Liquidation Event advising such holders of their right (and the requirements to be met to secure such right) pursuant to the terms of the following clause (ii) to require the redemption of such shares of Preferred Stock, and (ii) if the Requisite Preferred Vote and, at any time when any shares of Series C Preferred Stock are outstanding, the Series C Vote so request in a written instrument delivered to the Corporation not later than one hundred twenty (120) days after such Deemed Liquidation Event, the Corporation shall use the consideration received by the Corporation for such Deemed Liquidation Event (net of any retained liabilities associated with the assets sold or technology licensed, as determined in good faith by the Board of Directors (the “**Net Proceeds**”)), to the extent legally available therefor, on the one hundred fiftieth (150<sup>th</sup>) day after such Deemed Liquidation Event, to redeem all outstanding shares of Preferred Stock at a price per share equal to the applicable Liquidation Amount.

(c) Notwithstanding the foregoing, in the event of a redemption pursuant to Subsection 2.14(b), if the Net Proceeds are not sufficient to redeem all outstanding shares of Preferred Stock, or if the Corporation does not have sufficient lawfully available funds to effect such redemption, the Corporation shall redeem all of the shares of Series C Preferred Stock then outstanding, out of the Net Proceeds, before any payment shall be made to the holders of Series A Preferred Stock, Series B Preferred Stock or Common Stock by reason of their ownership thereof, at a price per share equal to the Series C Original Issue Price plus any

Accruing Dividends accrued but unpaid thereon, whether or not declared, together with any other dividends declared but unpaid thereon. Notwithstanding the foregoing, in the event of a redemption pursuant to this Subsection 2.14(c), if the Net Proceeds are not sufficient to redeem all outstanding shares of the Series C Preferred Stock, or if the Corporation does not have sufficient lawfully available funds to effect such redemption, the Corporation shall redeem a pro rata portion of each holder's shares of Series C Preferred Stock to the fullest extent of such Net Proceeds or such lawfully available funds, as the case may be, based on the respective amounts which would otherwise be payable in respect of the shares to be redeemed if the legally available funds were sufficient to redeem all such shares, and shall redeem the remaining shares to have been redeemed as soon as practicable after the Corporation has funds legally available therefor.

(d) After the payment of all preferential amounts required to be paid to the holders of shares of Series C Preferred Stock in accordance with Subsection 2.4.2(c), the Corporation shall redeem all of the shares of Series A Preferred Stock and Series B Preferred Stock then outstanding, on a *pari passu* basis, out of the remaining Net Proceeds of the Corporation available for distribution to its stockholders before any payment shall be made to the holders of Common Stock by reason of their ownership thereof, an amount per share equal to (i) in the case of the Series A Preferred Stock, the Series A Original Issue Price plus any Accruing Dividends accrued but unpaid thereon, whether or not declared, together with any other dividends declared but unpaid thereon and (ii) in the case of the Series B Preferred Stock, the Series B Original Issue Price plus any Accruing Dividends accrued but unpaid thereon, whether or not declared, together with any other dividends declared but unpaid thereon. Notwithstanding the foregoing, in the event of a redemption pursuant to this Subsection 2.14(d), if the Net Proceeds are not sufficient to redeem all outstanding shares of the Series A Preferred Stock and Series B Preferred Stock, or if the Corporation does not have sufficient lawfully available funds to effect such redemption, the Corporation shall redeem a pro rata portion of each holder's shares of Series A Preferred Stock and Series B Preferred Stock to the fullest extent of such Net Proceeds or such lawfully available funds, as the case may be, based on the respective amounts which would otherwise be payable in respect of the shares to be redeemed if the legally available funds were sufficient to redeem all such shares, and shall redeem the remaining shares to have been redeemed as soon as practicable after the Corporation has funds legally available therefor.

(e) After the payment of all preferential amounts required to be paid to the holders of shares of Series B Preferred Stock and Series A Preferred Stock, in accordance with Subsection 2.4.2(d), the Corporation shall redeem all of the shares of Common Stock then outstanding out of the remaining Net Proceeds of the Corporation available for distribution to its stockholders. Notwithstanding the foregoing, in the event of a redemption pursuant to this Subsection 2.14(e), if the Net Proceeds are not sufficient to redeem all outstanding shares of the Common Stock, or if the Corporation does not have sufficient lawfully available funds to effect such redemption, the Corporation shall redeem a pro rata portion of each holder's shares of Common Stock to the fullest extent of such Net Proceeds or such lawfully available funds, as the case may be, based on the respective amounts which would otherwise be payable in respect of the shares to be redeemed if the legally available funds were sufficient to redeem all such shares, and shall redeem the remaining shares to have been redeemed as soon as practicable after the Corporation has funds legally available therefor.

(f) The provisions of Subsections 2.4.2(g)(i) through 2.4.2(g)(iv) below shall apply, with such necessary changes in the details thereof as are necessitated by the context (including to the Redemption Price), to the redemption of the Preferred Stock pursuant to this Subsection 2.4.2(f). Prior to the distribution or redemption provided for in this Subsection 2.4.2(f), the Corporation shall not expend or dissipate the consideration received for such Deemed Liquidation Event, except to discharge expenses incurred in connection with such Deemed Liquidation Event or in the ordinary course of business.

(g) The holders of the Preferred Stock shall have redemption rights as follows:

(i) Shares of each series of Preferred Stock shall be redeemed by the Corporation at a price equal to the Applicable Original Issue Price of such series of Preferred Stock, plus any Accruing Dividends accrued but unpaid thereon (the “**Redemption Price**”) in three (3) annual installments commencing not more than sixty (60) days after receipt by the Corporation at any time on or after September 30, 2020, from the Requisite Preferred Vote and, if any shares of Series C Preferred Stock are outstanding, the Series C Vote, of written notice requesting redemption of all shares of Preferred Stock (the “**Redemption Request**”). Upon receipt of a Redemption Request, the Corporation shall apply all of its assets to any such redemption, and to no other corporate purpose, except to the extent prohibited by Delaware law governing distributions to stockholders. The date of each such installment shall be referred to as a “**Redemption Date**”. On each Redemption Date, the Corporation shall redeem, on a pro rata basis in accordance with the number of shares of Preferred Stock owned by each holder, that number of outstanding shares of Preferred Stock determined by dividing (i) the total number of shares of Preferred Stock outstanding immediately prior to such Redemption Date by (ii) the number of remaining Redemption Dates (including the Redemption Date to which such calculation applies). If on any Redemption Date Delaware law governing distributions to stockholders prevents the Corporation from redeeming all shares of Preferred Stock to be redeemed, the Corporation shall ratably redeem the maximum number of shares that it may redeem consistent with such law, and shall redeem the remaining shares as soon as it may lawfully do so under such law.

(ii) On or before each Redemption Date, each holder of shares of Preferred Stock to be redeemed on such Redemption Date, unless such holder has exercised his, her or its right to convert such shares as provided in Section 4, shall surrender the certificate or certificates representing such shares (or, if such registered holder alleges that such certificate has been lost, stolen or destroyed, a lost certificate affidavit and agreement reasonably acceptable to the Corporation to indemnify the Corporation against any claim that may be made against the Corporation on account of the alleged loss, theft or destruction of such certificate) to the Corporation, and thereupon the redemption price for such shares shall be payable to the order of the person whose name appears on such certificate or certificates as the owner thereof.

(iii) If on the applicable Redemption Date the redemption price payable upon redemption of the shares of Preferred Stock to be redeemed on such Redemption Date is paid or tendered for payment or deposited with an independent payment agent so as to be available therefor, then notwithstanding that the certificates evidencing any of the shares of Preferred Stock so called for redemption shall not have been surrendered, all

rights with respect to such shares shall forthwith after the Redemption Date terminate, except only the right of the holders to receive the redemption price without interest upon surrender of their certificate or certificates therefor.

(iv) Any shares of Preferred Stock that are redeemed or otherwise acquired by the Corporation or any of its subsidiaries shall be automatically and immediately cancelled and retired and shall not be reissued, sold or transferred. Neither the Corporation nor any of its subsidiaries may exercise any voting or other rights granted to the holders of Preferred Stock following redemption.

2.4.3 Amount Deemed Paid or Distributed. The amount deemed paid or distributed to the holders of capital stock of the Corporation upon any such merger, consolidation, sale, transfer, exclusive license, other disposition or redemption shall be the cash or the value of the property, rights or securities paid or distributed to such holders by the Corporation or the acquiring person, firm or other entity. The value of such property, rights or securities shall be determined in good faith by the Board of Directors, including the approval of both Preferred Directors (as defined below).

2.4.4 Allocation of Escrow or Contingent Payments. In the case of a Deemed Liquidation Event pursuant to Section 2.4.1(a)(i) above, if any portion of the consideration payable to the stockholders of the Corporation is placed into escrow and/or is payable to the stockholders of the Corporation subject to contingencies, the Merger Agreement shall provide that (a) the portion of such consideration that is not placed in escrow and not subject to any contingencies (the “**Initial Consideration**”) shall be allocated among the holders of capital stock of the Corporation in accordance with Sections 2.1, 2.2 and 2.3 above as if the Initial Consideration were the only consideration payable in connection with such Deemed Liquidation Event and (b) any additional consideration which becomes payable to the stockholders of the Corporation upon release from escrow or satisfaction of contingencies shall be allocated among the holders of capital stock of the Corporation in accordance with Sections 2.1, 2.2 and 2.3 above after taking into account the previous payment of the Initial Consideration as part of the same transaction. The result of this approach is that, for certain transactions, the portion of the transaction consideration that is subject to an escrow or other contingencies may be allocated disproportionately to the holders of Common Stock.

### 3. Voting.

3.1 General. On any matter presented to the stockholders of the Corporation for their action or consideration at any meeting of stockholders of the Corporation (or by written consent of stockholders in lieu of meeting), each holder of outstanding shares of Preferred Stock shall be entitled to cast the number of votes equal to the number of whole shares of Common Stock into which the shares of Preferred Stock held by such holder are convertible as of the record date for determining stockholders entitled to vote on such matter. Except as provided by law or by the other provisions of the Certificate of Incorporation, holders of Preferred Stock shall vote together with the holders of Common Stock as a single class on an as-converted basis.

3.2 Election of Directors. The holders of record of the shares of Preferred Stock, voting together as a single class, and not as separate series, on an as-converted basis, shall

be entitled to elect two (2) directors of the Corporation (the “**Preferred Directors**”). Any director elected as provided in the preceding sentence may be removed without cause by, and only by, the affirmative vote of the holders of the shares of the class or series of capital stock entitled to elect such director or directors, given either at a special meeting of such stockholders duly called for that purpose or pursuant to a written consent of stockholders. The holders of record of the shares of Common Stock and of any other class or series of voting stock (including the Preferred Stock), voting together as a single class, and not as separate series, on an as-converted basis, shall be entitled to elect the balance of the total number of directors of the Corporation. At any meeting held for the purpose of electing a director, the presence in person or by proxy of the holders of a majority of the outstanding shares of the class or series entitled to elect such director shall constitute a quorum for the purpose of electing such director. A vacancy in any directorship filled by the holders of any class or series shall be filled only by vote or written consent in lieu of a meeting of the holders of such class or series or by any remaining director or directors elected by the holders of such class or series pursuant to this Section 3.2.

**3.3 Preferred Stock Protective Provisions.** At any time when any shares of Preferred Stock are outstanding, the Corporation or any of its subsidiaries shall not, either directly or indirectly by amendment, merger, consolidation or otherwise, do any of the following without (in addition to any other vote required by law or the Certificate of Incorporation) the written consent or affirmative vote of the holders of the Requisite Preferred Vote, given in writing or by vote at a meeting, consenting or voting (as the case may be) separately as a class:

- (a) liquidate, dissolve or wind-up the business and affairs of the Corporation, effect any merger or consolidation or any other Deemed Liquidation Event, or consent to any of the foregoing;
- (b) amend, alter or repeal any provision of the Certificate of Incorporation or bylaws of the Corporation (the “**Bylaws**”);
- (c) create or authorize the creation of, or issue or obligate itself to issue shares of, any other security convertible into or exercisable for, any equity security having rights, preferences or privileges senior to or on parity with the Preferred Stock, or increase the authorized number of shares of Preferred Stock or of any additional class or series of capital stock unless it ranks junior to the Preferred Stock;
- (d) reclassify, alter or amend any existing security of the Corporation that is junior to or on parity with the Preferred Stock, if such reclassification, alteration or amendment would render such other security senior to or on parity with the Preferred Stock;
- (e) purchase or redeem (or permit any of its subsidiaries to purchase or redeem) or pay or declare any dividend or make any distribution on, any shares of capital stock junior to the Preferred Stock, other than (i) stock repurchased from former employees or consultants in connection with the cessation of their employment/services, at the lower of the original purchase price or the then-current fair market value thereof;

(f) create or authorize the creation of any debt security other than equipment leases or bank lines of credit unless such debt security has received the prior approval of the Board of Directors, including the approval of both Preferred Directors;

(g) increase or decrease the authorized number of directors constituting the Board of Directors; or

(h) create or hold capital stock in any subsidiary that is not a wholly-owned subsidiary or dispose of any subsidiary stock or all or substantially all of any subsidiary assets.

**3.4 Series C Preferred Stock Protective Provisions.** At any time when any shares of Series C Preferred Stock are outstanding, the Corporation or any of its subsidiaries shall not, either directly or indirectly by amendment, merger, consolidation or otherwise, do any of the following without (in addition to any other vote required by law or the Certificate of Incorporation) the written consent or affirmative vote of the Series C Vote, given in writing or by vote at a meeting, consenting or voting (as the case may be) exclusively and separately as a class:

(a) alter or change the rights, preferences or privileges of the shares of Series C Preferred Stock so as to adversely affect them, provided that for the avoidance of doubt the authorization or issuance of any other series or class of capital stock ranking junior, *pari passu* or senior to the Series C Preferred Stock with respect to one or more powers, preferences or special rights shall not, in and of itself, be deemed to constitute an amendment, alteration or change of the powers, preferences or special rights of the Series C Preferred that adversely affects the Series C Preferred for purposes of this Section 3.4(a);

(b) create or authorize the creation of additional shares of Series C Preferred Stock or increase the authorized number of shares of Series C Preferred Stock;

(c) reclassify, alter or amend any existing security of the Corporation that is junior to or on parity with the Series C Preferred Stock, if such reclassification, alteration or amendment would render such other security senior to or on parity with the Series C Preferred Stock; or

(d) purchase or redeem or pay or declare any dividend or make any distribution on, any shares of capital stock prior to the Series C Preferred Stock, other than stock repurchased from former employees or consultants in connection with the cessation of their employment/services, at the lower of fair market value or cost.

#### 4. Optional Conversion.

The holders of the Preferred Stock shall have conversion rights as follows (the “**Conversion Rights**”):

##### 4.1 Right to Convert.

4.1.1 Conversion Ratio. Each share of Preferred Stock shall be convertible, at the option of the holder thereof, at any time and from time to time, and without the payment of additional consideration by the holder thereof, into such number of fully paid and nonassessable shares of Common Stock as is determined by dividing the Applicable Original Issue Price by the Applicable Conversion Price (as defined below) in effect at the time of conversion. The “**Series A Conversion Price**” shall initially be equal to \$1.00. Such initial Series A Conversion Price, and the rate at which shares of Series A Preferred Stock may be converted into shares of Common Stock, shall be subject to adjustment as provided below. The “**Series B Conversion Price**” shall initially be equal to \$1.50. Such initial Series B Conversion Price, and the rate at which shares of Series B Preferred Stock may be converted into shares of Common Stock, shall be subject to adjustment as provided below. The “**Series C Conversion Price**” shall initially be equal to \$4.2345. Such initial Series C Conversion Price, and the rate at which shares of Series C Preferred Stock may be converted into shares of Common Stock, shall be subject to adjustment as provided below. The Series A Conversion Price, Series B Conversion Price and Series C Conversion Price are sometimes referred to as the “**Applicable Conversion Price.**”

4.1.2 Termination of Conversion Rights. In the event of a notice of redemption of any shares of Preferred Stock pursuant to Section 2.4.2, the Conversion Rights of the shares designated for redemption shall terminate at the close of business on the last full day preceding the date fixed for redemption, unless the redemption price is not fully paid on such redemption date, in which case the Conversion Rights for such shares shall continue until such price is paid in full. In the event of a liquidation, dissolution or winding up of the Corporation or a Deemed Liquidation Event, the Conversion Rights shall terminate at the close of business on the last full day preceding the date fixed for the payment of any such amounts distributable on such event to the holders of Preferred Stock.

4.2 Fractional Shares. No fractional shares of Common Stock shall be issued upon conversion of the Preferred Stock. In lieu of any fractional shares to which the holder would otherwise be entitled, the Corporation shall pay cash equal to such fraction multiplied by the fair market value of a share of Common Stock as determined in good faith by the Board of Directors. Whether or not fractional shares would be issuable upon such conversion shall be determined on the basis of the total number of shares of Preferred Stock the holder is at the time converting into Common Stock and the aggregate number of shares of Common Stock issuable upon such conversion.

##### 4.3 Mechanics of Conversion.

4.3.1 Notice of Conversion. In order for a holder of Preferred Stock to voluntarily convert shares of Preferred Stock into shares of Common Stock, such holder shall surrender the certificate or certificates for such shares of Preferred Stock (or, if such registered holder alleges that such certificate has been lost, stolen or destroyed, a lost certificate affidavit and agreement reasonably acceptable to the Corporation to indemnify the Corporation against any claim that may be made against the Corporation on account of the alleged loss, theft or destruction of such certificate), at the office of the transfer agent for the Preferred Stock (or at the principal office of the Corporation if the Corporation serves as its own transfer agent), together with written notice that such holder elects to convert all or any number of the shares of the



Preferred Stock represented by such certificate or certificates and, if applicable, any event on which such conversion is contingent. Such notice shall state such holder's name or the names of the nominees in which such holder wishes the certificate or certificates for shares of Common Stock to be issued. If required by the Corporation, certificates surrendered for conversion shall be endorsed or accompanied by a written instrument or instruments of transfer, in form satisfactory to the Corporation, duly executed by the registered holder or his, her or its attorney duly authorized in writing. The close of business on the date of receipt by the transfer agent (or by the Corporation if the Corporation serves as its own transfer agent) of such certificates (or lost certificate affidavit and agreement) and notice shall be the time of conversion (the "**Conversion Time**"), and the shares of Common Stock issuable upon conversion of the shares represented by such certificate shall be deemed to be outstanding of record as of such date. The Corporation shall, as soon as practicable after the Conversion Time, (i) issue and deliver to such holder of Preferred Stock, or to his, her or its nominees, a certificate or certificates for the number of full shares of Common Stock issuable upon such conversion in accordance with the provisions hereof and a certificate for the number (if any) of the shares of Preferred Stock represented by the surrendered certificate that were not converted into Common Stock, (ii) pay in cash such amount as provided in Section 4.2 in lieu of any fraction of a share of Common Stock otherwise issuable upon such conversion and (iii) pay all declared but unpaid dividends on the shares of Preferred Stock converted.

4.3.2 Reservation of Shares. The Corporation shall at all times when the Preferred Stock shall be outstanding, reserve and keep available out of its authorized but unissued capital stock, for the purpose of effecting the conversion of the Preferred Stock, such number of its duly authorized shares of Common Stock as shall from time to time be sufficient to effect the conversion of all outstanding Preferred Stock; and if at any time the number of authorized but unissued shares of Common Stock shall not be sufficient to effect the conversion of all then outstanding shares of the Preferred Stock, the Corporation shall take such corporate action as may be necessary to increase its authorized but unissued shares of Common Stock to such number of shares as shall be sufficient for such purposes, including, without limitation, engaging in best efforts to obtain the requisite stockholder approval of any necessary amendment to the Certificate of Incorporation. Before taking any action which would cause an adjustment reducing the Applicable Conversion Price of a series of Preferred Stock below the then par value of the shares of Common Stock issuable upon conversion of the Preferred Stock, the Corporation will take any corporate action which may, in the opinion of its counsel, be necessary in order that the Corporation may validly and legally issue fully paid and nonassessable shares of Common Stock at such adjusted Applicable Conversion Price of such series of Preferred Stock.

4.3.3 Effect of Conversion. All shares of Preferred Stock which shall have been surrendered for conversion as herein provided shall no longer be deemed to be outstanding and all rights with respect to such shares shall immediately cease and terminate at the Conversion Time, except only the right of the holders thereof to receive shares of Common Stock in exchange therefore, to receive payment in lieu of any fraction of a share otherwise issuable upon such conversion as provided in Section 4.2 and to receive payment of any dividends declared but unpaid thereon. Any shares of Preferred Stock so converted shall be retired and cancelled and may not be reissued as shares of such series, and the Corporation may thereafter take such appropriate action (without the need for stockholder action) as may be necessary to reduce the authorized number of shares of the applicable series of Preferred Stock accordingly.

4.3.4 No Further Adjustment. Upon any such conversion, no adjustment to the Applicable Conversion Price shall be made for any declared but unpaid dividends on the Preferred Stock surrendered for conversion or on the Common Stock delivered upon conversion.

4.3.5 Taxes. The Corporation shall pay any and all issue and other similar taxes that may be payable in respect of any issuance or delivery of shares of Common Stock upon conversion of shares of Preferred Stock pursuant to this Section 4. The Corporation shall not, however, be required to pay any tax which may be payable in respect of any transfer involved in the issuance and delivery of shares of Common Stock in a name other than that in which the shares of Preferred Stock so converted were registered, and no such issuance or delivery shall be made unless and until the person or entity requesting such issuance has paid to the Corporation the amount of any such tax or has established, to the satisfaction of the Corporation, that such tax has been paid.

#### 4.4 Adjustments to Applicable Conversion Price for Diluting Issues.

4.4.1 Special Definitions. For purposes of this Article Fourth, the following definitions shall apply:

(a) “**Option**” shall mean rights, options or warrants to subscribe for, purchase or otherwise acquire Common Stock or Convertible Securities.

(b) “**Series C Original Issue Date**” shall mean the date on which the first share of Series C Preferred Stock was issued.

(c) “**Convertible Securities**” shall mean any evidences of indebtedness, shares or other securities directly or indirectly convertible into or exchangeable for Common Stock, but excluding Options.

(d) “**Additional Shares of Common Stock**” shall mean all shares of Common Stock issued (or, pursuant to Section 4.4.3 below, deemed to be issued) by the Corporation after the Series C Original Issue Date, other than (1) the following shares of Common Stock and (2) shares of Common Stock deemed issued pursuant to the following Options and Convertible Securities (clauses (1) and (2), collectively “**Exempted Securities**”):

(i) shares of Common Stock, Options or Convertible Securities issued as a dividend or distribution on, or upon the conversion of, Preferred Stock, and shares of Common Stock issuable upon the exercise of such Options or, in the case of Convertible Securities and Options therefor, the conversion or exchange of such Convertible Securities;

(ii) shares of Common Stock, Options or Convertible Securities issued by reason of a dividend, stock split, split-up or other distribution on shares of Common Stock that is covered by Sections 4.5, 4.6, 4.7 or 4.8 below, and shares of Common Stock issuable upon the exercise of such Options or, in the case of Convertible Securities and Options therefor, the conversion or exchange of such Convertible Securities;

(iii) shares of Common Stock or Options issued to employees or directors of, or consultants or advisors to, the Corporation or any of its subsidiaries pursuant to a plan, agreement or arrangement approved by the Board of Directors, including the approval of both Preferred Directors, and shares of Common Stock actually issued upon the exercise or conversion of such Options; or

(iv) shares of Common Stock, Options or Convertible Securities issued to banks, equipment lessors or other financial institutions, or to real property lessors, pursuant to a debt financing, equipment leasing or real property leasing transaction approved by the Board of Directors, including the approval of both Preferred Directors, and shares of Common Stock issuable upon the exercise of such Options or, in the case of Convertible Securities and Options therefor, the conversion or exchange of such Convertible Securities.

**4.4.2 No Adjustment of Applicable Conversion Price.** No adjustment in the Applicable Conversion Price of a series of Preferred Stock shall be made as the result of the issuance or deemed issuance of Additional Shares of Common Stock if the Corporation receives written notice from the Requisite Preferred Vote agreeing that no such adjustment shall be made as the result of the issuance or deemed issuance of such Additional Shares of Common Stock. Notwithstanding the foregoing, at any time when any shares of Series C Preferred Stock are outstanding, any adjustment to the Series C Conversion Price shall require the Series C Vote, given in writing or by vote at a meeting.

**4.4.3 Deemed Issue of Additional Shares of Common Stock.**

(a) If the Corporation at any time or from time to time after the Series C Original Issue Date shall issue any Options or Convertible Securities (excluding Options or Convertible Securities which are themselves Exempted Securities) or shall fix a record date for the determination of holders of any class of securities entitled to receive any such Options or Convertible Securities, then the maximum number of shares of Common Stock (as set forth in the instrument relating thereto, assuming the satisfaction of any conditions to exercisability, convertibility or exchangeability but without regard to any provision contained therein for a subsequent adjustment of such number) issuable upon the exercise of such Options or, in the case of Convertible Securities and Options therefor, the conversion or exchange of such Convertible Securities, shall be deemed to be Additional Shares of Common Stock issued as of the time of such issue or, in case such a record date shall have been fixed, as of the close of business on such record date.

(b) If the terms of any Option or Convertible Security, the issuance of which resulted in an adjustment to the Applicable Conversion Price of a series of Preferred Stock pursuant to the terms of Section 4.4.4 below, are revised as a result of an amendment to such terms or if any other adjustment is made pursuant to the provisions of such Option or Convertible Security (but excluding automatic adjustments to such terms pursuant to anti-dilution or similar provisions of such Option or Convertible Security) to provide for either

(1) any increase or decrease in the number of shares of Common Stock issuable upon the exercise, conversion and/or exchange of any such Option or Convertible Security or (2) any increase or decrease in the consideration payable to the Corporation upon such exercise, conversion and/or exchange, then, effective upon such increase or decrease becoming effective, the Applicable Conversion Price computed upon the original issue of such Option or Convertible Security (or upon the occurrence of a record date with respect thereto) shall be readjusted to such Applicable Conversion Price as would have obtained had such revised terms been in effect upon the original date of issuance of such Option or Convertible Security. Notwithstanding the foregoing, no readjustment pursuant to this clause (b) shall have the effect of increasing the Applicable Conversion Price of a series of Preferred Stock to an amount which exceeds the lower of (i) such Applicable Conversion Price in effect immediately prior to the original adjustment made as a result of the issuance of such Option or Convertible Security, or (ii) such Applicable Conversion Price that would have resulted from any issuances of Additional Shares of Common Stock (other than deemed issuances of Additional Shares of Common Stock as a result of the issuance of such Option or Convertible Security) between the original adjustment date and such readjustment date.

(c) If the terms of any Option or Convertible Security (excluding Options or Convertible Securities which are themselves Exempted Securities), the issuance of which did not result in an adjustment to the Applicable Conversion Price of a series of Preferred Stock pursuant to the terms of Section 4.4.4 below (either because the consideration per share (determined pursuant to Section 4.4.5 hereof) of the Additional Shares of Common Stock subject thereto was equal to or greater than such Applicable Conversion Price then in effect, or because such Option or Convertible Security was issued before the Series C Original Issue Date), are revised after the Series C Original Issue Date as a result of an amendment to such terms or any other adjustment pursuant to the provisions of such Option or Convertible Security (but excluding automatic adjustments to such terms pursuant to anti-dilution or similar provisions of such Option or Convertible Security) to provide for either (1) any increase in the number of shares of Common Stock issuable upon the exercise, conversion or exchange of any such Option or Convertible Security or (2) any decrease in the consideration payable to the Corporation upon such exercise, conversion or exchange, then such Option or Convertible Security, as so amended or adjusted, and the Additional Shares of Common Stock subject thereto (determined in the manner provided in Section 4.4.3(a) above) shall be deemed to have been issued effective upon such increase or decrease becoming effective.

(d) Upon the expiration or termination of any unexercised Option or unconverted or unexchanged Convertible Security (or portion thereof) which resulted (either upon its original issuance or upon a revision of its terms) in an adjustment to the Applicable Conversion Price of a series of Preferred Stock pursuant to the terms of Section 4.4.4 below, such Applicable Conversion Price shall be readjusted to such Applicable Conversion Price as would have obtained had such Option or Convertible Security (or portion thereof) never been issued.

(e) If the number of shares of Common Stock issuable upon the exercise, conversion and/or exchange of any Option or Convertible Security, or the consideration payable to the Corporation upon such exercise, conversion and/or exchange, is calculable at the time such Option or Convertible Security is issued or amended but is subject to

adjustment based upon subsequent events, any adjustment to the Applicable Conversion Price of a series of Preferred Stock provided for in this Section 4.4.3 shall be effected at the time of such issuance or amendment based on such number of shares or amount of consideration without regard to any provisions for subsequent adjustments (and any subsequent adjustments shall be treated as provided in clauses (b) and (c) of this Section 4.4.3). If the number of shares of Common Stock issuable upon the exercise, conversion and/or exchange of any Option or Convertible Security, or the consideration payable to the Corporation upon such exercise, conversion and/or exchange, cannot be calculated at all at the time such Option or Convertible Security is issued or amended, any adjustment to the Applicable Conversion Price of a series of Preferred Stock that would result under the terms of this Section 4.4.3 at the time of such issuance or amendment shall instead be effected at the time such number of shares and/or amount of consideration is first calculable (even if subject to subsequent adjustments), assuming for purposes of calculating such adjustment to such Applicable Conversion Price that such issuance or amendment took place at the time such calculation can first be made.

**4.4.4 Adjustment of Applicable Conversion Price Upon Issuance of Additional Shares of Common Stock.** In the event the Corporation shall at any time after the Series C Original Issue Date issue Additional Shares of Common Stock (including Additional Shares of Common Stock deemed to be issued pursuant to Section 4.4.3), without consideration or for a consideration per share less than the Applicable Conversion Price of a series of Preferred Stock in effect immediately prior to such issue, then the Applicable Conversion Price for such series of Preferred Stock shall be reduced, concurrently with such issue, to a price (calculated to the nearest one-hundredth of a cent) determined in accordance with the following formula:

$$CP_2 = CP_1 * (A + B) \div (A + C).$$

For purposes of the foregoing formula, the following definitions shall apply:

(a) “CP<sub>2</sub>” shall mean the Applicable Conversion Price for such series of Preferred Stock in effect immediately after such issue of Additional Shares of Common Stock;

(b) “CP<sub>1</sub>” shall mean the Applicable Conversion Price for such series of Preferred Stock in effect immediately prior to such issue of Additional Shares of Common Stock;

(c) “A” shall mean the number of shares of Common Stock outstanding immediately prior to such issue of Additional Shares of Common Stock (treating for this purpose as outstanding all shares of Common Stock issuable upon exercise of Options outstanding immediately prior to such issue or upon conversion or exchange of Convertible Securities (including the Preferred Stock) outstanding (assuming exercise of any outstanding Options therefor) immediately prior to such issue);

(d) “B” shall mean the number of shares of Common Stock that would have been issued if such Additional Shares of Common Stock had been issued at a price per share equal to CP<sub>1</sub> (determined by dividing the aggregate consideration received by the Corporation in respect of such issue by CP<sub>1</sub>); and

(e) “C” shall mean the number of such Additional Shares of Common Stock issued in such transaction.

4.4.5 Determination of Consideration. For purposes of this Section 4.4, the consideration received by the Corporation for the issue of any Additional Shares of Common Stock shall be computed as follows:

(a) Cash and Property: Such consideration shall:

(i) insofar as it consists of cash, be computed at the aggregate amount of cash received by the Corporation, excluding amounts paid or payable for accrued interest;

(ii) insofar as it consists of property other than cash, be computed at the fair market value thereof at the time of such issue, as determined in good faith by the Board of Directors, including both of the Preferred Directors; and

(iii) in the event Additional Shares of Common Stock are issued together with other shares or securities or other assets of the Corporation for consideration which covers both, be the proportion of such consideration so received, computed as provided in clauses (i) and (ii) above, as determined in good faith by the Board of Directors, including both of the Preferred Directors.

(b) Options and Convertible Securities. The consideration per share received by the Corporation for Additional Shares of Common Stock deemed to have been issued pursuant to Section 4.4.3, relating to Options and Convertible Securities, shall be determined by dividing

(i) the total amount, if any, received or receivable by the Corporation as consideration for the issue of such Options or Convertible Securities, plus the minimum aggregate amount of additional consideration (as set forth in the instruments relating thereto, without regard to any provision contained therein for a subsequent adjustment of such consideration) payable to the Corporation upon the exercise of such Options or the conversion or exchange of such Convertible Securities, or in the case of Options for Convertible Securities, the exercise of such Options for Convertible Securities and the conversion or exchange of such Convertible Securities, by

(ii) the maximum number of shares of Common Stock (as set forth in the instruments relating thereto, without regard to any provision contained therein for a subsequent adjustment of such number) issuable upon the exercise of such Options or the conversion or exchange of such Convertible Securities, or in the case of Options for Convertible Securities, the exercise of such Options for Convertible Securities and the conversion or exchange of such Convertible Securities.

4.4.6 Multiple Closing Dates. In the event the Corporation shall issue on more than one date Additional Shares of Common Stock that are a part of one transaction or a series of related transactions and that would result in an adjustment to the Applicable Conversion Price of a series of Preferred Stock pursuant to the terms of Section 4.4.4 above then, upon the

final such issuance, such Applicable Conversion Price shall be readjusted to give effect to all such issuances as if they occurred on the date of the first such issuance (and without giving effect to any additional adjustments as a result of any such subsequent issuances within such period).

4.5 Adjustment for Stock Splits and Combinations. If the Corporation shall at any time or from time to time after the Series C Original Issue Date effect a subdivision of the outstanding Common Stock, the Applicable Conversion Price of each series of Preferred Stock in effect immediately before that subdivision shall be proportionately decreased so that the number of shares of Common Stock issuable on conversion of each share of such series of Preferred Stock shall be increased in proportion to such increase in the aggregate number of shares of Common Stock outstanding. If the Corporation shall at any time or from time to time after the Series C Original Issue Date combine the outstanding shares of Common Stock, the Applicable Conversion Price of each series of Preferred Stock in effect immediately before the combination shall be proportionately increased so that the number of shares of Common Stock issuable on conversion of each share of such series of Preferred Stock shall be decreased in proportion to such decrease in the aggregate number of shares of Common Stock outstanding. Any adjustment under this subsection shall become effective at the close of business on the date the subdivision or combination becomes effective.

4.6 Adjustment for Certain Dividends and Distributions. In the event the Corporation at any time or from time to time after the Series C Original Issue Date shall make or issue, or fix a record date for the determination of holders of Common Stock entitled to receive, a dividend or other distribution payable on the Common Stock in additional shares of Common Stock, then and in each such event the Applicable Conversion Price of a series of Preferred Stock in effect immediately before such event shall be decreased as of the time of such issuance or, in the event such a record date shall have been fixed, as of the close of business on such record date, by multiplying the Applicable Conversion Price then in effect by a fraction:

- (1) the numerator of which shall be the total number of shares of Common Stock issued and outstanding immediately prior to the time of such issuance or the close of business on such record date, and
- (2) the denominator of which shall be the total number of shares of Common Stock issued and outstanding immediately prior to the time of such issuance or the close of business on such record date plus the number of shares of Common Stock issuable in payment of such dividend or distribution.

Notwithstanding the foregoing, (a) if such record date shall have been fixed and such dividend is not fully paid or if such distribution is not fully made on the date fixed therefor, such Applicable Conversion Price shall be recomputed accordingly as of the close of business on such record date and thereafter such Applicable Conversion Price shall be adjusted pursuant to this subsection as of the time of actual payment of such dividends or distributions; and (b) that no such adjustment shall be made to the Applicable Conversion Price of a series of Preferred Stock if the holders of such series of Preferred Stock simultaneously receive a dividend or other distribution of shares of

Common Stock in a number equal to the number of shares of Common Stock as they would have received if all outstanding shares of such series of Preferred Stock had been converted into Common Stock on the date of such event.

4.7 Adjustments for Other Dividends and Distributions. In the event the Corporation at any time or from time to time after the Series C Original Issue Date shall make or issue, or fix a record date for the determination of holders of Common Stock entitled to receive, a dividend or other distribution payable in securities of the Corporation (other than a distribution of shares of Common Stock in respect of outstanding shares of Common Stock) or in other property and the provisions of Section 1 do not apply to such dividend or distribution, then and in each such event the holders of Preferred Stock shall receive, simultaneously with the distribution to the holders of Common Stock, a dividend or other distribution of such securities or other property in an amount equal to the amount of such securities or other property as they would have received if all outstanding shares of Preferred Stock had been converted into Common Stock on the date of such event.

4.8 Adjustment for Merger or Reorganization, etc. Subject to the provisions of Section 2.3, if there shall occur any reorganization, recapitalization, reclassification, consolidation or merger involving the Corporation in which the Common Stock (but not the Preferred Stock) is converted into or exchanged for securities, cash or other property (other than a transaction covered by Sections 4.4, 4.6 or 4.7), then, following any such reorganization, recapitalization, reclassification, consolidation or merger, each share of Preferred Stock shall thereafter be convertible in lieu of the Common Stock into which it was convertible prior to such event into the kind and amount of securities, cash or other property which a holder of the number of shares of the Common Stock issuable upon conversion of one share of such series of Preferred Stock immediately prior to such reorganization, recapitalization, reclassification, consolidation or merger would have been entitled to receive pursuant to such transaction; and, in such case, appropriate adjustment (as determined in good faith by the Board of Directors, including both of the Preferred Directors) shall be made in the application of the provisions in this Section 4 with respect to the rights and interests thereafter of the holders of the Preferred Stock, to the end that the provisions set forth in this Section 4 (including provisions with respect to changes in and other adjustments of the Applicable Conversion Price of each series of Preferred Stock) shall thereafter be applicable, as nearly as reasonably may be, in relation to any securities or other property thereafter deliverable upon the conversion of the Preferred Stock.

4.9 Certificate as to Adjustments. Upon the occurrence of each adjustment or readjustment of the Applicable Conversion Price of a series of Preferred Stock pursuant to this Section 4, the Corporation at its expense shall, as promptly as reasonably practicable but in any event not later than fifteen (15) days thereafter, compute such adjustment or readjustment in accordance with the terms hereof and furnish to each holder of Preferred Stock a certificate setting forth such adjustment or readjustment (including the kind and amount of securities, cash or other property into which the Preferred Stock is convertible) and showing in detail the facts upon which such adjustment or readjustment is based. The Corporation shall, as promptly as reasonably practicable after the written request at any time of any holder of Preferred Stock (but in any event not later than fifteen (15) days thereafter), furnish or cause to be furnished to such holder a certificate setting forth (i) the Applicable Conversion Price of each series of Preferred Stock then in effect, and (ii) the number of shares of Common Stock and the amount, if any, of other securities, cash or property which then would be received upon the conversion of each series of Preferred Stock.



4.10 Notice of Record Date. In the event:

(a) the Corporation shall take a record of the holders of its Common Stock (or other capital stock or securities at the time issuable upon conversion of the Preferred Stock) for the purpose of entitling or enabling them to receive any dividend or other distribution, or to receive any right to subscribe for or purchase any shares of capital stock of any class or any other securities, or to receive any other security; or

(b) of any capital reorganization of the Corporation, any reclassification of the Common Stock, or any Deemed Liquidation Event;  
or

(c) of the voluntary or involuntary dissolution, liquidation or winding-up of the Corporation,

then, and in each such case, the Corporation will send or cause to be sent to the holders of the Preferred Stock a notice specifying, as the case may be, (i) the record date for such dividend, distribution or right, and the amount and character of such dividend, distribution or right, or (ii) the effective date on which such reorganization, reclassification, consolidation, merger, transfer, dissolution, liquidation or winding-up is proposed to take place, and the time, if any is to be fixed, as of which the holders of record of Common Stock (or such other capital stock or securities at the time issuable upon the conversion of the Preferred Stock) shall be entitled to exchange their shares of Common Stock (or such other capital stock or securities) for securities or other property deliverable upon such reorganization, reclassification, consolidation, merger, transfer, dissolution, liquidation or winding-up, and the amount per share and character of such exchange applicable to the Preferred Stock and the Common Stock. Such notice shall be sent at least ten (10) days prior to the record date or effective date for the event specified in such notice.

5. Mandatory Conversion.

5.1 Trigger Events. Upon either (a) the date and time, or the occurrence of an event, specified by both (x) the vote or written consent of the holders of sixty-six percent (66%) of the then outstanding shares of Preferred Stock, voting together as a single class, and not as separate series, on an as-converted basis and (y) the vote or written consent of the holders of sixty-six percent (66%) of the then outstanding shares of Series C Preferred Stock, voting as a separate series, or (b) the closing of the sale of shares of Common Stock to the public in a firm commitment underwritten public offering pursuant to an effective registration statement under the Securities Act of 1933, as amended (the “**Securities Act**”), provided that such offering results in at least \$35 million of gross proceeds, (before deduction of underwriting discounts, commissions and expenses of sale), to the Corporation and in such offering the Common Stock is listed on the NASDAQ National Market or the New York Stock Exchange (such an event a “**QPO**”) (the time of such closing or the date and time specified or the time of the event specified in such vote or written consent is referred to herein as the “**Mandatory Conversion Time**”), (i) all outstanding shares of Series A Preferred Stock, Series B Preferred Stock and Series C Preferred Stock, as the case may be, shall automatically be converted into shares of Common Stock, at the then effective conversion rate and (ii) such shares may not be reissued by the Corporation.

5.2 Procedural Requirements. All holders of record of shares of Preferred Stock shall be sent written notice of the Mandatory Conversion Time and the place designated for mandatory conversion of all such shares of Preferred Stock pursuant to this Section 5. Such notice need not be sent in advance of the occurrence of the Mandatory Conversion Time. Upon receipt of such notice, each holder of such shares of Preferred Stock shall surrender his, her or its certificate or certificates for all such shares (or, if such holder alleges that such certificate has been lost, stolen or destroyed, a lost certificate affidavit and agreement reasonably acceptable to the Corporation to indemnify the Corporation against any claim that may be made against the Corporation on account of the alleged loss, theft or destruction of such certificate) to the Corporation at the place designated in such notice, and shall thereafter receive certificates for the number of shares of Common Stock to which such holder is entitled pursuant to this Section 5. At the Mandatory Conversion Time, all outstanding shares of Preferred Stock shall be deemed to have been converted into shares of Common Stock, which shall be deemed to be outstanding of record, and all rights with respect to the Preferred Stock so converted, including the rights, if any, to receive notices and vote (other than as a holder of Common Stock), will terminate, except only the rights of the holders thereof, upon surrender of their certificate or certificates (or lost certificate affidavit and agreement) therefor, to receive the items provided for in the last sentence of this Section 5.2. If so required by the Corporation, certificates surrendered for conversion shall be endorsed or accompanied by written instrument or instruments of transfer, in form satisfactory to the Corporation, duly executed by the registered holder or by his, her or its attorney duly authorized in writing. As soon as practicable after the Mandatory Conversion Time and the surrender of the certificate or certificates (or lost certificate affidavit and agreement) for Preferred Stock, the Corporation shall issue and deliver to such holder, or to his, her or its nominees, a certificate or certificates for the number of full shares of Common Stock issuable on such conversion in accordance with the provisions hereof, together with cash as provided in Section 4.2 in lieu of any fraction of a share of Common Stock otherwise issuable upon such conversion and the payment of any declared but unpaid dividends on the shares of Preferred Stock converted.

5.3 Effect of Mandatory Conversion. All shares of Preferred Stock shall, from and after the Mandatory Conversion Time, no longer be deemed to be outstanding and, notwithstanding the failure of the holder or holders thereof to surrender the certificates for such shares on or prior to such time, all rights with respect to such shares shall immediately cease and terminate at the Mandatory Conversion Time, except only the right of the holders thereof to receive shares of Common Stock in exchange therefor and to receive payment of any dividends accrued and declared but unpaid thereon. Such converted Preferred Stock shall be retired and cancelled and may not be reissued as shares of such series, and the Corporation may thereafter take such appropriate action (without the need for stockholder action) as may be necessary to reduce the authorized number of shares of Preferred Stock accordingly.

**FIFTH:** Subject to any additional vote required by the Certificate of Incorporation, in furtherance and not in limitation of the powers conferred by statute, the Board of Directors is expressly authorized to make, repeal, alter, amend and rescind any or all of the Bylaws.

**SIXTH:** Subject to any additional vote required by the Certificate of Incorporation, the number of directors of the Corporation shall be determined in the manner set forth in the Bylaws.

**SEVENTH:** Elections of directors need not be by written ballot unless the Bylaws shall so provide.

**EIGHTH:** Meetings of stockholders may be held within or without the State of Delaware, as the Bylaws of the Corporation may provide. The books of the Corporation may be kept outside the State of Delaware at such place or places as may be designated from time to time by the Board of Directors or in the Bylaws.

**NINTH:** To the fullest extent permitted by law, a director of the Corporation shall not be personally liable to the Corporation or its stockholders for monetary damages for breach of fiduciary duty as a director. If the General Corporation Law or any other law of the State of Delaware is amended after approval by the stockholders of this Article Ninth to authorize corporate action further eliminating or limiting the personal liability of directors, then the liability of a director of the Corporation shall be eliminated or limited to the fullest extent permitted by the General Corporation Law as so amended.

Any repeal or modification of the foregoing provisions of this Article Ninth by the stockholders of the Corporation shall not adversely affect any right or protection of a director of the Corporation existing at the time of, or increase the liability of any director of the Corporation with respect to any acts or omissions of such director occurring prior to, such repeal or modification.

**TENTH:** To the fullest extent permitted by applicable law, the Corporation is authorized to provide indemnification of (and advancement of expenses to) directors, officers and agents of the Corporation (and any other persons to which General Corporation Law permits the Corporation to provide indemnification) through its Bylaw provisions, agreements with such agents or other persons, vote of stockholders or disinterested directors or otherwise, in excess of the indemnification and advancement otherwise permitted by Section 145 of the General Corporation Law.

Any amendment, repeal or modification of the foregoing provisions of this Article Tenth shall not adversely affect any right or protection of any director, officer or other agent of the Corporation existing at the time of such amendment, repeal or modification.

**ELEVENTH:** The Corporation renounces, to the fullest extent permitted by law, any interest or expectancy of the Corporation in, or in being offered an opportunity to participate in, any Excluded Opportunity. An “**Excluded Opportunity**” is any matter, transaction or interest that is presented to, or acquired, created or developed by, or which otherwise comes into the possession of, (i) any director of the Corporation who is not an employee of the Corporation or any of its subsidiaries, or (ii) any holder of Preferred Stock or any partner, member, director, stockholder, employee or agent of any such holder, other than someone who is an employee of the Corporation or any of its subsidiaries (collectively, “**Covered Persons**”), unless such matter, transaction or interest is presented to, or acquired, created or developed by, or otherwise comes into the possession of, a Covered Person expressly and solely in such Covered Person’s capacity as a director of the Corporation.

3: That the foregoing amendment and restatement was approved by the holders of the requisite number of shares of this corporation in accordance with Section 228 of the General Corporation Law.

4: That this Third Amended and Restated Certificate of Incorporation, which restates and integrates and further amends the provisions of the Amended and Restated Certificate of Incorporation, has been duly adopted in accordance with Sections 242 and 245 of the General Corporation Law.

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**IN WITNESS WHEREOF**, this Third Amended and Restated Certificate of Incorporation has been executed by a duly authorized officer of this corporation on this 11th day of March, 2014.

By: /s/ Jeffrey M. Jonas

Name: Jeffrey M. Jonas

Title: President and Chief Executive Officer

[Signature Page to Third Amended and Restated Certificate of Incorporation]

**FIFTH AMENDED AND RESTATED  
CERTIFICATE OF INCORPORATION**

**OF**

**SAGE THERAPEUTICS, INC.**

Sage Therapeutics, Inc., a corporation organized and existing under the laws of the State of Delaware (the “**Corporation**”), hereby certifies as follows:

1. The name of the Corporation is Sage Therapeutics, Inc. The date of the filing of its original Certificate of Incorporation with the Secretary of State of the State of Delaware was April 16, 2010 (the “**Original Certificate**”). The name under which the Corporation filed the Original Certificate was Sterogen Biopharma, Inc.

2. This Fifth Amended and Restated Certificate of Incorporation (this “**Certificate**”) amends, restates and integrates the provisions of the Fourth Amended and Restated Certificate of Incorporation that was filed with the Secretary of State of the State of Delaware on [            ], 2014, as amended (the “**Existing Certificate**”), and was duly adopted in accordance with the provisions of Sections 228, 242 and 245 of the General Corporation Law of the State of Delaware (the “**DGCL**”).

3. The text of the Existing Certificate is hereby amended and restated in its entirety to provide as herein set forth in full.

ARTICLE I

NAME

The name of the Corporation is Sage Therapeutics, Inc.

ARTICLE II

REGISTERED AGENT

The address of the Corporation’s registered office in the State of Delaware is The Corporation Trust Center, 1209 Orange Street, in the City of Wilmington, New Castle County, Delaware 19801. The name of its registered agent at such address is The Corporation Trust Company.

ARTICLE III

PURPOSE

The purpose of the Corporation is to engage in any lawful act or activity for which corporations may be organized under the DGCL.

ARTICLE IV

CAPITAL STOCK

The total number of shares of capital stock which the Corporation shall have authority to issue is [ ] ([ ]) of which (i) [ ] ([ ]) shares shall be a class designated as common stock, par value \$0.0001 per share (the “**Common Stock**”), and (ii) [ ] ([ ]) shares shall be a class designated as undesignated preferred stock, par value \$0.0001 per share (the “**Undesignated Preferred Stock**”).

Except as otherwise provided in any certificate of designations of any series of Undesignated Preferred Stock, the number of authorized shares of the class of Common Stock or Undesignated Preferred Stock may from time to time be increased or decreased (but not below the number of shares of such class outstanding) by the affirmative vote of the holders of a majority in voting power of the outstanding shares of capital stock of the Corporation irrespective of the provisions of Section 242(b)(2) of the DGCL.

The powers, preferences and rights of, and the qualifications, limitations and restrictions upon, each class or series of stock shall be determined in accordance with, or as set forth below in, this Article IV.

A. COMMON STOCK

Subject to all the rights, powers and preferences of the Undesignated Preferred Stock and except as provided by law or in this Certificate (or in any certificate of designations of any series of Undesignated Preferred Stock):

(a) the holders of the Common Stock shall have the exclusive right to vote for the election of directors of the Corporation (the “**Directors**”) and on all other matters requiring stockholder action, each outstanding share entitling the holder thereof to one vote on each matter properly submitted to the stockholders of the Corporation for their vote; provided, however, that, except as otherwise required by law, holders of Common Stock, as such, shall not be entitled to vote on any amendment to this Certificate (or on any amendment to a certificate of designations of any series of Undesignated Preferred Stock) that alters or changes the powers, preferences, rights or other terms of one or more outstanding series of Undesignated Preferred Stock if the holders of such affected series of Undesignated Preferred Stock are entitled to vote, either separately or together with the holders of one or more other such series, on such amendment pursuant to this Certificate (or pursuant to a certificate of designations of any series of Undesignated Preferred Stock) or pursuant to the DGCL;

(b) dividends may be declared and paid or set apart for payment upon the Common Stock out of any assets or funds of the Corporation legally available for the payment of dividends, but only when and as declared by the Corporation’s Board of Directors (the “**Board of Directors**”) or any authorized committee thereof; and

(c) upon the voluntary or involuntary liquidation, dissolution or winding up of the Corporation, the net assets of the Corporation shall be distributed pro rata to the holders of the Common Stock.

#### B. UNDESIGNATED PREFERRED STOCK

The Board of Directors or any authorized committee thereof is expressly authorized, to the fullest extent permitted by law, to provide by resolution or resolutions for, out of the unissued shares of Undesignated Preferred Stock, the issuance of the shares of Undesignated Preferred Stock in one or more series of such stock, and by filing a certificate of designations pursuant to applicable law of the State of Delaware, to establish or change from time to time the number of shares of each such series, and to fix the designations, powers, including voting powers, full or limited, or no voting powers, preferences and the relative, participating, optional or other special rights of the shares of each series and any qualifications, limitations and restrictions thereof.

#### ARTICLE V

##### STOCKHOLDER ACTION

1. Action without Meeting. Any action required or permitted to be taken by the stockholders of the Corporation at any annual or special meeting of stockholders of the Corporation must be effected at a duly called annual or special meeting of stockholders and may not be taken or effected by a written consent of stockholders in lieu thereof.

2. Special Meetings. Except as otherwise required by statute and subject to the rights, if any, of the holders of any series of Undesignated Preferred Stock, special meetings of the stockholders of the Corporation may be called only by the Board of Directors acting pursuant to a resolution approved by the affirmative vote of a majority of the Directors then in office, and special meetings of stockholders may not be called by any other person or persons. Only those matters set forth in the notice of the special meeting may be considered or acted upon at a special meeting of stockholders of the Corporation.

#### ARTICLE VI

##### DIRECTORS

1. General. The business and affairs of the Corporation shall be managed by or under the direction of the Board of Directors except as otherwise provided herein or required by law.

2. Election of Directors. Election of Directors need not be by written ballot unless the Bylaws of the Corporation (the “**Bylaws**”) shall so provide.

3. Number of Directors; Term of Office. The number of Directors of the Corporation shall be fixed solely and exclusively by resolution duly adopted from time to time by the Board of Directors. The Directors, other than those who may be elected by the holders of any series of Undesignated Preferred Stock, shall be classified, with respect to the term for which



they severally hold office, into three classes. The initial Class I Directors of the Corporation shall be [ ], [ ] and [ ]; the initial Class II Directors of the Corporation shall be [ ], [ ] and [ ]; and the initial Class III Directors of the Corporation shall be [ ] and [ ]. The initial Class I Directors shall serve for a term expiring at the annual meeting of stockholders to be held in 2015, the initial Class II Directors shall serve for a term expiring at the annual meeting of stockholders to be held in 2016, and the initial Class III Directors shall serve for a term expiring at the annual meeting of stockholders to be held in 2017. At each annual meeting of stockholders, Directors elected to succeed those Directors whose terms expire shall be elected for a term of office to expire at the third succeeding annual meeting of stockholders after their election. Notwithstanding the foregoing, the Directors elected to each class shall hold office until their successors are duly elected and qualified or until their earlier resignation, death or removal.

Notwithstanding the foregoing, whenever, pursuant to the provisions of Article IV of this Certificate, the holders of any one or more series of Undesignated Preferred Stock shall have the right, voting separately as a series or together with holders of other such series, to elect Directors at an annual or special meeting of stockholders, the election, term of office, filling of vacancies and other features of such directorships shall be governed by the terms of this Certificate and any certificate of designations applicable to such series.

4. Vacancies. Subject to the rights, if any, of the holders of any series of Undesignated Preferred Stock to elect Directors and to fill vacancies in the Board of Directors relating thereto, any and all vacancies in the Board of Directors, however occurring, including, without limitation, by reason of an increase in the size of the Board of Directors, or the death, resignation, disqualification or removal of a Director, shall be filled solely and exclusively by the affirmative vote of a majority of the remaining Directors then in office, even if less than a quorum of the Board of Directors, and not by the stockholders. Any Director appointed in accordance with the preceding sentence shall hold office for the remainder of the full term of the class of Directors in which the new directorship was created or the vacancy occurred and until such Director's successor shall have been duly elected and qualified or until his or her earlier resignation, death or removal. Subject to the rights, if any, of the holders of any series of Undesignated Preferred Stock to elect Directors, when the number of Directors is increased or decreased, the Board of Directors shall, subject to Article VI, Section 3 hereof, determine the class or classes to which the increased or decreased number of Directors shall be apportioned; provided, however, that no decrease in the number of Directors shall shorten the term of any incumbent Director. In the event of a vacancy in the Board of Directors, the remaining Directors, except as otherwise provided by law, shall exercise the powers of the full Board of Directors until the vacancy is filled.

5. Removal. Subject to the rights, if any, of any series of Undesignated Preferred Stock to elect Directors and to remove any Director whom the holders of any such series have the right to elect, any Director (including persons elected by Directors to fill vacancies in the Board of Directors) may be removed from office (i) only with cause and (ii) only by the affirmative vote of the holders of 75% or more of the outstanding shares of capital stock then entitled to vote at an election of Directors, voting together as a single class. At least forty-five (45) days prior to any annual or special meeting of stockholders at which it is proposed that any Director be removed from office, written notice of such proposed removal and the alleged grounds thereof shall be sent to the Director whose removal will be considered at the meeting.

ARTICLE VII

LIMITATION OF LIABILITY

A Director of the Corporation shall not be personally liable to the Corporation or its stockholders for monetary damages for breach of fiduciary duty as a Director, except for liability (a) for any breach of the Director's duty of loyalty to the Corporation or its stockholders, (b) for acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law, (c) under Section 174 of the DGCL or (d) for any transaction from which the Director derived an improper personal benefit. If the DGCL is amended after the effective date of this Certificate to authorize corporate action further eliminating or limiting the personal liability of Directors, then the liability of a Director of the Corporation shall be eliminated or limited to the fullest extent permitted by the DGCL, as so amended.

Any amendment, repeal or modification of this Article VII by either of (i) the stockholders of the Corporation or (ii) an amendment to the DGCL, shall not adversely affect any right or protection existing at the time of such amendment, repeal or modification with respect to any acts or omissions occurring before such amendment, repeal or modification of a person serving as a Director at the time of such amendment, repeal or modification.

ARTICLE VIII

EXCLUSIVE JURISDICTION OF DELAWARE COURTS

Unless the Corporation consents in writing to the selection of an alternative forum, the Court of Chancery of the State of Delaware shall be the sole and exclusive forum for (i) any derivative action or proceeding brought on behalf of the Corporation, (ii) any action asserting a claim of breach of a fiduciary duty owed by any director, officer or other employee of the Corporation to the Corporation or the Corporation's stockholders, (iii) any action asserting a claim arising pursuant to any provision of the DGCL or the Corporation's Certificate of Incorporation or Bylaws, or (iv) any action asserting a claim against the Corporation governed by the internal affairs doctrine. Any person or entity purchasing or otherwise acquiring any interest in shares of capital stock of the Corporation shall be deemed to have notice of and consented to the provisions of this Article VIII.

ARTICLE IX

AMENDMENT OF BYLAWS

1. Amendment by Directors. Except as otherwise provided by law, the Bylaws of the Corporation may be amended or repealed by the Board of Directors by the affirmative vote of a majority of the Directors then in office.

2. Amendment by Stockholders. The Bylaws of the Corporation may be amended or repealed at any annual meeting of stockholders, or special meeting of stockholders called for such purpose, by the affirmative vote of at least 75% of the outstanding shares of capital stock entitled to vote on such amendment or repeal, voting together as a single class; provided, however, that if the Board of Directors recommends that stockholders approve such amendment or repeal at such meeting of stockholders, such amendment or repeal shall only require the affirmative vote of the majority of the outstanding shares of capital stock entitled to vote on such amendment or repeal, voting together as a single class.

## ARTICLE X

### AMENDMENT OF CERTIFICATE OF INCORPORATION

The Corporation reserves the right to amend or repeal this Certificate in the manner now or hereafter prescribed by statute and this Certificate, and all rights conferred upon stockholders herein are granted subject to this reservation. Whenever any vote of the holders of capital stock of the Corporation is required to amend or repeal any provision of this Certificate, and in addition to any other vote of holders of capital stock that is required by this Certificate or by law, such amendment or repeal shall require the affirmative vote of the majority of the outstanding shares of capital stock entitled to vote on such amendment or repeal, and the affirmative vote of the majority of the outstanding shares of each class entitled to vote thereon as a class, at a duly constituted meeting of stockholders called expressly for such purpose; provided, however, that the affirmative vote of not less than 75% of the outstanding shares of capital stock entitled to vote on such amendment or repeal, and the affirmative vote of not less than 75% of the outstanding shares of each class entitled to vote thereon as a class, shall be required to amend or repeal any provision of Article V, Article VI, Article VII, Article VIII, Article IX or Article X of this Certificate.

IN WITNESS WHEREOF, this Fifth Amended and Restated Certificate of Incorporation has been executed by a duly authorized officer of this corporation on this [ ] day of [ ], 2014.

Sage Therapeutics, Inc.

By: \_\_\_\_\_  
Name: Jeffrey M. Jonas  
Title: President & Chief Executive Officer

**BYLAWS OF  
SAGE THERAPEUTICS, INC.  
(A DELAWARE CORPORATION)**

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**BYLAWS  
OF  
SAGE THERAPEUTICS, INC.**

**ARTICLE I  
OFFICES**

1.1 **Registered Office.** The registered office shall be in the City of Wilmington, County of New Castle, State of Delaware.

1.2 **Offices.** The corporation may also have offices at such other places both within and without the State of Delaware as the Board of Directors may from time to time determine or the business of the corporation may require.

**ARTICLE II  
MEETINGS OF STOCKHOLDERS**

2.1 **Location.** All meetings of the stockholders for the election of directors shall be held in the City of Boston State of Massachusetts, at such place as may be fixed from time to time by the Board of Directors, or at such other place either within or without the State of Delaware as shall be designated from time to time by the Board of Directors and stated in the notice of the meeting; provided, however, that the Board of Directors may, in its sole discretion, determine that the meeting shall not be held at any place, but may instead be held solely by means of remote communication as authorized by Section 211 of the Delaware General Corporations Law ("DGCL"). Meetings of stockholders for any other purpose may be held at such time and place, if any, within or without the State of Delaware, as shall be stated in the notice of the meeting or in a duly executed waiver of notice thereof, or a waiver by electronic transmission by the person entitled to notice.

2.2 **Timing.** Annual meetings of stockholders, commencing with the year 2011, shall be held at such date and time as shall be designated from time to time by the Board of Directors and stated in the notice of the meeting, at which they shall elect by a plurality vote a Board of Directors, and transact such other business as may properly be brought before the meeting.

2.3 **Notice of Meeting.** Written notice of any stockholder meeting stating the place, if any, date and hour of the meeting, the means of remote communication, if any, by which stockholders and proxyholders may be deemed to be present in person and vote at such meeting, shall be given to each stockholder entitled to vote at such meeting not fewer than ten (10) nor more than sixty (60) days before the date of the meeting.

2.4 **Stockholders' Records.** The officer who has charge of the stock ledger of the corporation shall prepare and make, at least ten (10) days before every meeting of stockholders, a complete list of the stockholders entitled to vote at the meeting, arranged in alphabetical order, and showing the address (but not the electronic address or other electronic contact information) of each stockholder and the number of shares registered in the name of each



stockholder. Such list shall be open to the examination of any stockholder, for any purpose germane to the meeting for a period of at least 10 days prior to the meeting: (i) on a reasonably accessible electronic network, provided that the information required to gain access to such list is provided with the notice of the meeting, or (ii) during ordinary business hours, at the principal place of business of the corporation. In the event that the corporation determines to make the list available on an electronic network, the corporation may take reasonable steps to ensure that such information is available only to stockholders of the corporation. If the meeting is to be held at a place, then the list shall be produced and kept at the time and place of the meeting during the whole time thereof, and may be inspected by any stockholder who is present. If the meeting is to be held solely by means of remote communication, then the list shall also be open to the examination of any stockholder during the whole time of the meeting on a reasonably accessible electronic network, and the information required to access such list shall be provided with the notice of the meeting.

**2.5 Special Meetings.** Special meetings of the stockholders, for any purpose or purposes, unless otherwise prescribed by statute or by the certificate of incorporation, may be called by the president and shall be called by the president or secretary at the request in writing of a majority of the Board of Directors, or at the request in writing of stockholders owning at least fifty percent (50%) in amount of the entire capital stock of the corporation issued and outstanding and entitled to vote. Such request shall state the purpose or purposes of the proposed meeting.

**2.6 Notice of Meeting.** Written notice of a special meeting stating the place, date and hour of the meeting and the purpose or purposes for which the meeting is called, shall be given not fewer than ten (10) nor more than sixty (60) days before the date of the meeting, to each stockholder entitled to vote at such meeting. The means of remote communication, if any, by which stockholders and proxyholders may be deemed to be present in person and vote at such meeting shall also be provided in the notice.

**2.7 Business Transacted at Special Meeting.** Business transacted at any special meeting of stockholders shall be limited to the purposes stated in the notice.

**2.8 Quorum; Meeting Adjournment; Presence by Remote Means.**

(a) *Quorum; Meeting Adjournment.* The holders of a majority of the stock issued and outstanding and entitled to vote thereat, present in person or represented by proxy, shall constitute a quorum at all meetings of the stockholders for the transaction of business except as otherwise provided by statute or by the certificate of incorporation. If, however, such quorum shall not be present or represented at any meeting of the stockholders, the stockholders entitled to vote thereat, present in person or represented by proxy, shall have power to adjourn the meeting from time to time, without notice other than announcement at the meeting, until a quorum shall be present or represented. At such adjourned meeting at which a quorum shall be present or represented, any business may be transacted that might have been transacted at the meeting as originally notified. If the adjournment is for more than thirty (30) days, or if after the adjournment a new record date is fixed for the adjourned meeting, a notice of the adjourned meeting shall be given to each stockholder of record entitled to vote at the meeting.

(b) *Presence by Remote Means.* If authorized by the Board of Directors in its sole discretion, and subject to such guidelines and procedures as the Board of Directors may adopt, stockholders and proxyholders not physically present at a meeting of stockholders may, by means of remote communication:

(1) participate in a meeting of stockholders; and

(2) be deemed present in person and vote at a meeting of stockholders whether such meeting is to be held at a designated place or solely by means of remote communication, provided that (i) the corporation shall implement reasonable measures to verify that each person deemed present and permitted to vote at the meeting by means of remote communication is a stockholder or proxyholder, (ii) the corporation shall implement reasonable measures to provide such stockholders and proxyholders a reasonable opportunity to participate in the meeting and to vote on matters submitted to the stockholders, including an opportunity to read or hear the proceedings of the meeting substantially concurrently with such proceedings, and (iii) if any stockholder or proxyholder votes or takes other action at the meeting by means of remote communication, a record of such vote or other action shall be maintained by the corporation.

**2.9 Voting Thresholds.** When a quorum is present at any meeting, the vote of the holders of a majority of the stock having voting power present in person or represented by proxy shall decide any question brought before such meeting, unless the question is one upon which by express provision of the statutes or of the certificate of incorporation, a different vote is required, in which case such express provision shall govern and control the decision of such question.

**2.10 Number of Votes Per Share.** Unless otherwise provided in the certificate of incorporation, each stockholder shall at every meeting of the stockholders be entitled to one vote by such stockholder or by proxy for each share of the capital stock having voting power held by such stockholder, but no proxy shall be voted on after three years from its date, unless the proxy provides for a longer period.

**2.11 Action by Written Consent of Stockholders; Electronic Consent; Notice of Action.**

(a) *Action by Written Consent of Stockholders.* Unless otherwise provided by the certificate of incorporation, any action required or permitted to be taken at any annual or special meeting of the stockholders may be taken without a meeting, without prior notice and without a vote, if a consent in writing setting forth the action so taken, is signed in a manner permitted by law by the holders of outstanding stock having not less than the number of votes that would be necessary to authorize or take such action at a meeting at which all shares entitled to vote thereon were present and voted. Written stockholder consents shall bear the date of signature of each stockholder who signs the consent in the manner permitted by law and shall be delivered to the corporation as provided in subsection (b) below. No written consent shall be effective to take the action set forth therein unless, within sixty (60) days of the earliest dated consent delivered to the corporation in the manner provided above, written consents signed by a sufficient number of stockholders to take the action set forth therein are delivered to the corporation in the manner provided above.

(b) *Electronic Consent.* A telegram, cablegram or other electronic transmission consenting to an action to be taken and transmitted by a stockholder or proxyholder, or a person or persons authorized to act for a stockholder or proxyholder, shall be deemed to be written, signed and dated for the purposes of this section, provided that any such telegram, cablegram or other electronic transmission sets forth or is delivered with information from which the corporation can determine (1) that the telegram, cablegram or other electronic transmission was transmitted by the stockholder or proxyholder or by a person or persons authorized to act for the stockholder or proxyholder and (2) the date on which such stockholder or proxyholder or authorized person or persons transmitted such telegram, cablegram or electronic transmission. The date on which such telegram, cablegram or electronic transmission is transmitted shall be deemed to be the date on which such consent was signed. No consent given by telegram, cablegram or other electronic transmission shall be deemed to have been delivered until such consent is reproduced in paper form and until such paper form is delivered to the corporation by delivery to its registered office in the State of Delaware, its principal place of business or an officer or agent of the corporation having custody of the book in which proceedings of meetings of stockholders are recorded. Delivery made to a corporation's registered office shall be made by hand or by certified or registered mail, return receipt requested. Notwithstanding the foregoing limitations on delivery, consents given by telegram, cablegram or other electronic transmission may be otherwise delivered to the principal place of business of the corporation or to an officer or agent of the corporation having custody of the book in which proceedings of meetings of stockholders are recorded if, to the extent and in the manner provided by resolution of the Board of Directors of the corporation.

(c) *Notice of Action.* Prompt notice of any action taken pursuant to this Section 2.11 shall be provided to the stockholders in accordance with Section 228(e) of the DGCL.

### **ARTICLE III DIRECTORS**

3.1 **Authorized Directors.** The number of directors that shall constitute the whole Board of Directors shall be determined by resolution of the Board of Directors or by the stockholders at the annual meeting of the stockholders, except as provided in Section 3.2 of this Article, and each director elected shall hold office until his successor is elected and qualified. Directors need not be stockholders.

3.2 **Vacancies.** Unless otherwise provided in the corporation's certificate of incorporation, as it may be amended, vacancies and newly created directorships resulting from any increase in the authorized number of directors may be filled by a majority of the directors then in office, though less than a quorum, or by a sole remaining director, and the directors so chosen shall hold office until the next annual election and until their successors are duly elected and shall qualify, unless sooner displaced. If there are no directors in office, then an election of directors may be held in the manner provided by statute. If, at the time of filling any vacancy or any newly created directorship, the directors then in office shall constitute less than a majority of

the whole Board of Directors (as constituted immediately prior to any such increase), the Court of Chancery may, upon application of any stockholder or stockholders holding at least ten percent (10%) of the total number of the shares at the time outstanding having the right to vote for such directors, summarily order an election to be held to fill any such vacancies or newly created directorships, or to replace the directors chosen by the directors then in office.

**3.3 Board Authority.** The business of the corporation shall be managed by or under the direction of its Board of Directors, which may exercise all such powers of the corporation and do all such lawful acts and things as are not by statute or by the certificate of incorporation or by these bylaws directed or required to be exercised or done by the stockholders.

**3.4 Location of Meetings.** The Board of Directors of the corporation may hold meetings, both regular and special, either within or without the State of Delaware.

**3.5 First Meeting.** The first meeting of each newly elected Board of Directors shall be held at such time and place as shall be fixed by the vote of the stockholders at the annual meeting and no notice of such meeting shall be necessary to the newly elected directors in order to legally constitute the meeting, provided a quorum shall be present. In the event of the failure of the stockholders to fix the time or place of such first meeting of the newly elected Board of Directors, or in the event such meeting is not held at the time and place so fixed by the stockholders, the meeting may be held at such time and place as shall be specified in a notice given as hereinafter provided for special meetings of the Board of Directors, or as shall be specified in a written waiver signed by all of the directors.

**3.6 Regular Meetings.** Regular meetings of the Board of Directors may be held without notice at such time and at such place as shall from time to time be determined by the Board of Directors.

**3.7 Special Meetings.** Special meetings of the Board of Directors may be called by the president upon notice to each director; special meetings shall be called by the president or secretary in like manner and on like notice on the written request of two (2) directors unless the Board of Directors consists of only one director, in which case special meetings shall be called by the president or secretary in like manner and on like notice on the written request of the sole director. Notice of any special meeting shall be given to each director at his business or residence in writing, or by telegram, facsimile transmission, telephone communication or electronic transmission (provided, with respect to electronic transmission, that the director has consented to receive the form of transmission at the address to which it is directed). If mailed, such notice shall be deemed adequately delivered when deposited in the United States mails so addressed, with postage thereon prepaid, at least five (5) days before such meeting. If by telegram, such notice shall be deemed adequately delivered when the telegram is delivered to the telegraph company at least twenty-four (24) hours before such meeting. If by facsimile transmission or other electronic transmission, such notice shall be transmitted at least twenty-four (24) hours before such meeting. If by telephone, the notice shall be given at least twelve (12) hours prior to the time set for the meeting. Neither the business to be transacted at, nor the purpose of, any regular or special meeting of the Board of Directors need be specified in the notice of such meeting, except for amendments to these Bylaws as provided under Section 8.1 of

Article VIII hereof. A meeting may be held at any time without notice if all the directors are present (except as otherwise provided by law) or if those not present waive notice of the meeting in writing, either before or after such meeting.

**3.8 Quorum.** At all meetings of the Board of Directors a majority of the directors shall constitute a quorum for the transaction of business and any act of a majority of the directors present at any meeting at which there is a quorum shall be an act of the Board of Directors, except as may be otherwise specifically provided by statute or by the certificate of incorporation. If a quorum is not present at any meeting of the Board of Directors, the directors present thereat may adjourn the meeting from time to time, without notice other than announcement at the meeting, until a quorum shall be present.

**3.9 Action Without a Meeting.** Unless otherwise restricted by the certificate of incorporation or these bylaws, any action required or permitted to be taken at any meeting of the Board of Directors or of any committee thereof may be taken without a meeting if all members of the Board of Directors or committee, as the case may be, consent thereto in writing or by electronic transmission, and the writing, writings, electronic transmission or transmissions are filed with the minutes of proceedings of the Board of Directors or committee.

**3.10 Telephonic Meetings.** Unless otherwise restricted by the certificate of incorporation or these bylaws, members of the Board of Directors or any committee designated by the Board of Directors may participate in a meeting of the Board of Directors or any committee, by means of conference telephone or other means of communication by which all persons participating in the meeting can hear each other, and such participation shall constitute presence in person at the meeting.

**3.11 Committees.** The Board of Directors may designate one or more committees, each committee to consist of one or more of the directors of the corporation. The Board of Directors may designate one or more directors as alternate members of any committee, who may replace any absent or disqualified member at any meeting of the committee.

In the absence or disqualification of a member of a committee, the member or members thereof present at any meeting and not disqualified from voting, whether or not he or she or they constitute a quorum, may unanimously appoint another member of the Board of Directors to act at the meeting in the place of any such absent or disqualified member.

Any such committee, to the extent provided in the resolution of the Board of Directors, shall have and may exercise all the powers and authority of the Board of Directors in the management of the business and affairs of the corporation, and may authorize the seal of the corporation to be affixed to all papers which may require it, but no such committee shall have the power or authority in reference to the following matters: (i) approving or adopting, or recommending to the stockholders, any action or matter expressly required by the DGCL to be submitted to stockholders for approval or (ii) adopting, amending or repealing any provision of these bylaws.

**3.12 Minutes of Meetings.** Each committee shall keep regular minutes of its meetings and report the same to the Board of Directors when required.

**3.13 Compensation of Directors.** Unless otherwise restricted by the certificate of incorporation or these bylaws, the Board of Directors shall have the authority to fix the compensation of directors. The directors may be paid their expenses, if any, of attendance at each meeting of the Board of Directors and may be paid a fixed sum for attendance at each meeting of the Board of Directors or a stated salary as director. No such payment shall preclude any director from serving the corporation in any other capacity and receiving compensation therefor. Members of special or standing committees may be allowed like compensation for attending committee meetings.

**3.14 Removal of Directors.** Unless otherwise provided by the certificate of incorporation or these bylaws, any director or the entire Board of Directors may be removed, with or without cause, by the holders of a majority of shares entitled to vote at an election of directors.

#### **ARTICLE IV NOTICES**

**4.1 Notice.** Unless otherwise provided in these bylaws, whenever, under the provisions of the statutes or of the certificate of incorporation or of these bylaws, notice is required to be given to any director or stockholder, it shall not be construed to mean personal notice, but such notice may be given in writing, by mail, addressed to such director or stockholder, at his address as it appears on the records of the corporation, with postage thereon prepaid, and such notice shall be deemed to be given at the time when the same shall be deposited in the United States mail. Notice to directors may also be given by telegram.

**4.2 Waiver of Notice.** Whenever any notice is required to be given under the provisions of the statutes or of the certificate of incorporation or of these bylaws, a waiver thereof in writing, signed by the person or persons entitled to said notice, whether before or after the time stated therein, shall be deemed equivalent thereto.

#### **4.3 Electronic Notice.**

(a) *Electronic Transmission.* Without limiting the manner by which notice otherwise may be given effectively to stockholders and directors, any notice to stockholders or directors given by the corporation under any provision of the DGCL, the certificate of incorporation or these bylaws shall be effective if given by a form of electronic transmission consented to by the stockholder or director to whom the notice is given. Any such consent shall be revocable by the stockholder or director by written notice to the corporation. Any such consent shall be deemed revoked if (1) the corporation is unable to deliver by electronic transmission two consecutive notices given by the corporation in accordance with such consent and (2) such inability becomes known to the secretary or an assistant secretary of the corporation or to the transfer agent, or other person responsible for the giving of notice; provided, however, the inadvertent failure to treat such inability as a revocation shall not invalidate any meeting or other action.

(b) *Effective Date of Notice.* Notice given pursuant to subsection (a) of this section shall be deemed given: (1) if by facsimile telecommunication, when directed to a

number at which the stockholder or director has consented to receive notice; (2) if by electronic mail, when directed to an electronic mail address at which the stockholder or director has consented to receive notice; (3) if by a posting on an electronic network together with separate notice to the stockholder or director of such specific posting, upon the later of (i) such posting and (ii) the giving of such separate notice; and (4) if by any other form of electronic transmission, when directed to the stockholder or director. An affidavit of the secretary or an assistant secretary or of the transfer agent or other agent of the corporation that the notice has been given by a form of electronic transmission shall, in the absence of fraud, be prima facie evidence of the facts stated therein.

(c) *Form of Electronic Transmission.* For purposes of these bylaws, “electronic transmission” means any form of communication, not directly involving the physical transmission of paper, that creates a record that may be retained, retrieved, and reviewed by a recipient thereof, and that may be directly reproduced in paper form by such a recipient through an automated process.

**ARTICLE V  
OFFICERS**

**5.1 Required and Permitted Officers.** The officers of the corporation shall be chosen by the Board of Directors and shall be a president, treasurer and a secretary. The Board of Directors may elect from among its members a Chairman of the Board and a Vice-Chairman of the Board. The Board of Directors may also choose one or more vice-presidents, assistant secretaries and assistant treasurers. Any number of offices may be held by the same person, unless the certificate of incorporation or these bylaws otherwise provide.

**5.2 Appointment of Required Officers.** The Board of Directors at its first meeting after each annual meeting of stockholders shall choose a president, a treasurer, and a secretary and may choose vice-presidents.

**5.3 Appointment of Permitted Officers.** The Board of Directors may appoint such other officers and agents as it shall deem necessary who shall hold their offices for such terms and shall exercise such powers and perform such duties as shall be determined from time to time by the Board of Directors.

**5.4 Officer Compensation.** The salaries of all officers and agents of the corporation shall be fixed by the Board of Directors.

**5.5 Term of Office; Vacancies.** The officers of the corporation shall hold office until their successors are chosen and qualify. Any officer elected or appointed by the Board of Directors may be removed at any time by the affirmative vote of a majority of the Board of Directors. Any vacancy occurring in any office of the corporation shall be filled by the Board of Directors.

**THE CHAIRMAN OF THE BOARD**

**5.6 Chairman Presides.** The Chairman of the Board, if any, shall preside at all meetings of the Board of Directors and of the stockholders at which he or she shall be present. He or she shall have and may exercise such powers as are, from time to time, assigned to him by the Board of Directors and as may be provided by law.

5.7 **Absence of Chairman.** In the absence of the Chairman of the Board, the Vice-Chairman of the Board, if any, shall preside at all meetings of the Board of Directors and of the stockholders at which he or she shall be present. He or she shall have and may exercise such powers as are, from time to time, assigned to him by the Board of Directors and as may be provided by law.

### **THE PRESIDENT AND VICE-PRESIDENTS**

5.8 **Powers of President.** The president shall be the chief executive officer of the corporation; in the absence of the Chairman and Vice-Chairman of the Board he or she shall preside at all meetings of the stockholders and the Board of Directors; he or she shall have general and active management of the business of the corporation and shall see that all orders and resolutions of the Board of Directors are carried into effect.

5.9 **President's Signature Authority.** The president shall execute bonds, mortgages and other contracts requiring a seal, under the seal of the corporation, except where required or permitted by law to be otherwise signed and executed and except where the signing and execution thereof shall be expressly delegated by the Board of Directors to some other officer or agent of the corporation.

5.10 **Absence of President.** In the absence of the president or in the event of his inability or refusal to act, the vice-president, if any, (or in the event there be more than one vice-president, the vice-presidents in the order designated by the directors, or in the absence of any designation, then in the order of their election) shall perform the duties of the president, and when so acting, shall have all the powers of and be subject to all the restrictions upon the president. The vice-presidents shall perform such other duties and have such other powers as the Board of Directors may from time to time prescribe.

### **THE SECRETARY AND ASSISTANT SECRETARY**

5.11 **Duties of Secretary.** The secretary shall attend all meetings of the Board of Directors and all meetings of the stockholders and record all the proceedings of the meetings of the corporation and of the Board of Directors in a book to be kept for that purpose and shall perform like duties for the standing committees when required. He or she shall give, or cause to be given, notice of all meetings of the stockholders and special meetings of the Board of Directors, and shall perform such other duties as may be prescribed by the Board of Directors or president, under whose supervision he or she shall be. He or she shall have custody of the corporate seal of the corporation and he or she, or an assistant secretary, shall have authority to affix the same to any instrument requiring it and when so affixed, it may be attested by his signature or by the signature of such assistant secretary. The Board of Directors may give general authority to any other officer to affix the seal of the corporation and to attest the affixing by his signature.

5.12 **Duties of Assistant Secretary.** The assistant secretary, or if there be more than one, the assistant secretaries in the order determined by the Board of Directors (or if



there be no such determination, then in the order of their election) shall, in the absence of the secretary or in the event of his inability or refusal to act, perform the duties and exercise the powers of the secretary and shall perform such other duties and have such other powers as the Board of Directors may from time to time prescribe.

### **THE TREASURER AND ASSISTANT TREASURERS**

5.13 **Duties of Treasurer.** The treasurer shall have the custody of the corporate funds and securities and shall keep full and accurate accounts of receipts and disbursements in books belonging to the corporation and shall deposit all moneys and other valuable effects in the name and to the credit of the corporation in such depositories as may be designated by the Board of Directors.

5.14 **Disbursements and Financial Reports.** He or she shall disburse the funds of the corporation as may be ordered by the Board of Directors, taking proper vouchers for such disbursements, and shall render to the president and the Board of Directors, at its regular meetings or when the Board of Directors so requires, an account of all his transactions as treasurer and of the financial condition of the corporation.

5.15 **Treasurer's Bond.** If required by the Board of Directors, the treasurer shall give the corporation a bond (which shall be renewed every six years) in such sum and with such surety or sureties as shall be satisfactory to the Board of Directors for the faithful performance of the duties of his office and for the restoration to the corporation, in case of his death, resignation, retirement or removal from office, of all books, papers, vouchers, money and other property of whatever kind in his possession or under his control belonging to the corporation.

5.16 **Duties of Assistant Treasurer.** The assistant treasurer, or if there shall be more than one, the assistant treasurers in the order determined by the Board of Directors (or if there be no such determination, then in the order of their election) shall, in the absence of the treasurer or in the event of the treasurer's inability or refusal to act, perform the duties and exercise the powers of the treasurer and shall perform such other duties and have such other powers as the Board of Directors may from time to time prescribe.

### **ARTICLE VI CERTIFICATE OF STOCK**

6.1 **Stock Certificates.** Every holder of stock in the corporation shall be entitled to have a certificate, signed by or in the name of the corporation by, the Chairman or Vice-Chairman of the Board of Directors, or the president or a vice-president and the treasurer or an assistant treasurer, or the secretary or an assistant secretary of the corporation, certifying the number of shares owned by him in the corporation.

Certificates may be issued for partly paid shares and in such case upon the face or back of the certificates issued to represent any such partly paid shares, the total amount of the consideration to be paid therefor, and the amount paid thereon shall be specified.

If the corporation shall be authorized to issue more than one class of stock or more than one series of any class, the powers, designations, preferences and relative participating, optional or other special rights of each class of stock or series thereof and the qualification, limitations or restrictions of such preferences and/or rights shall be set forth in full or summarized on the face or back of the certificate which the corporation shall issue to represent such class or series of stock, provided that, except as otherwise provided in Section 202 of the DGCL, in lieu of the foregoing requirements, there may be set forth on the face or back of the certificate which the corporation shall issue to represent such class or series of stock, a statement that the corporation will furnish without charge to each stockholder who so requests the powers, designations, preferences and relative participating, optional or other special rights of each class of stock or series thereof and the qualifications, limitations or restrictions of such preferences and/or rights.

**6.2 Facsimile Signatures.** Any or all of the signatures on the certificate may be facsimile. In the event that any officer, transfer agent or registrar who has signed or whose facsimile signature has been placed upon a certificate shall have ceased to be such officer, transfer agent or registrar before such certificate is issued, the certificate may be issued by the corporation with the same effect as if such officer, transfer agent or registrar were still acting as such at the date of issue.

**6.3 Lost Certificates.** The Board of Directors may direct a new certificate or certificates to be issued in place of any certificate or certificates theretofore issued by the corporation alleged to have been lost, stolen or destroyed upon the making of an affidavit of that fact by the person claiming the certificate to be lost, stolen or destroyed. When authorizing such issuance of a new certificate or certificates, the Board of Directors may, in its discretion and as a condition precedent to the issuance, require the owner of such lost, stolen or destroyed certificate or certificates, or his legal representative, to advertise the same in such manner as it shall require and/or to give the corporation a bond in such sum as it may direct as indemnity against any claim that may be made against the corporation with respect to the certificate alleged to have been lost, stolen or destroyed.

**6.4 Transfer of Stock.** Upon surrender to the corporation or the transfer agent of the corporation of a certificate for shares duly endorsed or accompanied by proper evidence of succession, assignation or authority to transfer, it shall be the duty of the corporation to issue a new certificate to the person entitled thereto, cancel the old certificate and record the transaction upon its books.

**6.5 Fixing a Record Date.** In order that the corporation may determine the stockholders entitled to notice of or to vote at any meeting of stockholders or any adjournment thereof, or to express consent to corporate action in writing without a meeting, or entitled to receive payment of any dividend or other distribution or allotment of any rights, or entitled to exercise any rights in respect of any change, conversion or exchange of stock or for the purpose of any other lawful action, the Board of Directors may fix a record date which shall not be more than sixty (60) nor less than ten (10) days before the date of such meeting, nor more than sixty (60) days prior to any other action. A determination of stockholders of record entitled to notice of or to vote at a meeting of stockholders shall apply to any adjournment of the meeting; provided, however, that the Board of Directors may fix a new record date for the adjourned meeting.

**6.6 Registered Stockholders.** The corporation shall be entitled to recognize the exclusive right of a person registered on its books as the owner of shares to receive dividends, to vote as such owner, to hold liable for calls and assessments a person registered on its books as the owner of shares and shall not be bound to recognize any equitable or other claim to or interest in such share or shares on the part of any other person, whether or not it shall have express or other notice thereof, except as otherwise provided by the laws of Delaware.

## **ARTICLE VII GENERAL PROVISIONS**

**7.1 Dividends.** Dividends upon the capital stock of the corporation, if any, subject to the provisions of the certificate of incorporation, may be declared by the Board of Directors at any regular or special meeting, pursuant to law. Dividends may be paid in cash, in property or in shares of the capital stock, subject to the provisions of the certificate of incorporation.

**7.2 Reserve for Dividends.** Before payment of any dividend, there may be set aside out of any funds of the corporation available for dividends such sum or sums as the directors from time to time, in their sole discretion, think proper as a reserve or reserves to meet contingencies, or for equalizing dividends, or for repairing or maintaining any property of the corporation, or for such other purposes as the directors think conducive to the interests of the corporation, and the directors may modify or abolish any such reserve in the manner in which it was created.

**7.3 Checks.** All checks or demands for money and notes of the corporation shall be signed by such officer or officers or such other person or persons as the Board of Directors may from time to time designate.

**7.4 Fiscal Year.** The fiscal year of the corporation shall be fixed by resolution of the Board of Directors.

**7.5 Corporate Seal.** The Board of Directors may adopt a corporate seal having inscribed thereon the name of the corporation, the year of its organization and the words "Corporate Seal, Delaware." The seal may be used by causing it or a facsimile thereof to be impressed or affixed or otherwise reproduced.

**7.6 Indemnification.** The corporation shall, to the fullest extent authorized under the laws of the State of Delaware, as those laws may be amended and supplemented from time to time, indemnify any director made, or threatened to be made, a party to an action or proceeding, whether criminal, civil, administrative or investigative, by reason of being a director of the corporation or a predecessor corporation or a director or officer of another corporation, if such person served in such position at the request of the corporation; provided, however, that the corporation shall indemnify any such director or officer in connection with a proceeding initiated by such director or officer only if such proceeding was authorized by the Board of Directors of the corporation. The indemnification provided for in this Section 7.6 shall: (i) not be deemed

exclusive of any other rights to which those indemnified may be entitled under these bylaws, agreement or vote of stockholders or disinterested directors or otherwise, both as to action in their official capacities and as to action in another capacity while holding such office, (ii) continue as to a person who has ceased to be a director, and (iii) inure to the benefit of the heirs, executors and administrators of a person who has ceased to be a director. The corporation's obligation to provide indemnification under this Section 7.6 shall be offset to the extent of any other source of indemnification or any otherwise applicable insurance coverage under a policy maintained by the corporation or any other person.

Expenses incurred by a director of the corporation in defending a civil or criminal action, suit or proceeding by reason of the fact that he or she is or was a director of the corporation (or was serving at the corporation's request as a director or officer of another corporation) shall be paid by the corporation in advance of the final disposition of such action, suit or proceeding upon receipt of an undertaking by or on behalf of such director to repay such amount if it shall ultimately be determined that he or she is not entitled to be indemnified by the corporation as authorized by relevant sections of the DGCL. Notwithstanding the foregoing, the corporation shall not be required to advance such expenses to an agent who is a party to an action, suit or proceeding brought by the corporation and approved by a majority of the Board of Directors of the corporation that alleges willful misappropriation of corporate assets by such agent, disclosure of confidential information in violation of such agent's fiduciary or contractual obligations to the corporation or any other willful and deliberate breach in bad faith of such agent's duty to the corporation or its stockholders.

The foregoing provisions of this Section 7.6 shall be deemed to be a contract between the corporation and each director who serves in such capacity at any time while this bylaw is in effect, and any repeal or modification thereof shall not affect any rights or obligations then existing with respect to any state of facts then or theretofore existing or any action, suit or proceeding theretofore or thereafter brought based in whole or in part upon any such state of facts.

The Board of Directors in its sole discretion shall have power on behalf of the corporation to indemnify any person, other than a director, made a party to any action, suit or proceeding by reason of the fact that he or she, his testator or intestate, is or was an officer or employee of the corporation.

To assure indemnification under this Section 7.6 of all directors, officers and employees who are determined by the corporation or otherwise to be or to have been "fiduciaries" of any employee benefit plan of the corporation that may exist from time to time, Section 145 of the DGCL shall, for the purposes of this Section 7.6, be interpreted as follows: an "other enterprise" shall be deemed to include such an employee benefit plan, including without limitation, any plan of the corporation that is governed by the Act of Congress entitled "Employee Retirement Income Security Act of 1974," as amended from time to time; the corporation shall be deemed to have requested a person to serve the corporation for purposes of Section 145 of the DGCL, as administrator of an employee benefit plan where the performance by such person of his duties to the corporation also imposes duties on, or otherwise involves services by, such person to the plan or participants or beneficiaries of the plan; excise taxes assessed on a person with respect to an employee benefit plan pursuant to such Act of Congress shall be deemed "fines."

**CERTIFICATE OF INCORPORATION GOVERNS**

7.7 **Conflicts with Certificate of Incorporation.** In the event of any conflict between the provisions of the corporation's certificate of incorporation and these bylaws, the provisions of the certificate of incorporation shall govern.

**ARTICLE VIII  
AMENDMENTS**

8.1 These bylaws may be altered, amended or repealed, or new bylaws may be adopted by the stockholders or by the Board of Directors, when such power is conferred upon the Board of Directors by the certificate of incorporation at any regular meeting of the stockholders or of the Board of Directors or at any special meeting of the stockholders or of the Board of Directors if notice of such alteration, amendment, repeal or adoption of new bylaws be contained in the notice of such special meeting. If the power to adopt, amend or repeal bylaws is conferred upon the Board of Directors by the certificate of incorporation, it shall not divest or limit the power of the stockholders to adopt, amend or repeal bylaws.

**ARTICLE IX  
LOANS TO OFFICERS**

9.1 The corporation may lend money to, or guarantee any obligation of or otherwise assist any officer or other employee of the corporation or of its subsidiaries, including any officer or employee who is a director of the corporation or its subsidiaries, whenever, in the judgment of the Board of Directors, such loan, guarantee or assistance may reasonably be expected to benefit the corporation. The loan, guarantee or other assistance may be with or without interest and may be unsecured or secured in such manner as the Board of Directors shall approve, including, without limitation, a pledge of shares of stock of the corporation. Nothing in these bylaws shall be deemed to deny, limit or restrict the powers of guaranty or warranty of the corporation at common law or under any statute.

**CERTIFICATE OF SECRETARY OF**

**SAGE THERAPEUTICS, INC.**

The undersigned, Jay K. Hachigian, hereby certifies that he is the duly elected and acting Secretary of Sage Therapeutics, Inc., a Delaware corporation (the "Corporation"), and that the Bylaws attached hereto constitute the Bylaws of said Corporation as duly adopted by Action by Written Consent in Lieu of Organizational Meeting by the Directors on January 19, 2011.

**IN WITNESS WHEREOF**, the undersigned has hereunto subscribed his name this 19<sup>th</sup> day of January, 2011.

/s/ Jay K. Hachigian

Jay K. Hachigian, Secretary

## AMENDED AND RESTATED

## BYLAWS

## OF

## SAGE THERAPEUTICS, INC.

(the "Corporation")ARTICLE IStockholders

SECTION 1. Annual Meeting. The annual meeting of stockholders (any such meeting being referred to in these Bylaws as an "Annual Meeting") shall be held at the hour, date and place within or without the United States which is fixed by the Corporation's Board of Directors (the "Board of Directors"), which time, date and place may subsequently be changed at any time by vote of the Board of Directors. If no Annual Meeting has been held for a period of thirteen (13) months after the Corporation's last Annual Meeting, a special meeting in lieu thereof may be held, and such special meeting shall have, for the purposes of these Bylaws or otherwise, all the force and effect of an Annual Meeting. Any and all references hereafter in these Bylaws to an Annual Meeting or Annual Meetings also shall be deemed to refer to any special meeting(s) in lieu thereof.

SECTION 2. Notice of Stockholder Business and Nominations.(a) Annual Meetings of Stockholders.

(1) Nominations of persons for election to the Board of Directors of the Corporation and the proposal of other business to be considered by the stockholders may be brought before an Annual Meeting (i) by or at the direction of the Board of Directors or (ii) by any stockholder of the Corporation who was a stockholder of record at the time of giving of notice provided for in this Bylaw, who is entitled to vote at the meeting, who is present (in person or by proxy) at the meeting and who complies with the notice procedures set forth in this Bylaw as to such nomination or business. For the avoidance of doubt, the foregoing clause (ii) shall be the exclusive means for a stockholder to bring nominations or business properly before an Annual Meeting (other than matters properly brought under Rule 14a-8 or Rule 14a-11 (or any successor rules) under the Securities Exchange Act of 1934, as amended (the "Exchange Act")), and such stockholder must comply with the notice and other procedures set forth in Article I, Section 2(a)(2) and (3) of this Bylaw to bring such nominations or business properly before an Annual Meeting. In addition to the other requirements set forth in this Bylaw, for any proposal of business to be considered at an Annual Meeting, it must be a proper subject for action by stockholders of the Corporation under Delaware law.

(2) For nominations or other business to be properly brought before an Annual Meeting by a stockholder pursuant to clause (ii) of Article I, Section 2(a)(1) of this Bylaw, the stockholder must (i) have given Timely Notice (as defined below) thereof in writing to the Secretary of the Corporation, (ii) have provided any updates or supplements to such notice at the times and in the forms required by this Bylaw and (iii) together with the beneficial owner(s), if any, on whose behalf the nomination or business proposal is made, have acted in accordance with the representations set forth in the Solicitation Statement (as defined below) required by this Bylaw. To be timely, a stockholder's written notice shall be received by the Secretary at the principal executive offices of the Corporation not later than the close of business on the ninetieth (90<sup>th</sup>) day nor earlier than the close of business on the one hundred twentieth (120<sup>th</sup>) day prior to the one-year anniversary of the preceding year's Annual Meeting; provided, however, that in the event the Annual Meeting is first convened more than thirty (30) days before or more than sixty (60) days after such anniversary date, or if no Annual Meeting were held in the preceding year, notice by the stockholder to be timely must be received by the Secretary of the Corporation not later than the close of business on the later of the ninetieth (90<sup>th</sup>) day prior to the scheduled date of such Annual Meeting or the tenth (10<sup>th</sup>) day following the day on which public announcement of the date of such meeting is first made (such notice within such time periods shall be referred to as "Timely Notice"). Notwithstanding anything to the contrary provided herein, for the first Annual Meeting following the initial public offering of common stock of the Corporation, a stockholder's notice shall be timely if received by the Secretary at the principal executive offices of the Corporation not later than the close of business on the later of the ninetieth (90<sup>th</sup>) day prior to the scheduled date of such Annual Meeting or the tenth (10<sup>th</sup>) day following the day on which public announcement of the date of such Annual Meeting is first made or sent by the Corporation. Such stockholder's Timely Notice shall set forth:

(A) as to each person whom the stockholder proposes to nominate for election or reelection as a director, all information relating to such person that is required to be disclosed in solicitations of proxies for election of directors in an election contest, or is otherwise required, in each case pursuant to Regulation 14A under the Exchange Act (including such person's written consent to being named in the proxy statement as a nominee and to serving as a director if elected);

(B) as to any other business that the stockholder proposes to bring before the meeting, a brief description of the business desired to be brought before the meeting, the reasons for conducting such business at the meeting, and any material interest in such business of each Proposing Person (as defined below);

(C) (i) the name and address of the stockholder giving the notice, as they appear on the Corporation's books, and the names and addresses of the other Proposing Persons (if any) and (ii) as to each Proposing Person, the following information: (a) the class or series and number of all shares of capital stock of the Corporation which are, directly or indirectly, owned beneficially or of record by such Proposing Person or any of its affiliates or associates (as such terms are defined in Rule 12b-2 promulgated under the Exchange Act), including any shares



of any class or series of capital stock of the Corporation as to which such Proposing Person or any of its affiliates or associates has a right to acquire beneficial ownership at any time in the future, (b) all Synthetic Equity Interests (as defined below) in which such Proposing Person or any of its affiliates or associates, directly or indirectly, holds an interest including a description of the material terms of each such Synthetic Equity Interest, including without limitation, identification of the counterparty to each such Synthetic Equity Interest and disclosure, for each such Synthetic Equity Interest, as to (x) whether or not such Synthetic Equity Interest conveys any voting rights, directly or indirectly, in such shares to such Proposing Person, (y) whether or not such Synthetic Equity Interest is required to be, or is capable of being, settled through delivery of such shares and (z) whether or not such Proposing Person and/or, to the extent known, the counterparty to such Synthetic Equity Interest has entered into other transactions that hedge or mitigate the economic effect of such Synthetic Equity Interest, (c) any proxy (other than a revocable proxy given in response to a public proxy solicitation made pursuant to, and in accordance with, the Exchange Act), agreement, arrangement, understanding or relationship pursuant to which such Proposing Person has or shares a right to, directly or indirectly, vote any shares of any class or series of capital stock of the Corporation, (d) any rights to dividends or other distributions on the shares of any class or series of capital stock of the Corporation, directly or indirectly, owned beneficially by such Proposing Person that are separated or separable from the underlying shares of the Corporation, and (e) any performance-related fees (other than an asset based fee) that such Proposing Person, directly or indirectly, is entitled to based on any increase or decrease in the value of shares of any class or series of capital stock of the Corporation or any Synthetic Equity Interests (the disclosures to be made pursuant to the foregoing clauses (a) through (e) are referred to, collectively, as “Material Ownership Interests”) and (iii) a description of the material terms of all agreements, arrangements or understandings (whether or not in writing) entered into by any Proposing Person or any of its affiliates or associates with any other person for the purpose of acquiring, holding, disposing or voting of any shares of any class or series of capital stock of the Corporation;

(D) (i) a description of all agreements, arrangements or understandings by and among any of the Proposing Persons, or by and among any Proposing Persons and any other person (including with any proposed nominee(s)), pertaining to the nomination(s) or other business proposed to be brought before the meeting of stockholders (which description shall identify the name of each other person who is party to such an agreement, arrangement or understanding), and (ii) identification of the names and addresses of other stockholders (including beneficial owners) known by any of the Proposing Persons to support such nominations or other business proposal(s), and to the extent known the class and number of all shares of the Corporation’s capital stock owned beneficially or of record by such other stockholder(s) or other beneficial owner(s); and

(E) a statement whether or not the stockholder giving the notice and/or the other Proposing Person(s), if any, will deliver a proxy statement and form of proxy to holders of, in the case of a business proposal, at least the percentage of voting power of all of the shares of capital stock of the Corporation required under applicable law to approve the proposal or, in the case of a nomination or nominations, at least the percentage of voting power of all of the shares of capital stock of the Corporation reasonably believed by such Proposing Person to be sufficient to elect the nominee or nominees proposed to be nominated by such stockholder (such statement, the “Solicitation Statement”).

For purposes of this Article I of these Bylaws, the term “Proposing Person” shall mean the following persons: (i) the stockholder of record providing the notice of nominations or business proposed to be brought before a stockholders’ meeting, and (ii) the beneficial owner(s), if different, on whose behalf the nominations or business proposed to be brought before a stockholders’ meeting is made. For purposes of this Section 2 of Article I of these Bylaws, the term “Synthetic Equity Interest” shall mean any transaction, agreement or arrangement (or series of transactions, agreements or arrangements), including, without limitation, any derivative, swap, hedge, repurchase or so-called “stock borrowing” agreement or arrangement, the purpose or effect of which is to, directly or indirectly: (a) give a person or entity economic benefit and/or risk similar to ownership of shares of any class or series of capital stock of the Corporation, in whole or in part, including due to the fact that such transaction, agreement or arrangement provides, directly or indirectly, the opportunity to profit or avoid a loss from any increase or decrease in the value of any shares of any class or series of capital stock of the Corporation, (b) mitigate loss to, reduce the economic risk of or manage the risk of share price changes for, any person or entity with respect to any shares of any class or series of capital stock of the Corporation, (c) otherwise provide in any manner the opportunity to profit or avoid a loss from any decrease in the value of any shares of any class or series of capital stock of the Corporation, or (d) increase or decrease the voting power of any person or entity with respect to any shares of any class or series of capital stock of the Corporation.

(3) A stockholder providing Timely Notice of nominations or business proposed to be brought before an Annual Meeting shall further update and supplement such notice, if necessary, so that the information (including, without limitation, the Material Ownership Interests information) provided or required to be provided in such notice pursuant to this Bylaw shall be true and correct as of the record date for the meeting and as of the date that is ten (10) business days prior to such Annual Meeting, and such update and supplement shall be received by the Secretary at the principal executive offices of the Corporation not later than the close of business on the fifth (5<sup>th</sup>) business day after the record date for the Annual Meeting (in the case of the update and supplement required to be made as of the record date), and not later than the close of business on the eighth (8<sup>th</sup>) business day prior to the date of the Annual Meeting (in the case of the update and supplement required to be made as of ten (10) business days prior to the meeting).

(4) Notwithstanding anything in the second sentence of Article I, Section 2(a)(2) of this Bylaw to the contrary, in the event that the number of directors to be elected to the Board of Directors is increased and there is no public announcement naming all of the nominees for director or specifying the size of the increased Board of Directors made by the Corporation at least ten (10) days before the last day a stockholder may deliver a notice of nomination in accordance with the second sentence of Article I, Section 2(a)(2), a stockholder's notice required by this Bylaw shall also be considered timely, but only with respect to nominees for any new positions created by such increase, if it shall be received by the Secretary of the Corporation not later than the close of business on the tenth (10<sup>th</sup>) day following the day on which such public announcement is first made by the Corporation.

(b) General.

(1) Only such persons who are nominated in accordance with the provisions of this Bylaw or in accordance with Rule 14a-11 under the Exchange Act shall be eligible for election and to serve as Directors and only such business shall be conducted at an Annual Meeting as shall have been brought before the meeting in accordance with the provisions of this Bylaw or in accordance with Rule 14a-8 under the Exchange Act. The Board of Directors or a designated committee thereof shall have the power to determine whether a nomination or any business proposed to be brought before the meeting was made in accordance with the provisions of this Bylaw. If neither the Board of Directors nor such designated committee makes a determination as to whether any stockholder proposal or nomination was made in accordance with the provisions of this Bylaw, the presiding officer of the Annual Meeting shall have the power and duty to determine whether the stockholder proposal or nomination was made in accordance with the provisions of this Bylaw. If the Board of Directors or a designated committee thereof or the presiding officer, as applicable, determines that any stockholder proposal or nomination was not made in accordance with the provisions of this Bylaw, such proposal or nomination shall be disregarded and shall not be presented for action at the Annual Meeting.

(2) Except as otherwise required by law, nothing in this Article I, Section 2 shall obligate the Corporation or the Board of Directors to include in any proxy statement or other stockholder communication distributed on behalf of the Corporation or the Board of Directors information with respect to any nominee for director or any other matter of business submitted by a stockholder.

(3) Notwithstanding the foregoing provisions of this Article I, Section 2, if the nominating or proposing stockholder (or a qualified representative of the stockholder) does not appear at the Annual Meeting to present a nomination or any business, such nomination or business shall be disregarded, notwithstanding that proxies in respect of such vote may have been received by the Corporation. For purposes of this Article I, Section 2, to be considered a qualified representative of the proposing stockholder, a person must be authorized by a written instrument executed by such stockholder or an electronic transmission delivered by such stockholder to act for such stockholder as proxy at the meeting of stockholders and such person must produce such written instrument or electronic transmission, or a reliable reproduction of the written instrument or electronic transmission, to the presiding officer at the meeting of stockholders.

(4) For purposes of this Bylaw, “public announcement” shall mean disclosure in a press release reported by the Dow Jones News Service, Associated Press or comparable national news service or in a document publicly filed by the Corporation with the Securities and Exchange Commission pursuant to Section 13, 14 or 15(d) of the Exchange Act.

(5) Notwithstanding the foregoing provisions of this Bylaw, a stockholder shall also comply with all applicable requirements of the Exchange Act and the rules and regulations thereunder with respect to the matters set forth in this Bylaw. Nothing in this Bylaw shall be deemed to affect any rights of (i) stockholders to have nominations or proposals included in the Corporation’s proxy statement pursuant to Rule 14a-8 or Rule 14a-11 (or any successor rules), as applicable, under the Exchange Act and, to the extent required by such rule, have such nominations or proposals considered and voted on at an Annual Meeting or (ii) the holders of any series of Undesignated Preferred Stock to elect directors under specified circumstances.

SECTION 3. Special Meetings. Except as otherwise required by statute and subject to the rights, if any, of the holders of any series of Undesignated Preferred Stock, special meetings of the stockholders of the Corporation may be called only by the Board of Directors acting pursuant to a resolution approved by the affirmative vote of a majority of the Directors then in office. The Board of Directors may postpone or reschedule any previously scheduled special meeting of stockholders. Only those matters set forth in the notice of the special meeting may be considered or acted upon at a special meeting of stockholders of the Corporation. Nominations of persons for election to the Board of Directors of the Corporation and stockholder proposals of other business shall not be brought before a special meeting of stockholders to be considered by the stockholders unless such special meeting is held in lieu of an annual meeting of stockholders in accordance with Article I, Section 1 of these Bylaws, in which case such special meeting in lieu thereof shall be deemed an Annual Meeting for purposes of these Bylaws and the provisions of Article I, Section 2 of these Bylaws shall govern such special meeting.

SECTION 4. Notice of Meetings; Adjournments.

(a) A notice of each Annual Meeting stating the hour, date and place, if any, of such Annual Meeting and the means of remote communication, if any, by which stockholders and proxyholders may be deemed to be present in person and vote at such meeting, shall be given not less than ten (10) days nor more than sixty (60) days before the Annual Meeting, to each stockholder entitled to vote thereat by delivering such notice to such stockholder or by mailing it, postage prepaid, addressed to such stockholder at the address of such stockholder as it appears on the Corporation’s stock transfer books. Without limiting the manner by which notice may otherwise be given to stockholders, any notice to stockholders may be given by electronic transmission in the manner provided in Section 232 of the General Corporation Law of the State of Delaware (“DGCL”).

(b) Notice of all special meetings of stockholders shall be given in the same manner as provided for Annual Meetings, except that the notice of all special meetings shall state the purpose or purposes for which the meeting has been called.

(c) Notice of an Annual Meeting or special meeting of stockholders need not be given to a stockholder if a waiver of notice is executed, or waiver of notice by electronic transmission is provided, before or after such meeting by such stockholder or if such stockholder attends such meeting, unless such attendance is for the express purpose of objecting at the beginning of the meeting to the transaction of any business because the meeting was not lawfully called or convened.

(d) The Board of Directors may postpone and reschedule any previously scheduled Annual Meeting or special meeting of stockholders and any record date with respect thereto, regardless of whether any notice or public disclosure with respect to any such meeting has been sent or made pursuant to Section 2 of this Article I of these Bylaws or otherwise. In no event shall the public announcement of an adjournment, postponement or rescheduling of any previously scheduled meeting of stockholders commence a new time period for the giving of a stockholder's notice under this Article I of these Bylaws.

(e) When any meeting is convened, the presiding officer may adjourn the meeting if (i) no quorum is present for the transaction of business, (ii) the Board of Directors determines that adjournment is necessary or appropriate to enable the stockholders to consider fully information which the Board of Directors determines has not been made sufficiently or timely available to stockholders, or (iii) the Board of Directors determines that adjournment is otherwise in the best interests of the Corporation. When any Annual Meeting or special meeting of stockholders is adjourned to another hour, date or place, notice need not be given of the adjourned meeting other than an announcement at the meeting at which the adjournment is taken of the hour, date and place, if any, to which the meeting is adjourned and the means of remote communications, if any, by which stockholders and proxyholders may be deemed to be present in person and vote at such adjourned meeting; provided, however, that if the adjournment is for more than thirty (30) days from the meeting date, or if after the adjournment a new record date is fixed for the adjourned meeting, notice of the adjourned meeting and the means of remote communications, if any, by which stockholders and proxyholders may be deemed to be present in person and vote at such adjourned meeting shall be given to each stockholder of record entitled to vote thereat and each stockholder who, by law or under the Certificate of Incorporation of the Corporation (as the same may hereafter be amended and/or restated, the "Certificate") or these Bylaws, is entitled to such notice.

SECTION 5. Quorum. A majority of the shares entitled to vote, present in person or represented by proxy, shall constitute a quorum at any meeting of stockholders. If less than a quorum is present at a meeting, the holders of voting stock representing a majority of the voting power present at the meeting or the presiding officer may adjourn the meeting from time to time, and the meeting may be held as adjourned without further notice, except as provided in Section 4 of this Article I. At such adjourned meeting at which a quorum is present, any business may be transacted which might have been transacted at the meeting as originally noticed. The stockholders present at a duly constituted meeting may continue to transact business until adjournment, notwithstanding the withdrawal of enough stockholders to leave less than a quorum.

SECTION 6. Voting and Proxies. Stockholders shall have one vote for each share of stock entitled to vote owned by them of record according to the stock ledger of the Corporation as of the record date, unless otherwise provided by law or by the Certificate. Stockholders may vote either (i) in person, (ii) by written proxy or (iii) by a transmission permitted by Section 212(c) of the DGCL. Any copy, facsimile telecommunication or other reliable reproduction of the writing or transmission permitted by Section 212(c) of the DGCL may be substituted for or used in lieu of the original writing or transmission for any and all purposes for which the original writing or transmission could be used, provided that such copy, facsimile telecommunication or other reproduction shall be a complete reproduction of the entire original writing or transmission. Proxies shall be filed in accordance with the procedures established for the meeting of stockholders. Except as otherwise limited therein or as otherwise provided by law, proxies authorizing a person to vote at a specific meeting shall entitle the persons authorized thereby to vote at any adjournment of such meeting, but they shall not be valid after final adjournment of such meeting. A proxy with respect to stock held in the name of two or more persons shall be valid if executed by or on behalf of any one of them unless at or prior to the exercise of the proxy the Corporation receives a specific written notice to the contrary from any one of them.

SECTION 7. Action at Meeting. When a quorum is present at any meeting of stockholders, any matter before any such meeting (other than an election of a director or directors) shall be decided by a majority of the votes properly cast for and against such matter, except where a larger vote is required by law, by the Certificate or by these Bylaws. Any election of directors by stockholders shall be determined by a plurality of the votes properly cast on the election of directors.

SECTION 8. Stockholder Lists. The Secretary or an Assistant Secretary (or the Corporation's transfer agent or other person authorized by these Bylaws or by law) shall prepare and make, at least ten (10) days before every Annual Meeting or special meeting of stockholders, a complete list of the stockholders entitled to vote at the meeting, arranged in alphabetical order, and showing the address of each stockholder and the number of shares registered in the name of each stockholder. Such list shall be open to the examination of any stockholder, for a period of at least ten (10) days prior to the meeting in the manner provided by law. The list shall also be open to the examination of any stockholder during the whole time of the meeting as provided by law.

SECTION 9. Presiding Officer. The Board of Directors shall designate a representative to preside over all Annual Meetings or special meetings of stockholders, provided that if the Board of Directors does not so designate such a presiding officer, then the Chairperson of the Board of Directors (the "Chairperson of the Board"), if one is elected, shall preside over such meetings. If the Board of Directors does not so designate such a presiding officer and there is no Chairperson of the Board or the Chairperson of the Board is unable to so preside or is absent, then the Chief Executive Officer, if one is elected, shall preside over such meetings, provided

further that if there is no Chief Executive Officer or the Chief Executive Officer is unable to so preside or is absent, then the President shall preside over such meetings. The presiding officer at any Annual Meeting or special meeting of stockholders shall have the power, among other things, to adjourn such meeting at any time and from time to time, subject to Sections 4 and 5 of this Article I. The order of business and all other matters of procedure at any meeting of the stockholders shall be determined by the presiding officer.

SECTION 10. Inspectors of Elections. The Corporation shall, in advance of any meeting of stockholders, appoint one or more inspectors to act at the meeting and make a written report thereof. The Corporation may designate one or more persons as alternate inspectors to replace any inspector who fails to act. If no inspector or alternate is able to act at a meeting of stockholders, the presiding officer shall appoint one or more inspectors to act at the meeting. Any inspector may, but need not, be an officer, employee or agent of the Corporation. Each inspector, before entering upon the discharge of his or her duties, shall take and sign an oath faithfully to execute the duties of inspector with strict impartiality and according to the best of his or her ability. The inspectors shall perform such duties as are required by the DGCL, including the counting of all votes and ballots. The inspectors may appoint or retain other persons or entities to assist the inspectors in the performance of the duties of the inspectors. The presiding officer may review all determinations made by the inspectors, and in so doing the presiding officer shall be entitled to exercise his or her sole judgment and discretion and he or she shall not be bound by any determinations made by the inspectors. All determinations by the inspectors and, if applicable, the presiding officer, shall be subject to further review by any court of competent jurisdiction.

## ARTICLE II

### Directors

SECTION 1. Powers. The business and affairs of the Corporation shall be managed by or under the direction of the Board of Directors except as otherwise provided by the Certificate or required by law.

SECTION 2. Number and Terms. The number of directors of the Corporation shall be fixed solely and exclusively by resolution duly adopted from time to time by the Board of Directors. The Directors shall hold office in the manner provided in the Certificate.

SECTION 3. Qualification. No Director need be a stockholder of the Corporation.

SECTION 4. Vacancies. Vacancies in the Board of Directors shall be filled in the manner provided in the Certificate.

SECTION 5. Removal. Directors may be removed from office only in the manner provided in the Certificate.

SECTION 6. Resignation. A Director may resign at any time by giving written notice to the Chairperson of the Board, if one is elected, the President or the Secretary. A resignation shall be effective upon receipt, unless the resignation otherwise provides.

SECTION 7. Regular Meetings. The regular annual meeting of the Board of Directors shall be held, without notice other than this Section 7, on the same date and at the same place as the Annual Meeting following the close of such meeting of stockholders. Other regular meetings of the Board of Directors may be held at such hour, date and place as the Board of Directors may by resolution from time to time determine and publicize by means of reasonable notice given to any director who is not present at the meeting at which such resolution is adopted.

SECTION 8. Special Meetings. Special meetings of the Board of Directors may be called, orally or in writing, by or at the request of a majority of the Directors, the Chairperson of the Board, if one is elected, or the President. The person calling any such special meeting of the Board of Directors may fix the hour, date and place thereof.

SECTION 9. Notice of Meetings. Notice of the hour, date and place of all special meetings of the Board of Directors shall be given to each director by the Secretary or an Assistant Secretary, or in case of the death, absence, incapacity or refusal of such persons, by the Chairperson of the Board, if one is elected, or the President or such other officer designated by the Chairperson of the Board, if one is elected, or the President. Notice of any special meeting of the Board of Directors shall be given to each director in person, by telephone, or by facsimile, electronic mail or other form of electronic communication, sent to his or her business or home address, at least twenty-four (24) hours in advance of the meeting, or by written notice mailed to his or her business or home address, at least forty-eight (48) hours in advance of the meeting. Such notice shall be deemed to be delivered when hand-delivered to such address, read to such director by telephone, deposited in the mail so addressed, with postage thereon prepaid if mailed, dispatched or transmitted if sent by facsimile transmission or by electronic mail or other form of electronic communications. A written waiver of notice signed before or after a meeting by a director and filed with the records of the meeting shall be deemed to be equivalent to notice of the meeting. The attendance of a Director at a meeting shall constitute a waiver of notice of such meeting, except where a Director attends a meeting for the express purpose of objecting at the beginning of the meeting to the transaction of any business because such meeting is not lawfully called or convened. Except as otherwise required by law, by the Certificate or by these Bylaws, neither the business to be transacted at, nor the purpose of, any meeting of the Board of Directors need be specified in the notice or waiver of notice of such meeting.

SECTION 10. Quorum. At any meeting of the Board of Directors, a majority of the total number of Directors shall constitute a quorum for the transaction of business, but if less than a quorum is present at a meeting, a majority of the Directors present may adjourn the meeting from time to time, and the meeting may be held as adjourned without further notice. Any business which might have been transacted at the meeting as originally noticed may be transacted at such adjourned meeting at which a quorum is present. For purposes of this section, the total number of Directors includes any unfilled vacancies on the Board of Directors.



SECTION 11. Action at Meeting. At any meeting of the Board of Directors at which a quorum is present, the vote of a majority of the directors present shall constitute action by the Board of Directors, unless otherwise required by law, by the Certificate or by these Bylaws.

SECTION 12. Action by Consent. Any action required or permitted to be taken at any meeting of the Board of Directors may be taken without a meeting if all members of the Board of Directors consent thereto in writing or by electronic transmission and the writing or writings or electronic transmission or transmissions are filed with the records of the meetings of the Board of Directors. Such filing shall be in paper form if the minutes are maintained in paper form and shall be in electronic form if the minutes are maintained in electronic form. Such consent shall be treated as a resolution of the Board of Directors for all purposes.

SECTION 13. Manner of Participation. Directors may participate in meetings of the Board of Directors by means of conference telephone or other communications equipment by means of which all directors participating in the meeting can hear each other, and participation in a meeting in accordance herewith shall constitute presence in person at such meeting for purposes of these Bylaws.

SECTION 14. Presiding Director. The Board of Directors shall designate a representative to preside over all meetings of the Board of Directors, provided that if the Board of Directors does not so designate such a presiding Director or such designated presiding Director is unable to so preside or is absent, then the Chairperson of the Board, if one is elected, shall preside over all meetings of the Board of Directors. If both the designated presiding Director, if one is so designated, and the Chairperson of the Board, if one is elected, are unable to preside or are absent, the Board of Directors shall designate an alternate representative to preside over a meeting of the Board of Directors.

SECTION 15. Committees. The Board of Directors, by vote of a majority of the Directors then in office, may elect one or more committees, including, without limitation, a Compensation Committee, a Nominating and Corporate Governance Committee and an Audit Committee, and may delegate thereto some or all of its powers except those which by law, by the Certificate or by these Bylaws may not be delegated. Except as the Board of Directors may otherwise determine, any such committee may make rules for the conduct of its business, but unless otherwise provided by the Board of Directors or in such rules, its business shall be conducted so far as possible in the same manner as is provided by these Bylaws for the Board of Directors. All members of such committees shall hold such offices at the pleasure of the Board of Directors. The Board of Directors may abolish any such committee at any time. Any committee to which the Board of Directors delegates any of its powers or duties shall keep records of its meetings and shall report its action to the Board of Directors.

SECTION 16. Compensation of Directors. Directors shall receive such compensation for their services as shall be determined by a majority of the Board of Directors, or a designated committee thereof, provided that Directors who are serving the Corporation as employees and who receive compensation for their services as such, shall not receive any salary or other compensation for their services as Directors of the Corporation.

ARTICLE III

Officers

SECTION 1. Enumeration. The officers of the Corporation shall consist of a President, a Treasurer, a Secretary and such other officers, including, without limitation, a Chairperson of the Board, a Chief Executive Officer and one or more Vice Presidents (including Executive Vice Presidents or Senior Vice Presidents), Assistant Vice Presidents, Assistant Treasurers and Assistant Secretaries, as the Board of Directors may determine.

SECTION 2. Election. At the regular annual meeting of the Board of Directors following the Annual Meeting, the Board of Directors shall elect the President, the Treasurer and the Secretary. Other officers may be elected by the Board of Directors at such regular annual meeting of the Board of Directors or at any other regular or special meeting.

SECTION 3. Qualification. No officer need be a stockholder or a director. Any person may occupy more than one office of the Corporation at any time.

SECTION 4. Tenure. Except as otherwise provided by the Certificate or by these Bylaws, each of the officers of the Corporation shall hold office until the regular annual meeting of the Board of Directors following the next Annual Meeting and until his or her successor is elected and qualified or until his or her earlier resignation or removal.

SECTION 5. Resignation. Any officer may resign by delivering his or her written resignation to the Corporation addressed to the President or the Secretary, and such resignation shall be effective upon receipt, unless the resignation otherwise provides.

SECTION 6. Removal. Except as otherwise provided by law, the Board of Directors may remove any officer with or without cause by the affirmative vote of a majority of the directors then in office.

SECTION 7. Absence or Disability. In the event of the absence or disability of any officer, the Board of Directors may designate another officer to act temporarily in place of such absent or disabled officer.

SECTION 8. Vacancies. Any vacancy in any office may be filled for the unexpired portion of the term by the Board of Directors.

SECTION 9. President. The President shall, subject to the direction of the Board of Directors, have such powers and shall perform such duties as the Board of Directors may from time to time designate.

SECTION 10. Chairperson of the Board. The Chairperson of the Board, if one is elected, shall have such powers and shall perform such duties as the Board of Directors may from time to time designate.

SECTION 11. Chief Executive Officer. The Chief Executive Officer, if one is elected, shall have such powers and shall perform such duties as the Board of Directors may from time to time designate.

SECTION 12. Vice Presidents and Assistant Vice Presidents. Any Vice President (including any Executive Vice President or Senior Vice President) and any Assistant Vice President shall have such powers and shall perform such duties as the Board of Directors or the Chief Executive Officer may from time to time designate.

SECTION 13. Treasurer and Assistant Treasurers. The Treasurer shall, subject to the direction of the Board of Directors and except as the Board of Directors or the Chief Executive Officer may otherwise provide, have general charge of the financial affairs of the Corporation and shall cause to be kept accurate books of account. The Treasurer shall have custody of all funds, securities, and valuable documents of the Corporation. He or she shall have such other duties and powers as may be designated from time to time by the Board of Directors or the Chief Executive Officer. Any Assistant Treasurer shall have such powers and perform such duties as the Board of Directors or the Chief Executive Officer may from time to time designate.

SECTION 14. Secretary and Assistant Secretaries. The Secretary shall record all the proceedings of the meetings of the stockholders and the Board of Directors (including committees of the Board of Directors) in books kept for that purpose. In his or her absence from any such meeting, a temporary secretary chosen at the meeting shall record the proceedings thereof. The Secretary shall have charge of the stock ledger (which may, however, be kept by any transfer or other agent of the Corporation). The Secretary shall have custody of the seal of the Corporation, and the Secretary, or an Assistant Secretary shall have authority to affix it to any instrument requiring it, and, when so affixed, the seal may be attested by his or her signature or that of an Assistant Secretary. The Secretary shall have such other duties and powers as may be designated from time to time by the Board of Directors or the Chief Executive Officer. In the absence of the Secretary, any Assistant Secretary may perform his or her duties and responsibilities. Any Assistant Secretary shall have such powers and perform such duties as the Board of Directors or the Chief Executive Officer may from time to time designate.

SECTION 15. Other Powers and Duties. Subject to these Bylaws and to such limitations as the Board of Directors may from time to time prescribe, the officers of the Corporation shall each have such powers and duties as generally pertain to their respective offices, as well as such powers and duties as from time to time may be conferred by the Board of Directors or the Chief Executive Officer.

## ARTICLE IV

### Capital Stock

SECTION 1. Certificates of Stock. Each stockholder shall be entitled to a certificate of the capital stock of the Corporation in such form as may from time to time be prescribed by the Board of Directors. Such certificate shall be signed by the Chairperson of the Board, the President or a Vice President and by the Treasurer or an Assistant Treasurer, or the Secretary or an Assistant Secretary. The Corporation seal and the signatures by the Corporation's officers, the transfer agent or the registrar may be facsimiles. In case any officer, transfer agent or registrar who has signed or whose facsimile signature has been placed on such certificate shall have ceased to be such officer, transfer agent or registrar before such certificate is issued, it may be issued by the Corporation with the same effect as if he or she were such officer, transfer agent or registrar at the time of its issue. Every certificate for shares of stock which are subject to any restriction on transfer and every certificate issued when the Corporation is authorized to issue more than one class or series of stock shall contain such legend with respect thereto as is required by law. Notwithstanding anything to the contrary provided in these Bylaws, the Board of Directors may provide by resolution or resolutions that some or all of any or all classes or series of its stock shall be uncertificated shares (except that the foregoing shall not apply to shares represented by a certificate until such certificate is surrendered to the Corporation), and by the approval and adoption of these Bylaws the Board of Directors has determined that all classes or series of the Corporation's stock may be uncertificated, whether upon original issuance, re-issuance, or subsequent transfer.

SECTION 2. Transfers. Subject to any restrictions on transfer and unless otherwise provided by the Board of Directors, shares of stock that are represented by a certificate may be transferred on the books of the Corporation by the surrender to the Corporation or its transfer agent of the certificate theretofore properly endorsed or accompanied by a written assignment or power of attorney properly executed, with transfer stamps (if necessary) affixed, and with such proof of the authenticity of signature as the Corporation or its transfer agent may reasonably require. Shares of stock that are not represented by a certificate may be transferred on the books of the Corporation by submitting to the Corporation or its transfer agent such evidence of transfer and following such other procedures as the Corporation or its transfer agent may require.

SECTION 3. Record Holders. Except as may otherwise be required by law, by the Certificate or by these Bylaws, the Corporation shall be entitled to treat the record holder of stock as shown on its books as the owner of such stock for all purposes, including the payment of dividends and the right to vote with respect thereto, regardless of any transfer, pledge or other disposition of such stock, until the shares have been transferred on the books of the Corporation in accordance with the requirements of these Bylaws.

SECTION 4. Record Date. In order that the Corporation may determine the stockholders entitled to notice of or to vote at any meeting of stockholders or any adjournment thereof or entitled to receive payment of any dividend or other distribution or allotment of any rights, or entitled to exercise any rights in respect of any change, conversion or exchange of

stock or for the purpose of any other lawful action, the Board of Directors may fix a record date, which record date shall not precede the date upon which the resolution fixing the record date is adopted by the Board of Directors, and which record date: (a) in the case of determination of stockholders entitled to vote at any meeting of stockholders, shall, unless otherwise required by law, not be more than sixty (60) nor less than ten (10) days before the date of such meeting and (b) in the case of any other action, shall not be more than sixty (60) days prior to such other action. If no record date is fixed: (i) the record date for determining stockholders entitled to notice of or to vote at a meeting of stockholders shall be at the close of business on the day next preceding the day on which notice is given, or, if notice is waived, at the close of business on the day next preceding the day on which the meeting is held; and (ii) the record date for determining stockholders for any other purpose shall be at the close of business on the day on which the Board of Directors adopts the resolution relating thereto.

SECTION 5. Replacement of Certificates. In case of the alleged loss, destruction or mutilation of a certificate of stock of the Corporation, a duplicate certificate may be issued in place thereof, upon such terms as the Board of Directors may prescribe.

## ARTICLE V

### Indemnification

SECTION 1. Definitions. For purposes of this Article:

(a) "Corporate Status" describes the status of a person who is serving or has served (i) as a Director of the Corporation, (ii) as an Officer of the Corporation, (iii) as a Non-Officer Employee of the Corporation, or (iv) as a director, partner, trustee, officer, employee or agent of any other corporation, partnership, limited liability company, joint venture, trust, employee benefit plan, foundation, association, organization or other legal entity which such person is or was serving at the request of the Corporation. For purposes of this Section 1(a), a Director, Officer or Non-Officer Employee of the Corporation who is serving or has served as a director, partner, trustee, officer, employee or agent of a Subsidiary shall be deemed to be serving at the request of the Corporation. Notwithstanding the foregoing, "Corporate Status" shall not include the status of a person who is serving or has served as a director, officer, employee or agent of a constituent corporation absorbed in a merger or consolidation transaction with the Corporation with respect to such person's activities prior to said transaction, unless specifically authorized by the Board of Directors or the stockholders of the Corporation;

(b) "Director" means any person who serves or has served the Corporation as a director on the Board of Directors of the Corporation;

(c) "Disinterested Director" means, with respect to each Proceeding in respect of which indemnification is sought hereunder, a Director of the Corporation who is not and was not a party to such Proceeding;

(d) “Expenses” means all attorneys’ fees, retainers, court costs, transcript costs, fees of expert witnesses, private investigators and professional advisors (including, without limitation, accountants and investment bankers), travel expenses, duplicating costs, printing and binding costs, costs of preparation of demonstrative evidence and other courtroom presentation aids and devices, costs incurred in connection with document review, organization, imaging and computerization, telephone charges, postage, delivery service fees, and all other disbursements, costs or expenses of the type customarily incurred in connection with prosecuting, defending, preparing to prosecute or defend, investigating, being or preparing to be a witness in, settling or otherwise participating in, a Proceeding;

(e) “Liabilities” means judgments, damages, liabilities, losses, penalties, excise taxes, fines and amounts paid in settlement;

(f) “Non-Officer Employee” means any person who serves or has served as an employee or agent of the Corporation, but who is not or was not a Director or Officer;

(g) “Officer” means any person who serves or has served the Corporation as an officer of the Corporation appointed by the Board of Directors of the Corporation;

(h) “Proceeding” means any threatened, pending or completed action, suit, arbitration, alternate dispute resolution mechanism, inquiry, investigation, administrative hearing or other proceeding, whether civil, criminal, administrative, arbitral or investigative; and

(i) “Subsidiary” shall mean any corporation, partnership, limited liability company, joint venture, trust or other entity of which the Corporation owns (either directly or through or together with another Subsidiary of the Corporation) either (i) a general partner, managing member or other similar interest or (ii) (A) fifty percent (50%) or more of the voting power of the voting capital equity interests of such corporation, partnership, limited liability company, joint venture or other entity, or (B) fifty percent (50%) or more of the outstanding voting capital stock or other voting equity interests of such corporation, partnership, limited liability company, joint venture or other entity.

## SECTION 2. Indemnification of Directors and Officers.

(a) Subject to the operation of Section 4 of this Article V of these Bylaws, each Director and Officer shall be indemnified and held harmless by the Corporation to the fullest extent authorized by the DGCL, as the same exists or may hereafter be amended (but, in the case of any such amendment, only to the extent that such amendment permits the Corporation to provide broader indemnification rights than such law permitted the Corporation to provide prior to such amendment), and to the extent authorized in this Section 2.

(1) Actions, Suits and Proceedings Other than By or In the Right of the Corporation. Each Director and Officer shall be indemnified and held harmless by the Corporation against any and all Expenses and Liabilities that are incurred or paid by such Director or Officer or on such Director’s or Officer’s behalf in connection with any Proceeding or any claim, issue or matter therein (other than an action by or in the right of the Corporation), which such Director or Officer is, or is threatened to be made, a party to

or participant in by reason of such Director's or Officer's Corporate Status, if such Director or Officer acted in good faith and in a manner such Director or Officer reasonably believed to be in or not opposed to the best interests of the Corporation and, with respect to any criminal proceeding, had no reasonable cause to believe his or her conduct was unlawful.

(2) Actions, Suits and Proceedings By or In the Right of the Corporation. Each Director and Officer shall be indemnified and held harmless by the Corporation against any and all Expenses that are incurred by such Director or Officer or on such Director's or Officer's behalf in connection with any Proceeding or any claim, issue or matter therein by or in the right of the Corporation, which such Director or Officer is, or is threatened to be made, a party to or participant in by reason of such Director's or Officer's Corporate Status, if such Director or Officer acted in good faith and in a manner such Director or Officer reasonably believed to be in or not opposed to the best interests of the Corporation; provided, however, that no indemnification shall be made under this Section 2(a)(2) in respect of any claim, issue or matter as to which such Director or Officer shall have been finally adjudged by a court of competent jurisdiction to be liable to the Corporation, unless, and only to the extent that, the Court of Chancery or another court in which such Proceeding was brought shall determine upon application that, despite adjudication of liability, but in view of all the circumstances of the case, such Director or Officer is fairly and reasonably entitled to indemnification for such Expenses that such court deems proper.

(3) Survival of Rights. The rights of indemnification provided by this Section 2 shall continue as to a Director or Officer after he or she has ceased to be a Director or Officer and shall inure to the benefit of his or her heirs, executors, administrators and personal representatives.

(4) Actions by Directors or Officers. Notwithstanding the foregoing, the Corporation shall indemnify any Director or Officer seeking indemnification in connection with a Proceeding initiated by such Director or Officer only if such Proceeding (including any parts of such Proceeding not initiated by such Director or Officer) was authorized in advance by the Board of Directors of the Corporation, unless such Proceeding was brought to enforce such Officer's or Director's rights to indemnification or, in the case of Directors, advancement of Expenses under these Bylaws in accordance with the provisions set forth herein.

SECTION 3. Indemnification of Non-Officer Employees. Subject to the operation of Section 4 of this Article V of these Bylaws, each Non-Officer Employee may, in the discretion of the Board of Directors, be indemnified by the Corporation to the fullest extent authorized by the DGCL, as the same exists or may hereafter be amended, against any or all Expenses and Liabilities that are incurred by such Non-Officer Employee or on such Non-Officer Employee's behalf in connection with any threatened, pending or completed Proceeding, or any claim, issue or matter therein, which such Non-Officer Employee is, or is threatened to be made, a party to or participant in by reason of such Non-Officer Employee's Corporate Status, if such Non-Officer Employee acted in good faith and in a manner such Non-Officer Employee reasonably believed

to be in or not opposed to the best interests of the Corporation and, with respect to any criminal proceeding, had no reasonable cause to believe his or her conduct was unlawful. The rights of indemnification provided by this Section 3 shall exist as to a Non-Officer Employee after he or she has ceased to be a Non-Officer Employee and shall inure to the benefit of his or her heirs, personal representatives, executors and administrators. Notwithstanding the foregoing, the Corporation may indemnify any Non-Officer Employee seeking indemnification in connection with a Proceeding initiated by such Non-Officer Employee only if such Proceeding was authorized in advance by the Board of Directors of the Corporation.

SECTION 4. Determination. Unless ordered by a court, no indemnification shall be provided pursuant to this Article V to a Director, to an Officer or to a Non-Officer Employee unless a determination shall have been made that such person acted in good faith and in a manner such person reasonably believed to be in or not opposed to the best interests of the Corporation and, with respect to any criminal Proceeding, such person had no reasonable cause to believe his or her conduct was unlawful. Such determination shall be made by (a) a majority vote of the Disinterested Directors, even though less than a quorum of the Board of Directors, (b) a committee comprised of Disinterested Directors, such committee having been designated by a majority vote of the Disinterested Directors (even though less than a quorum), (c) if there are no such Disinterested Directors, or if a majority of Disinterested Directors so directs, by independent legal counsel in a written opinion, or (d) by the stockholders of the Corporation.

SECTION 5. Advancement of Expenses to Directors Prior to Final Disposition.

(a) The Corporation shall advance all Expenses incurred by or on behalf of any Director in connection with any Proceeding in which such Director is involved by reason of such Director's Corporate Status within thirty (30) days after the receipt by the Corporation of a written statement from such Director requesting such advance or advances from time to time, whether prior to or after final disposition of such Proceeding. Such statement or statements shall reasonably evidence the Expenses incurred by such Director and shall be preceded or accompanied by an undertaking by or on behalf of such Director to repay any Expenses so advanced if it shall ultimately be determined that such Director is not entitled to be indemnified against such Expenses. Notwithstanding the foregoing, the Corporation shall advance all Expenses incurred by or on behalf of any Director seeking advancement of expenses hereunder in connection with a Proceeding initiated by such Director only if such Proceeding (including any parts of such Proceeding not initiated by such Director) was (i) authorized by the Board of Directors, or (ii) brought to enforce such Director's rights to indemnification or advancement of Expenses under these Bylaws.

(b) If a claim for advancement of Expenses hereunder by a Director is not paid in full by the Corporation within thirty (30) days after receipt by the Corporation of documentation of Expenses and the required undertaking, such Director may at any time thereafter bring suit against the Corporation to recover the unpaid amount of the claim and if successful in whole or in part, such Director shall also be entitled to be paid the expenses of prosecuting such claim. The failure of the Corporation (including its Board of Directors or any committee thereof, independent legal counsel, or stockholders) to make a determination concerning the permissibility of such advancement of Expenses under this Article V shall not be a defense to an



action brought by a Director for recovery of the unpaid amount of an advancement claim and shall not create a presumption that such advancement is not permissible. The burden of proving that a Director is not entitled to an advancement of expenses shall be on the Corporation.

(c) In any suit brought by the Corporation to recover an advancement of expenses pursuant to the terms of an undertaking, the Corporation shall be entitled to recover such expenses upon a final adjudication that the Director has not met any applicable standard for indemnification set forth in the DGCL.

**SECTION 6. Advancement of Expenses to Officers and Non-Officer Employees Prior to Final Disposition.**

(a) The Corporation may, at the discretion of the Board of Directors, advance any or all Expenses incurred by or on behalf of any Officer or any Non-Officer Employee in connection with any Proceeding in which such person is involved by reason of his or her Corporate Status as an Officer or Non-Officer Employee upon the receipt by the Corporation of a statement or statements from such Officer or Non-Officer Employee requesting such advance or advances from time to time, whether prior to or after final disposition of such Proceeding. Such statement or statements shall reasonably evidence the Expenses incurred by such Officer or Non-Officer Employee and shall be preceded or accompanied by an undertaking by or on behalf of such person to repay any Expenses so advanced if it shall ultimately be determined that such Officer or Non-Officer Employee is not entitled to be indemnified against such Expenses.

(b) In any suit brought by the Corporation to recover an advancement of expenses pursuant to the terms of an undertaking, the Corporation shall be entitled to recover such expenses upon a final adjudication that the Officer or Non-Officer Employee has not met any applicable standard for indemnification set forth in the DGCL.

**SECTION 7. Contractual Nature of Rights.**

(a) The provisions of this Article V shall be deemed to be a contract between the Corporation and each Director and Officer entitled to the benefits hereof at any time while this Article V is in effect, in consideration of such person's past or current and any future performance of services for the Corporation. Neither amendment, repeal or modification of any provision of this Article V nor the adoption of any provision of the Certificate of Incorporation inconsistent with this Article V shall eliminate or reduce any right conferred by this Article V in respect of any act or omission occurring, or any cause of action or claim that accrues or arises or any state of facts existing, at the time of or before such amendment, repeal, modification or adoption of an inconsistent provision (even in the case of a proceeding based on such a state of facts that is commenced after such time), and all rights to indemnification and advancement of Expenses granted herein or arising out of any act or omission shall vest at the time of the act or omission in question, regardless of when or if any proceeding with respect to such act or omission is commenced. The rights to indemnification and to advancement of expenses provided by, or granted pursuant to, this Article V shall continue notwithstanding that the person has ceased to be a director or officer of the Corporation and shall inure to the benefit of the estate, heirs, executors, administrators, legatees and distributees of such person.

(b) If a claim for indemnification hereunder by a Director or Officer is not paid in full by the Corporation within sixty (60) days after receipt by the Corporation of a written claim for indemnification, such Director or Officer may at any time thereafter bring suit against the Corporation to recover the unpaid amount of the claim, and if successful in whole or in part, such Director or Officer shall also be entitled to be paid the expenses of prosecuting such claim. The failure of the Corporation (including its Board of Directors or any committee thereof, independent legal counsel, or stockholders) to make a determination concerning the permissibility of such indemnification under this Article V shall not be a defense to an action brought by a Director or Officer for recovery of the unpaid amount of an indemnification claim and shall not create a presumption that such indemnification is not permissible. The burden of proving that a Director or Officer is not entitled to indemnification shall be on the Corporation.

(c) In any suit brought by a Director or Officer to enforce a right to indemnification hereunder, it shall be a defense that such Director or Officer has not met any applicable standard for indemnification set forth in the DGCL.

SECTION 8. Non-Exclusivity of Rights. The rights to indemnification and to advancement of Expenses set forth in this Article V shall not be exclusive of any other right which any Director, Officer, or Non-Officer Employee may have or hereafter acquire under any statute, provision of the Certificate or these Bylaws, agreement, vote of stockholders or Disinterested Directors or otherwise.

SECTION 9. Insurance. The Corporation may maintain insurance, at its expense, to protect itself and any Director, Officer or Non-Officer Employee against any liability of any character asserted against or incurred by the Corporation or any such Director, Officer or Non-Officer Employee, or arising out of any such person's Corporate Status, whether or not the Corporation would have the power to indemnify such person against such liability under the DGCL or the provisions of this Article V.

SECTION 10. Other Indemnification. The Corporation's obligation, if any, to indemnify or provide advancement of Expenses to any person under this Article V as a result of such person serving, at the request of the Corporation, as a director, partner, trustee, officer, employee or agent of another corporation, partnership, joint venture, trust, employee benefit plan or other enterprise shall be reduced by any amount such person may collect as indemnification or advancement of Expenses from such other corporation, partnership, joint venture, trust, employee benefit plan or enterprise (the "Primary Indemnitor"). Any indemnification or advancement of Expenses under this Article V owed by the Corporation as a result of a person serving, at the request of the Corporation, as a director, partner, trustee, officer, employee or agent of another corporation, partnership, joint venture, trust, employee benefit plan or other enterprise shall only be in excess of, and shall be secondary to, the indemnification or advancement of Expenses available from the applicable Primary Indemnitor(s) and any applicable insurance policies.

ARTICLE VI

Miscellaneous Provisions

SECTION 1. Fiscal Year. The fiscal year of the Corporation shall be determined by the Board of Directors.

SECTION 2. Seal. The Board of Directors shall have power to adopt and alter the seal of the Corporation.

SECTION 3. Execution of Instruments. All deeds, leases, transfers, contracts, bonds, notes and other obligations to be entered into by the Corporation in the ordinary course of its business without director action may be executed on behalf of the Corporation by the Chairperson of the Board, if one is elected, the Chief Executive Officer, the President or the Treasurer or any other officer, employee or agent of the Corporation as the Board of Directors or the executive committee of the Board may authorize.

SECTION 4. Voting of Securities. Unless the Board of Directors otherwise provides, the Chairperson of the Board, if one is elected, the President or the Treasurer may waive notice of and act on behalf of the Corporation, or appoint another person or persons to act as proxy or attorney in fact for the Corporation with or without discretionary power and/or power of substitution, at any meeting of stockholders or shareholders of any other corporation or organization, any of whose securities are held by the Corporation.

SECTION 5. Resident Agent. The Board of Directors may appoint a resident agent upon whom legal process may be served in any action or proceeding against the Corporation.

SECTION 6. Corporate Records. The original or attested copies of the Certificate, Bylaws and records of all meetings of the incorporators, stockholders and the Board of Directors and the stock transfer books, which shall contain the names of all stockholders, their record addresses and the amount of stock held by each, may be kept outside the State of Delaware and shall be kept at the principal office of the Corporation, at an office of its counsel, at an office of its transfer agent or at such other place or places as may be designated from time to time by the Board of Directors.

SECTION 7. Certificate. All references in these Bylaws to the Certificate shall be deemed to refer to the Amended and Restated Certificate of Incorporation of the Corporation, as amended and/or restated and in effect from time to time.

SECTION 8. Amendment of Bylaws.

(a) Amendment by Directors. Except as provided otherwise by law, these Bylaws may be amended or repealed by the Board of Directors by the affirmative vote of a majority of the directors then in office.

(b) Amendment by Stockholders. These Bylaws may be amended or repealed at any Annual Meeting, or special meeting of stockholders called for such purpose in accordance with these Bylaws, by the affirmative vote of at least seventy-five percent (75%) of the outstanding shares entitled to vote on such amendment or repeal, voting together as a single class; provided, however, that if the Board of Directors recommends that stockholders approve such amendment or repeal at such meeting of stockholders, such amendment or repeal shall only require the affirmative vote of the majority of the outstanding shares entitled to vote on such amendment or repeal, voting together as a single class. Notwithstanding the foregoing, stockholder approval shall not be required unless mandated by the Certificate, these Bylaws, or other applicable law.

SECTION 9. Notices. If mailed, notice to stockholders shall be deemed given when deposited in the mail, postage prepaid, directed to the stockholder at such stockholder's address as it appears on the records of the Corporation. Without limiting the manner by which notice otherwise may be given to stockholders, any notice to stockholders may be given by electronic transmission in the manner provided in Section 232 of the DGCL.

SECTION 10. Waivers. A written waiver of any notice, signed by a stockholder or director, or waiver by electronic transmission by such person, whether given before or after the time of the event for which notice is to be given, shall be deemed equivalent to the notice required to be given to such person. Neither the business to be transacted at, nor the purpose of, any meeting need be specified in such a waiver.

ADOPTED: April 30, 2014  
EFFECTIVE:           , 2014

Transfer Restricted - See Reverse Side Hereof

State of Delaware

NUMBER

\*\*CS-0\*\*

SHARES

0000

# SAGE THERAPEUTICS, INC.

\$0.0001 Par Value

**This Certifies that**

**\*SPECIMEN\***

*is the*

*registered holder of*

**\*\* 0 \*\***

*Shares*

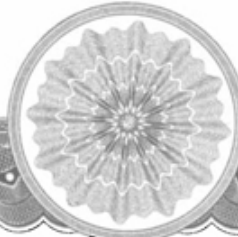
**of Common Stock of SAGE THERAPEUTICS, INC.**

*transferable only on the books of the Corporation by the holder hereof in person or by Attorney upon surrender of this Certificate properly endorsed.*

*In Witness Whereof, the said Corporation has caused this Certificate to be signed by its duly authorized officers and its Corporate Seal to be hereunto affixed this \_\_\_\_\_ day of \_\_\_\_\_ A.D. 20\_\_*

\_\_\_\_\_  
President

\_\_\_\_\_  
Treasurer



THE SECURITIES REPRESENTED HEREBY HAVE BEEN ACQUIRED FOR INVESTMENT AND HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED. SUCH SHARES MAY NOT BE SOLD, PLEDGED, OR TRANSFERRED IN THE ABSENCE OF SUCH REGISTRATION OR A VALID EXEMPTION FROM THE REGISTRATION AND PROSPECTUS DELIVERY REQUIREMENTS OF SAID ACT.

THE CORPORATION IS AUTHORIZED TO ISSUE MORE THAN ONE CLASS OR SERIES OF STOCK. A COPY OF THE POWERS, DESIGNATIONS, PREFERENCES AND RELATIVE, PARTICIPATING, OPTIONAL, OR OTHER SPECIAL RIGHTS OF EACH CLASS OF STOCK OR SERIES THEREOF AND THE QUALIFICATIONS, LIMITATIONS OR RESTRICTIONS OF SUCH PREFERENCES AND/OR RIGHTS WILL BE FURNISHED BY THE CORPORATION TO THE HOLDER HEREOF UPON REQUEST AND WITHOUT CHARGE.

*For Value Received, hereby sell, assign and transfer*

*unto \_\_\_\_\_ Shares*  
*represented by the within Certificate, and do hereby*  
*expressly constitute and appoint \_\_\_\_\_*

*to transfer the said Stock on the books of the within named*  
*Corporation with full power of substitution in the premises.*

*Dated \_\_\_\_\_, 19\_\_*  
*In presence of \_\_\_\_\_*

NOTICE: THE SIGNATURE OF THIS ASSIGNMENT  
MUST CORRESPOND WITH THE NAME AS WRITTEN UPON THE  
FACE OF THE CERTIFICATE, IN EVERY PARTICULAR, WITHOUT  
ALTERATION OR ENLARGEMENT OR ANY CHANGE WHATSOEVER.

**SECOND AMENDED AND RESTATED  
INVESTORS' RIGHTS AGREEMENT**

THIS SECOND AMENDED AND RESTATED INVESTORS' RIGHTS AGREEMENT (this "**Agreement**") is made as of March 11, 2014, by and among Sage Therapeutics, Inc., a Delaware corporation (the "**Company**"), and each investor listed on Schedule A hereto, each of which is referred to in this Agreement as an "**Investor**."

**RECITALS:**

WHEREAS, the Company and the Investors are parties to a Series C Preferred Stock Purchase Agreement, dated March 11, 2014, as amended, restated, or otherwise modified from time to time (the "**Purchase Agreement**"), pursuant to which certain Investors have agreed to purchase shares of Series C Preferred Stock of the Company, par value \$0.0001 per share (the "**Series C Preferred Stock**");

WHEREAS, in order to induce the Company to enter into the Purchase Agreement and to induce the Investors to invest funds in the Company pursuant to the Purchase Agreement, the Investors and the Company hereby agree that this Agreement shall govern the rights of the Investors to cause the Company to register shares of Common Stock issuable to the Investors, to receive certain information from the Company, and to participate in future equity offerings by the Company, and shall govern certain other matters as set forth in this Agreement;

WHEREAS, certain of the Investors (the "**Existing Investors**") are holders of the Company's Series A Preferred Stock, par value \$0.0001 per share (the "**Series A Preferred Stock**") and the Company's Series B Preferred Stock, par value \$0.0001 per share (the "**Series B Preferred Stock**") and collectively with the Series A Preferred Stock and Series C Preferred Stock, the "**Preferred Stock**";

WHEREAS, the Existing Investors are parties to an Amended and Restated Investors' Rights Agreement, dated as of January 7, 2014 (the "**Prior Agreement**"); and

WHEREAS, the Company and the undersigned Existing Investors desire to amend and restate the Prior Agreement in its entirety and to accept the rights and obligations created pursuant to this Agreement in lieu of the rights granted to them and the obligations imposed under the Prior Agreement; and the Company and the Existing Investors executing this Agreement together represent sufficient signatory authority to amend and restate the Prior Agreement.

NOW, THEREFORE, in consideration of the foregoing, the receipt and sufficiency of which are hereby acknowledged, the parties hereto agree as follows:

1. Definitions. For purposes of this Agreement:

1.1 "**Affiliate**" means, with respect to any specified Person, any other Person who or which, directly or indirectly, controls, is controlled by, or is under common control with such specified Person, including without limitation any general partner, officer, director, or manager of such Person and any fund now or hereafter existing that is controlled by one or more general partners or managing members of, or shares the same management company with, such Person.

1.2 “**BlackRock Investors**” means BlackRock Health Sciences Trust or BlackRock Health Sciences Opportunities Portfolio.

1.3 “**Board of Directors**” means the Company’s Board of Directors.

1.4 “**Certificate of Incorporation**” means the Company’s Third Amended and Restated Certificate of Incorporation, as amended, restated, or otherwise modified from time to time.

1.5 “**Common Stock**” means shares of the Company’s common stock, par value \$0.0001 per share.

1.6 “**Damages**” means any loss, damage, claim or liability (joint or several) to which a party hereto may become subject under the Securities Act, the Exchange Act, or other federal or state law, insofar as such loss, damage, claim or liability (or any action in respect thereof) arises out of or is based upon (i) any untrue statement or alleged untrue statement of a material fact contained in any registration statement of the Company, including any preliminary prospectus or final prospectus contained therein or any amendments or supplements thereto; (ii) an omission or alleged omission to state therein a material fact required to be stated therein, or necessary to make the statements therein not misleading; or (iii) any violation or alleged violation by the indemnifying party (or any of its agents or Affiliates) of the Securities Act, the Exchange Act, any state securities law, or any rule or regulation promulgated under the Securities Act, the Exchange Act, or any state securities law.

1.7 “**Derivative Securities**” means any securities or rights convertible into, or exercisable or exchangeable for (in each case, directly or indirectly), Common Stock, including options and warrants.

1.8 “**Exchange Act**” means the Securities Exchange Act of 1934, as amended, and the rules and regulations promulgated thereunder.

1.9 “**Excluded Registration**” means (i) a registration relating to the sale of securities to employees of the Company or a subsidiary pursuant to a stock option, stock purchase, or similar plan; (ii) a registration relating to an SEC Rule 145 transaction; or (iii) a registration on any form that does not include substantially the same information as would be required to be included in a registration statement covering the sale of the Registrable Securities.

1.10 “**Fidelity Investors**” means Fidelity Select Portfolios: Biotechnology Portfolio, Fidelity Advisor Series VII: Fidelity Advisor Biotechnology Fund, Fidelity Group Trust for Employee Benefit Plans: Fidelity Growth Company Commingled Pool, Fidelity Mt. Vernon Street Trust: Fidelity Series Growth Company Fund or Fidelity Mt. Vernon Street Trust: Fidelity Growth Company Fund.

1.11 “**Form S-1**” means such form under the Securities Act as in effect on the date hereof or any successor registration form under the Securities Act subsequently adopted by the SEC.



1.12 “**Form S-2**” means such form under the Securities Act as in effect on the date hereof or any successor registration form under the Securities Act subsequently adopted by the SEC.

1.13 “**Form S-3**” means such form under the Securities Act as in effect on the date hereof or any registration form under the Securities Act subsequently adopted by the SEC that permits incorporation of substantial information by reference to other documents filed by the Company with the SEC.

1.14 “**GAAP**” means generally accepted accounting principles in the United States.

1.15 “**Holder**” means any holder of Registrable Securities who is a party to this Agreement.

1.16 “**Immediate Family Member**” means a child, stepchild, grandchild, parent, stepparent, grandparent, spouse, sibling, mother-in-law, father-in-law, son-in-law, daughter-in-law, brother-in-law, or sister-in-law, including adoptive relationships, of a natural person referred to herein.

1.17 “**Initiating Holders**” means, collectively, Holders who properly initiate a registration request under this Agreement.

1.18 “**IPO**” means the Company’s first underwritten public offering of its Common Stock under the Securities Act.

1.19 “**Key Employee**” means any executive-level employee (including division director and vice president-level positions) as well as any employee who, either alone or in concert with others, develops, invents, programs, or designs any Company Intellectual Property (as defined in the Purchase Agreement).

1.20 “**Major Investor**” means (a) any Investor that, individually or together with such Investor’s Affiliates, holds at least 1,000,000 shares of Registrable Securities (subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization), (b) EcoR1 Capital Fund, L.P. and EcoR1 Capital Fund Qualified, L.P., each individually or together with their respective Affiliates (collectively, “**EcoR1**”), so long as EcoR1 holds 354,233 shares of Registrable Securities (subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization) and (c) Foresite Capital Fund II, L.P., individually or together with its respective Affiliates (collectively, “**Foresite**”), so long as Foresite holds 236,155 shares of Registrable Securities (subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization).

1.21 “**New Securities**” means, collectively, equity securities of the Company, whether or not currently authorized, as well as rights, options, or warrants to purchase such equity securities, or securities of any type whatsoever that are, or may become, convertible or exchangeable into or exercisable for such equity securities, other than Exempted Securities (as such term is defined in the Certificate of Incorporation).

1.22 “**Person**” means any individual, corporation, partnership, trust, limited liability company, association or other entity.

1.23 “**Preferred Directors**” means the directors of the Company that have been solely designated by the holders of record of the Series A Preferred Stock and Series B Preferred Stock, voting together as a single class on an as-converted basis, pursuant to the Certificate of Incorporation, the Stockholders Agreement or otherwise.

1.24 “**QPO**” shall have the meaning set forth in the Certificate of Incorporation.

1.25 “**Registrable Securities**” means (i) the Common Stock issuable or issued upon conversion of the Preferred Stock; (ii) any Common Stock, or any Common Stock issued or issuable (directly or indirectly) upon conversion and/or exercise of any other securities of the Company, held by the Investors or acquired by the Investors after the date hereof; and (iii) any Common Stock issued as (or issuable upon the conversion or exercise of any warrant, right, or other security that is issued as) a dividend or other distribution with respect to, or in exchange for or in replacement of, the shares referenced in clauses (i) and (ii) above; excluding in all cases, however, any Registrable Securities sold by a Person in a transaction in which the applicable rights under this Agreement are not assigned pursuant to Section 6.1, and excluding for purposes of Section 2 any shares for which registration rights have terminated pursuant to Section 2.13 of this Agreement.

1.26 “**Registrable Securities then outstanding**” means the number of shares at a point in time determined by adding the number of shares of outstanding Common Stock that are Registrable Securities at such time and the number of shares of Common Stock issuable (directly or indirectly) at such time pursuant to then exercisable and/or convertible securities that are Registrable Securities.

1.27 “**Restricted Securities**” means the securities of the Company required to bear the legend set forth in Section 2.12(b) hereof.

1.28 “**SEC**” means the Securities and Exchange Commission.

1.29 “**SEC Rule 144**” means Rule 144 promulgated by the SEC under the Securities Act, or any successor provisions.

1.30 “**SEC Rule 144(b)**” means Rule 144(b) promulgated by the SEC under the Securities Act, or any successor provisions.

1.31 “**SEC Rule 145**” means Rule 145 promulgated by the SEC under the Securities Act, or any successor provisions.

1.32 “**Securities Act**” means the Securities Act of 1933, as amended, and the rules and regulations promulgated thereunder.

1.33 “**Selling Expenses**” means all underwriting discounts, selling commissions, and stock transfer taxes applicable to the sale of Registrable Securities, and fees and disbursements of counsel for any Holder, except for the fees and disbursements of the Selling Holder Counsel borne and paid by the Company as provided in Section 2.6.

1.34 “**Selling Holder Counsel**” shall have the meaning assigned to it in Section 2.6.

1.35 “**Stockholders Agreement**” means the Second Amended and Restated Stockholders Agreement dated as of the date hereof, by and among the Company, the Investors, and Key Holders (as defined therein), as amended, restated, or otherwise modified from time to time.

2. Registration Rights. The Company covenants and agrees as follows:

2.1 Demand Registration

(a) Form S-1 Demand. Beginning upon the earlier of (i) five (5) years after the date of this Agreement or (ii) six (6) months after the effective date of the registration statement for the IPO, if the Company receives a request from Holders of at least twenty-five percent (25%) of the Registrable Securities then outstanding that the Company file a Form S-1 registration statement with respect to at least twenty-five percent (25%) of the Registrable Securities then outstanding, having the anticipated offering price of at least \$3 million, then the Company shall (i) within ten (10) days after the date such request is given, give notice thereof (the “**Demand Notice**”) to all Holders other than the Initiating Holders; and (ii) as soon as practicable, and in any event within sixty (60) days after the date such request is given by the Initiating Holders, file a Form S-1 registration statement under the Securities Act covering all Registrable Securities that the Initiating Holders requested to be registered and any additional Registrable Securities requested to be included in such registration by any other Holders, as specified by notice given by each such Holder to the Company within twenty (20) days of the date the Demand Notice is given, and in each case, subject to the limitations of Section 2.1(c) and Section 2.3.

(b) Form S-3 Demand. If at any time when it is eligible to use a Form S-3 registration statement and the Company receives a request from Holders of at least fifteen percent (15%) of the Registrable Securities then outstanding that the Company file a Form S-3 registration statement with respect to outstanding Registrable Securities of such Holders having an anticipated aggregate offering price, net of Selling Expenses, of at least \$1 million, then the Company shall (i) within ten (10) days after the date such request is given, give a Demand Notice to all Holders other than the Initiating Holders; and (ii) as soon as practicable, and in any event within forty-five (45) days after the date such request is given by the Initiating Holders, file a Form S-3 registration statement under the Securities Act covering all Registrable Securities requested to be included in such registration by any other Holders, as specified by notice given by each such Holder to the Company within twenty (20) days of the date the Demand Notice is given, and in each case, subject to the limitations of Section 2.1(c) and Section 2.3.

(c) Notwithstanding the foregoing obligations, if the Company furnishes to Holders requesting a registration pursuant to this Section 2.1 a certificate signed by

the Company's chief executive officer stating that in the good faith judgment of the Board of Directors it would be materially detrimental to the Company and its stockholders for such registration statement to either become effective or remain effective for as long as such registration statement otherwise would be required to remain effective, because such action would (i) materially interfere with a significant acquisition, corporate reorganization, or other similar transaction involving the Company; (ii) require premature disclosure of material information that the Company has a bona fide business purpose for preserving as confidential; or (iii) render the Company unable to comply with requirements under the Securities Act or Exchange Act, then the Company shall have the right to defer taking action with respect to such filing, and any time periods with respect to filing or effectiveness thereof shall be tolled correspondingly, for a period of not more than one hundred twenty (120) days after the request of the Initiating Holders is given; provided, however, that the Company may not invoke this right more than once in any twelve (12)-month period, nor shall the Company invoke this right more than twice in all periods; and provided further that the Company shall not register any securities for its own account or that of any other stockholder during either one hundred twenty (120)-day period other than an Excluded Registration.

(d) The Company shall not be obligated to effect, or to take any action to effect, any registration pursuant to Section 2.1(a) (i) if it delivers notice to the Holders within thirty (30) days of any registration request of its intent to file a registration statement for a public offering within ninety (90) days; (ii) during the period that is one hundred eighty (180) days after commencing a Company-initiated registration; (iii) after the Company has effected two (2) registrations pursuant to Section 2.1(a); or (iv) if the Initiating Holders propose to dispose of shares of Registrable Securities that may be immediately registered on Form S-3 pursuant to a request made pursuant to Section 2.1(b). The Company shall not be obligated to effect, or to take any action to effect, any registration pursuant to Section 2.1(b) if the Company has effected two (2) registrations pursuant to Section 2.1(b) within the twelve (12)-month period immediately preceding the date of such request. A registration shall not be counted as "effected" for purposes of this Section 2.1(d) until such time as the applicable registration statement has been declared effective by the SEC, unless the Initiating Holders withdraw their request for such registration (other than as a result of a material adverse change to the Company), elect not to pay the registration expenses therefor, and forfeit their right to one demand registration statement pursuant to Section 2.6, in which case such withdrawn registration statement shall not be counted as "effected" for purposes of this Section 2.1(d).

2.2 Company Registration. If the Company proposes to register (including, for this purpose, a registration effected by the Company for stockholders other than the Holders) any of its Common Stock under the Securities Act in connection with the public offering of such securities solely for cash (other than in an Excluded Registration), the Company shall, at such time, promptly give each Holder notice of such registration. Upon the request of each Holder given within twenty (20) days after such notice is given by the Company, the Company shall, subject to the provisions of Section 2.3, cause to be registered all of the Registrable Securities that each such Holder has requested to be included in such registration. The Company shall have the right to terminate or withdraw any registration initiated by it under this Section 2.2 before the effective date of such registration, whether or not any Holder has elected to include Registrable Securities in such registration. The expenses (other than Selling Expenses) of such withdrawn registration shall be borne by the Company in accordance with Section 2.6.

### 2.3 Underwriting Requirements.

(a) If, pursuant to Section 2.1, the Initiating Holders intend to distribute the Registrable Securities covered by their request by means of an underwriting, they shall so advise the Company as a part of their request made pursuant to Section 2.1, and the Company shall include such information in the Demand Notice. The underwriter(s) will be selected by the Company and shall be reasonably acceptable to a majority-in-interest of the Initiating Holders. In such event, the right of any Holder to include such Holder's Registrable Securities in such registration shall be conditioned upon such Holder's participation in such underwriting and the inclusion of such Holder's Registrable Securities in the underwriting to the extent provided herein. All Holders proposing to distribute their securities through such underwriting shall (together with the Company as provided in Section 2.4(e)) enter into an underwriting agreement in customary form with the underwriter(s) selected for such underwriting. Notwithstanding any other provision of this Section 2.3, if the managing underwriter(s) advise the Initiating Holders in writing that marketing factors require a limitation on the number of shares to be underwritten, then the Initiating Holders shall so advise all Holders that otherwise would be underwritten pursuant hereto, and the number of Registrable Securities that may be included in the underwriting shall be allocated among such Holders, including the Initiating Holders, in proportion (as nearly as practicable) to the number of Registrable Securities owned by each, or in such other proportion as shall mutually be agreed to by all such selling Holders; provided, however, that the number of Registrable Securities held by the Holders to be included in such underwriting shall not be reduced unless all other securities are first entirely excluded from the underwriting. To facilitate the allocation of shares in accordance with the above provisions, the Company or the underwriters may round the number of shares allocated to any Holder to the nearest 100 shares.

(b) In connection with any offering involving an underwriting of shares of the Company's capital stock pursuant to Section 2.2, the Company shall not be required to include any of the Registrable Securities in such underwriting unless the Holders accept the terms of the underwriting as agreed upon between the Company and its underwriters, and then only in such quantity as the underwriters in their sole discretion determine will not jeopardize the success of the offering by the Company. If the total number of securities, including Registrable Securities, requested by Holders to be included in such offering exceeds the number of securities to be sold (other than by the Company) that the underwriters in their reasonable discretion determine is compatible with the success of the offering, then the Company shall be required to include in the offering only that number of such securities, including Registrable Securities, which the underwriters and the Company in their sole discretion determine will not jeopardize the success of the offering. If the underwriters determine that less than all of the Registrable Securities requested to be registered can be included in such offering, then the Registrable Securities that are included in such offering shall be allocated among the selling Holders in proportion (as nearly as practicable to) the number of Registrable Securities owned by each selling Holder or in such other proportions as shall mutually be agreed to by all such selling Holders. To facilitate the allocation of shares in accordance with the above provisions, the Company or the underwriters may round the number of shares allocated to any Holder to the nearest 100 shares. Notwithstanding the foregoing, in no event shall (i) the number of Registrable Securities included in the offering be reduced unless all other securities (other than securities to be sold by the Company) are first entirely excluded from the offering, or (ii) the

number of Registrable Securities included in the offering be reduced below thirty percent (30%) of the total number of securities included in such offering, unless such offering is the IPO, in which case the selling Holders may be excluded further if the underwriters make the determination described above and no other stockholder's securities are included in such offering. For purposes of the provision in this Section 2.3(b) concerning apportionment, for any selling Holder that is a partnership, limited liability company, or corporation, the partners, members, retired partners, retired members, stockholders, and Affiliates of such Holder, or the estates and Immediate Family Members of any such partners, retired partners, members, and retired members and any trusts for the benefit of any of the foregoing Persons, shall be deemed to be a single "selling Holder," and any pro rata reduction with respect to such "selling Holder" shall be based upon the aggregate number of Registrable Securities owned by all Persons included in such "selling Holder," as defined in this sentence.

(c) For purposes of Section 2.1, a registration shall not be counted as "effected" if, as a result of an exercise of the underwriter's cutback provisions in Section 2.3(a) and (b), less than the total number of Registrable Securities that Holders have requested to be included in such registration statement are actually included.

#### 2.4 Obligations of the Company.

Whenever required under this Section 2 to effect the registration of any Registrable Securities, the Company shall, as expeditiously as reasonably possible:

(a) prepare and file with the SEC a registration statement with respect to such Registrable Securities and use its commercially reasonable efforts to cause such registration statement to become effective and, upon the request of the Holders of a majority of the Registrable Securities registered thereunder, keep such registration statement effective for a period of up to one hundred twenty (120) days or, if earlier, until the distribution contemplated in the registration statement has been completed; provided, however, that (i) such one hundred twenty (120)-day period shall be extended for a period of time equal to the period the Holder refrains, at the request of an underwriter of the Company, from selling any securities included in such registration, and (ii) in the case of any registration of Registrable Securities on Form S-3 that are intended to be offered on a continuous or delayed basis, subject to compliance with applicable SEC rules, such one hundred twenty (120)-day period shall be extended for up to one hundred eighty (180) days, if necessary, to keep the registration statement effective until all such Registrable Securities are sold;

(b) prepare and file with the SEC such amendments and supplements to such registration statement, and the prospectus used in connection with such registration statement, as may be necessary to comply with the Securities Act in order to enable the disposition of all securities covered by such registration statement;

(c) furnish to the selling Holders such numbers of copies of a prospectus, including a preliminary prospectus, as required by the Securities Act, and such other documents as the Holders may reasonably request in order to facilitate their disposition of their Registrable Securities;

(d) use its commercially reasonable efforts to register and qualify the securities covered by such registration statement under such other securities or blue-sky laws of such jurisdictions as shall be reasonably requested by the selling Holders; provided that the Company shall not be required to qualify to do business or to file a general consent to service of process in any such states or jurisdictions, unless the Company is already subject to service in such jurisdiction and except as may be required by the Securities Act;

(e) in the event of any underwritten public offering, enter into and perform its obligations under an underwriting agreement, in usual and customary form, with the underwriter(s) of such offering;

(f) use its commercially reasonable efforts to cause all such Registrable Securities covered by such registration statement to be listed on a national securities exchange or trading system and each securities exchange and trading system (if any) on which similar securities issued by the Company are then listed;

(g) provide a transfer agent and registrar for all Registrable Securities registered pursuant to this Agreement and provide a CUSIP number for all such Registrable Securities, in each case not later than the effective date of such registration;

(h) promptly make available for inspection by the selling Holders, any underwriter(s) participating in any disposition pursuant to such registration statement, and any attorney or accountant or other agent retained by any such underwriter or selected by the selling Holders, all financial and other records, pertinent corporate documents, and properties of the Company, and cause the Company's officers, directors, employees, and independent accountants to supply all information reasonably requested by any such seller, underwriter, attorney, accountant, or agent, in each case, as necessary or advisable to verify the accuracy of the information in such registration statement and to conduct appropriate due diligence in connection therewith;

(i) notify each selling Holder, promptly after the Company receives notice thereof, of the time when such registration statement has been declared effective or a supplement to any prospectus forming a part of such registration statement has been filed; and

(j) after such registration statement becomes effective, notify each selling Holder of any request by the SEC that the Company amend or supplement such registration statement or prospectus.

**2.5 Furnish Information.** It shall be a condition precedent to the obligations of the Company to take any action pursuant to this Section 2 with respect to the Registrable Securities of any selling Holder that such Holder shall furnish to the Company such information regarding itself, the Registrable Securities held by it, and the intended method of disposition of such securities as is reasonably required to effect the registration of such Holder's Registrable Securities.

**2.6 Expenses of Registration.** All expenses (other than Selling Expenses) incurred in connection with registrations, filings, or qualifications pursuant to Section 2, including all registration, filing, and qualification fees; printers' and accounting fees; fees and

disbursements of counsel for the Company; and the reasonable fees and disbursements of one counsel for the selling Holders (“**Selling Holder Counsel**”) selected by the Holders of at least sixty-six percent (66%) of the Registrable Securities to be registered, shall be borne and paid by the Company; provided, however, that the Company shall not be required to pay for any expenses of any registration proceeding begun pursuant to Section 2.1 if the registration request is subsequently withdrawn at the request of the Holders of at least sixty-six percent (66%) of the Registrable Securities to be registered (in which case all selling Holders shall bear such expenses pro rata based upon the number of Registrable Securities that were to be included in the withdrawn registration), unless the Holders of sixty-six percent (66%) of the outstanding Registrable Securities agree to forfeit their right to one registration pursuant to Section 2.1(a) or Section 2.1(b), as the case may be; provided further that if, at the time of such withdrawal, the Holders have learned of a material adverse change in the condition, business, or prospects of the Company from that known to the Holders at the time of their request and have withdrawn the request with reasonable promptness after learning of such information, then the Holders shall not be required to pay any of such expenses and shall not forfeit their right to one registration pursuant to Section 2.1(a) or Section 2.1(b). All Selling Expenses relating to Registrable Securities registered pursuant to this Section 2 shall be borne and paid by the Holders pro rata on the basis of the number of Registrable Securities registered on their behalf.

2.7 Delay of Registration. No Holder shall have any right to obtain or seek an injunction restraining or otherwise delaying any registration pursuant to this Agreement as the result of any controversy that might arise with respect to the interpretation or implementation of this Section 2.

2.8 Indemnification. If any Registrable Securities are included in a registration statement under this Section 2:

(a) To the extent permitted by law, the Company will indemnify and hold harmless each selling Holder, and the partners, members, officers, directors, and stockholders of each such Holder; legal counsel and accountants for each such Holder; any underwriter (as defined in the Securities Act) for each such Holder; and each Person, if any, who controls such Holder or underwriter within the meaning of the Securities Act or the Exchange Act, against any Damages, and the Company will pay to each such Holder, underwriter, controlling Person, or other aforementioned Person any legal or other expenses reasonably incurred thereby in connection with investigating or defending any claim or proceeding from which Damages may result, as such expenses are incurred; provided, however, that the indemnity agreement contained in this Section 2.8(a) shall not apply to amounts paid in settlement of any such claim or proceeding if such settlement is effected without the consent of the Company, which consent shall not be unreasonably withheld, nor shall the Company be liable for any Damages to the extent that they arise out of or are based upon actions or omissions made in reliance upon and in conformity with written information furnished by or on behalf of any such Holder, underwriter, controlling Person, or other aforementioned Person expressly for use in connection with such registration.

(b) To the extent permitted by law, each selling Holder, severally and not jointly, will indemnify and hold harmless the Company, and each of its directors, each of its officers who has signed the registration statement, each Person (if any), who controls the



Company within the meaning of the Securities Act, legal counsel and accountants for the Company, any underwriter (as defined in the Securities Act), any other Holder selling securities in such registration statement, and any controlling Person of any such underwriter or other Holder, against any Damages, in each case only to the extent that such Damages arise out of or are based upon actions or omissions made in reliance upon and in conformity with written information furnished by or on behalf of such selling Holder expressly for use in connection with such registration; and each such selling Holder will pay to the Company and each other aforementioned Person any legal or other expenses reasonably incurred thereby in connection with investigating or defending any claim or proceeding from which Damages may result, as such expenses are incurred; provided, however, that the indemnity agreement contained in this Section 2.8(b) shall not apply to amounts paid in settlement of any such claim or proceeding if such settlement is effected without the consent of the Holder, which consent shall not be unreasonably withheld; and provided further that in no event shall any indemnity under this Section 2.8(b) exceed the proceeds from the offering received by such Holder (net of any Selling Expenses paid by such Holder), except in the case of fraud or willful misconduct by such Holder.

(c) Promptly after receipt by an indemnified party under this Section 2.8 of notice of the commencement of any action (including any governmental action) for which a party may be entitled to indemnification hereunder, such indemnified party will, if a claim in respect thereof is to be made against any indemnifying party under this Section 2.8, give the indemnifying party notice of the commencement thereof. The indemnifying party shall have the right to participate in such action and, to the extent the indemnifying party so desires, participate jointly with any other indemnifying party to which notice has been given, and to assume the defense thereof with counsel mutually satisfactory to the parties; provided, however, that an indemnified party (together with all other indemnified parties that may be represented without conflict by one counsel) shall have the right to retain one separate counsel, with the fees and expenses to be paid by the indemnifying party, if representation of such indemnified party by the counsel retained by the indemnifying party would be inappropriate due to actual or potential differing interests between such indemnified party and any other party represented by such counsel in such action. The failure to give notice to the indemnifying party within a reasonable time of the commencement of any such action shall relieve such indemnifying party of any liability to the indemnified party under this Section 2.8, to the extent that such failure materially prejudices the indemnifying party's ability to defend such action. The failure to give notice to the indemnifying party will not relieve it of any liability that it may have to any indemnified party otherwise than under this Section 2.8.

(d) To provide for just and equitable contribution to joint liability under the Securities Act in any case in which either (i) any party otherwise entitled to indemnification hereunder makes a claim for indemnification pursuant to this Section 2.8 but it is judicially determined (by the entry of a final judgment or decree by a court of competent jurisdiction and the expiration of time to appeal or the denial of the last right of appeal) that such indemnification may not be enforced in such case, notwithstanding the fact that this Section 2.8 provides for indemnification in such case, or (ii) contribution under the Securities Act may be required on the part of any party hereto for which indemnification is provided under this Section 2.8, then, and in each such case, such parties will contribute to the aggregate losses, claims, damages, liabilities, or expenses to which they may be subject (after contribution from others) in such proportion as is appropriate to reflect the relative fault of each of the

indemnifying party and the indemnified party in connection with the statements, omissions, or other actions that resulted in such loss, claim, damage, liability, or expense, as well as to reflect any other relevant equitable considerations. The relative fault of the indemnifying party and of the indemnified party shall be determined by reference to, among other things, whether the untrue or allegedly untrue statement of a material fact, or the omission or alleged omission of a material fact, relates to information supplied by the indemnifying party or by the indemnified party and the parties' relative intent, knowledge, access to information, and opportunity to correct or prevent such statement or omission; provided, however, that, in any such case, (x) no Holder will be required to contribute any amount in excess of the public offering price of all such Registrable Securities offered and sold by such Holder pursuant to such registration statement, and (y) no Person guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the Securities Act) will be entitled to contribution from any Person who was not guilty of such fraudulent misrepresentation; and provided further that in no event shall a Holder's liability pursuant to this Section 2.8(d), when combined with the amounts paid or payable by such Holder pursuant to Section 2.8(b), exceed the proceeds from the offering received by such Holder (net of any Selling Expenses paid by such Holder), except in the case of willful misconduct or fraud by such Holder.

(e) Notwithstanding the foregoing, to the extent that the provisions on indemnification and contribution contained in the underwriting agreement entered into in connection with the underwritten public offering are in conflict with the foregoing provisions, the provisions in the underwriting agreement shall control.

(f) Unless otherwise superseded by an underwriting agreement entered into in connection with the underwritten public offering, the obligations of the Company and Holders under this Section 2.8 shall survive the completion of any offering of Registrable Securities in a registration under this Section 2, and otherwise shall survive the termination of this Agreement.

2.9 Reports Under Exchange Act. With a view to making available to the Holders the benefits of SEC Rule 144 and any other rule or regulation of the SEC that may at any time permit a Holder to sell securities of the Company to the public without registration or pursuant to a registration on Form S-3, the Company shall:

(a) make and keep available adequate current public information, as those terms are understood and defined in SEC Rule 144, at all times after the effective date of the registration statement filed by the Company for the IPO;

(b) use commercially reasonable efforts to file with the SEC in a timely manner all reports and other documents required of the Company under the Securities Act and the Exchange Act (at any time after the Company has become subject to such reporting requirements); and

(c) furnish to any Holder, so long as the Holder owns any Registrable Securities, forthwith upon request (i) to the extent accurate, a written statement by the Company that it has complied with the reporting requirements of SEC Rule 144 (at any time after ninety (90) days after the effective date of the registration statement filed by the Company for the IPO),

the Securities Act, and the Exchange Act (at any time after the Company has become subject to such reporting requirements), or that it qualifies as a registrant whose securities may be resold pursuant to Form S-3 (at any time after the Company so qualifies); (ii) a copy of the most recent annual or quarterly report of the Company and such other reports and documents so filed by the Company; and (iii) such other information as may be reasonably requested in availing any Holder of any rule or regulation of the SEC that permits the selling of any such securities without registration (at any time after the Company has become subject to the reporting requirements under the Exchange Act) or pursuant to Form S-3 (at any time after the Company so qualifies to use such form).

2.10 Limitations on Subsequent Registration Rights. From and after the date of this Agreement, the Company shall not, without the prior written consent of the Holders of at least sixty-six percent (66%) of the Registrable Securities then outstanding, enter into any agreement with any holder or prospective holder of any securities of the Company that would allow such holder or prospective holder (i) to include such securities in any registration unless, under the terms of such agreement, such holder or prospective holder may include such securities in any such registration only to the extent that the inclusion of such securities will not reduce the number of the Registrable Securities of the Holders that are included or (ii) to demand registration of any securities held by such holder or prospective holder, provided that this limitation shall not apply to any additional Investor who becomes a party to this Agreement in accordance with Section 6.9.

2.11 "Market Stand-off" Agreement. Each Holder hereby agrees that, if required by the managing underwriter, it will not, during the period commencing on the date of the final prospectus relating to the IPO and ending on the date specified by the Company and the managing underwriter (such period not to exceed one hundred eighty (180) days in the case of the IPO, which period may be extended upon the request of the managing underwriter for such longer period of time as is necessary to enable such underwriter to issue a research report or to make a public appearance that relates to an earnings release or announcement by the Company within fifteen (15) days prior to or after the day that is one hundred eighty (180) days after the effective date of the registration statement relating to such offering, but in any event not to exceed two hundred ten (210) days following the effective date of the registration statement relating to such offering), (i) lend; offer; pledge; sell; contract to sell; sell any option or contract to purchase; purchase any option or contract to sell; grant any option, right, or warrant to purchase; or otherwise transfer or dispose of, directly or indirectly, any shares of Common Stock or any securities convertible into or exercisable or exchangeable (directly or indirectly) for Common Stock held immediately before the effective date of the registration statement for such offering or (ii) enter into any swap or other arrangement that transfers to another, in whole or in part, any of the economic consequences of ownership of such securities held immediately before the effective date of the registration statement for such offering, whether any such transaction described in clause (i) or (ii) above is to be settled by delivery of Common Stock or other securities, in cash, or otherwise. The foregoing provisions of this Section 2.11 shall apply only to the IPO, shall not apply to the sale of any shares to an underwriter pursuant to an underwriting agreement, and shall be applicable to the Holders only if all officers, directors, and stockholders individually owning more than one percent (1%) of the Company's outstanding Common Stock (after giving effect to conversion into Common Stock of all outstanding Preferred Stock) are subject to the same restrictions. The underwriters in connection with such registration are

intended third-party beneficiaries of this Section 2.11 and shall have the right, power, and authority to enforce the provisions hereof as though they were a party hereto. Each Holder further agrees to execute such agreements as may be reasonably requested by the underwriters in connection with such registration that are consistent with this Section 2.11 or that are necessary to give further effect thereto. The Company agrees to use its reasonable efforts to obtain the agreement of the managing underwriter to periodic early releases of portions of the securities subject to such lock-up agreements upon the request of a Holder to such early release, provided that in the event of any early release, all Holders will be released on a pro rata basis from such agreements. Any discretionary waiver or termination of the restrictions of any or all of such agreements by the Company or the underwriters shall apply pro rata to all Holders subject to such agreements, based on the number of shares subject to such agreements.

#### 2.12 Restrictions on Transfer.

(a) The Preferred Stock and the Registrable Securities shall not be sold, pledged, or otherwise transferred, and the Company shall not recognize any such sale, pledge, or transfer, except upon the conditions specified in this Agreement, which conditions are intended to ensure compliance with the provisions of the Securities Act. A transferring Holder will cause any proposed purchaser, pledgee, or transferee of the Preferred Stock and the Registrable Securities held by such Holder to agree to take and hold such securities subject to the provisions and upon the conditions specified in this Agreement.

(b) Each certificate or instrument representing (i) the Preferred Stock, (ii) the Registrable Securities, and (iii) any other securities issued in respect of the securities referenced in clauses (i) and (ii), upon any stock split, stock dividend, recapitalization, merger, consolidation, or similar event, shall unless otherwise permitted by the provisions of Section 2.12(c) be stamped or otherwise imprinted with a legend substantially in the following form:

THE SECURITIES REPRESENTED HEREBY HAVE BEEN ACQUIRED FOR INVESTMENT AND HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED. SUCH SHARES MAY NOT BE SOLD, PLEDGED, OR TRANSFERRED IN THE ABSENCE OF SUCH REGISTRATION OR A VALID EXEMPTION FROM THE REGISTRATION AND PROSPECTUS DELIVERY REQUIREMENTS OF SAID ACT.

THE SECURITIES REPRESENTED HEREBY MAY BE TRANSFERRED ONLY IN ACCORDANCE WITH THE TERMS OF AN AGREEMENT BETWEEN THE COMPANY AND THE STOCKHOLDER, A COPY OF WHICH IS ON FILE WITH THE SECRETARY OF THE COMPANY.

The Holders consent to the Company making a notation in its records and giving instructions to any transfer agent of the Restricted Securities in order to implement the restrictions on transfer set forth in this Section 2.12.

(c) The holder of each certificate representing Restricted Securities, by acceptance thereof, agrees to comply in all respects with the provisions of this Section 2. Before

any proposed sale, pledge, or transfer of any Restricted Securities, unless there is in effect a registration statement under the Securities Act covering the proposed transaction, the Holder thereof shall give notice to the Company of such Holder's intention to effect such sale, pledge, or transfer. Each such notice shall describe the manner and circumstances of the proposed sale, pledge, or transfer in sufficient detail and, if reasonably requested by the Company, shall be accompanied at such Holder's expense by either (i) a written opinion of legal counsel who shall, and whose legal opinion shall, be reasonably satisfactory to the Company, addressed to the Company, to the effect that the proposed transaction may be effected without registration under the Securities Act; (ii) a "no action" letter from the SEC to the effect that the proposed sale, pledge, or transfer of such Restricted Securities without registration will not result in a recommendation by the staff of the SEC that action be taken with respect thereto; or (iii) any other evidence reasonably satisfactory to counsel to the Company to the effect that the proposed sale, pledge, or transfer of the Restricted Securities may be effected without registration under the Securities Act, whereupon the Holder of such Restricted Securities shall be entitled to sell, pledge, or transfer such Restricted Securities in accordance with the terms of the notice given by the Holder to the Company. The Company will not require such a legal opinion or "no action" letter (x) in any transaction in compliance with SEC Rule 144 or (y) in any transaction in which such Holder distributes Restricted Securities to an Affiliate of such Holder for no consideration; provided that each transferee agrees in writing to be subject to the terms of this Section 2.12. Each certificate or instrument evidencing the Restricted Securities transferred as above provided shall bear, except if such transfer is made pursuant to SEC Rule 144, the appropriate restrictive legend set forth in Section 2.12(b), except that such certificate shall not bear such restrictive legend if, in the opinion of counsel for such Holder and the Company, such legend is not required in order to establish compliance with any provisions of the Securities Act.

2.13 Termination of Registration Rights. The right of any Holder to request registration or inclusion of Registrable Securities in any registration pursuant to Section 2.1 or Section 2.2 shall terminate upon the earliest to occur of:

(a) the closing of a Deemed Liquidation Event (as defined in the Certificate of Incorporation);

(b) when all of such Holder's Registrable Securities could be sold without restriction under SEC Rule 144(b) within any ninety (90)-day period; and

(c) the fifth (5<sup>th</sup>) anniversary of the IPO.

### 3. Information and Observer Rights.

3.1 Delivery of Financial Statements. The Company shall deliver to each Major Investor the required items listed below.

(a) as soon as practicable, but in any event within ninety (90) days after the end of each fiscal year of the Company, unaudited statements of income and of cash flows for such fiscal year, and an unaudited balance sheet and a statement of stockholders' equity as of the end of such fiscal year, all prepared in accordance with GAAP (except that such financial statements may (i) be subject to normal year-end audit adjustments and (ii) not contain all notes thereto that may be required in accordance with GAAP);

(b) as soon as practicable, but in any event within one hundred twenty (120) days after the end of each fiscal year of the Company (i) a balance sheet as of the end of such year, (ii) statements of income and of cash flows for such year, and (iii) a statement of stockholders' equity as of the end of such year, all such financial statements audited and certified by independent public accountants of nationally or regionally recognized standing selected by the Company and approved by the Board of Directors;

(c) as soon as practicable but in any event within forty-five (45) days after the end of each of the first three (3) quarters of each fiscal year of the Company, unaudited statements of income and of cash flows for such fiscal quarter, and an unaudited balance sheet and a statement of stockholders' equity as of the end of such fiscal quarter, all prepared in accordance with GAAP (except that such financial statements may (i) be subject to normal year-end audit adjustments and (ii) not contain all notes thereto that may be required in accordance with GAAP);

(d) as soon as practicable, but in any event within thirty (30) days of the end of each month, an unaudited income statement and statement of cash flows for such month, and an unaudited balance sheet and statement of stockholders' equity as of the end of such month, all prepared in accordance with GAAP (except that such financial statements may (i) be subject to normal year-end audit adjustments and (ii) not contain all notes thereto that may be required in accordance with GAAP);

(e) as soon as practicable, but in any event within forty-five (45) days after the end of each of the first three (3) quarters of each fiscal year of the Company, a statement showing the number of shares of each class and series of capital stock and securities convertible into or exercisable for shares of capital stock outstanding at the end of the period, the Common Stock issuable upon conversion or exercise of any outstanding securities convertible or exercisable for Common Stock and the exchange ratio or exercise price applicable thereto, and the number of shares of issued stock options and stock options not yet issued but reserved for issuance, if any, all in sufficient detail as to permit each Major Investor to calculate their respective percentage equity ownership in the Company, and certified by the chief financial officer or chief executive officer of the Company as being true, complete, and correct;

(f) as soon as practicable, but in any event thirty (30) days before the end of each fiscal year, a budget and business plan for the next fiscal year (collectively, the "**Budget**"), approved by the Board of Directors and prepared on a monthly basis, including balance sheets, income statements, and statements of cash flow for such months and, promptly after prepared, any other budgets or revised budgets prepared by the Company; and

(g) such other information relating to the financial condition, business, prospects, or corporate affairs of the Company as any Major Investor may from time to time reasonably request; provided, however, that the Company shall not be obligated under this Section 3.1 to provide information (i) that the Company reasonably determines in good faith to be a trade secret or confidential information (unless covered by an enforceable confidentiality agreement, in form acceptable to the Company) or (ii) the disclosure of which would adversely affect the attorney-client privilege between the Company and its counsel.

If, for any period, the Company has any subsidiary whose accounts are consolidated with those of the Company, then in respect of such period the financial statements delivered pursuant to the foregoing sections shall be the consolidated and consolidating financial statements of the Company and all such consolidated subsidiaries.

Notwithstanding anything else in this Section 3.1 to the contrary, the Company may cease providing the information set forth in this Section 3.1 during the period starting with the date thirty (30) days before the Company's good-faith estimate of the date of filing of a registration statement if it reasonably concludes it must do so to comply with the SEC rules applicable to such registration statement and related offering; provided that the Company's covenants under this Section 3.1 shall be reinstated at such time as the Company is no longer actively employing its commercially reasonable efforts to cause such registration statement to become effective.

3.2 Inspection. The Company shall permit each Major Investor, at such Major Investor's expense, to visit and inspect the Company's properties; examine its books of account and records; and discuss the Company's affairs, finances, and accounts with its officers, during normal business hours of the Company as may be reasonably requested by the Major Investor; provided, however, that the Company shall not be obligated pursuant to this Section 3.2 to provide access to any information that it reasonably considers to be a trade secret or confidential information (unless covered by an enforceable confidentiality agreement, in form acceptable to the Company) or the disclosure of which would adversely affect the attorney-client privilege between the Company and its counsel.

3.3 Termination of Information. The covenants set forth in Sections 3.1 and 3.2 shall terminate and be of no further force or effect upon the earliest to occur of (i) immediately before the consummation of the IPO, (ii) when the Company first becomes subject to the periodic reporting requirements of Section 12(g) or 15(d) of the Exchange Act, or (iii) upon a merger, consolidation, sale of capital stock or reorganization in which outstanding shares of the Company are exchanged for securities or other consideration issued, or caused to be issued, by the acquiring entity or its subsidiary whereby the Company's stockholders of record as constituted immediately prior to such transaction or series of related transactions does not immediately after such transaction or series of related transactions, hold a majority of the voting power of the surviving or acquiring entity.

3.4 Confidentiality. Each Investor agrees that such Investor will keep confidential and will not disclose or divulge for any purpose (other than to monitor its investment in the Company) any confidential information obtained from the Company pursuant to the terms of this Agreement (including notice of the Company's intention to file a registration statement), unless such confidential information (a) is known or becomes known to the public in general (other than as a result of a breach of this Section 3.4 by such Investor), (b) is or has been independently developed or conceived by the Investor without use of the Company's confidential information, or (c) is or has been made known or disclosed to the Investor by a third party without a breach of any obligation of confidentiality such third party may have to the Company; provided, however, that an Investor may disclose confidential information (i) to its attorneys,

accountants, consultants, and other professionals to the extent necessary to obtain their services in connection with monitoring its investment in the Company; (ii) to any prospective purchaser of any Registrable Securities from such Investor, if such prospective purchaser agrees to be bound by the provisions of this Section 3.4; (iii) to any existing or prospective Affiliate, partner, member, stockholder, or wholly owned subsidiary of such Investor in the ordinary course of business, provided that such Investor informs such Person that such information is confidential and directs such Person to maintain the confidentiality of such information; or (iv) as may otherwise be required by law or ordinary course disclosure policies disclosed on an Investor's website, provided that the Investor promptly notifies the Company of such disclosure and takes reasonable steps to minimize the extent of any such required disclosure.

#### 4. Rights to Future Stock Issuances.

4.1 Right of First Offer. Subject to the terms and conditions of this Section 4.1 and applicable securities laws, if the Company proposes to offer or sell any New Securities, the Company shall first offer such New Securities to each Major Investor. A Major Investor shall be entitled to apportion the right of first offer hereby granted to it among itself and its Affiliates in such proportions as it deems appropriate.

(a) The Company shall give notice (the "**Offer Notice**") to each Major Investor, stating (i) its bona fide intention to offer such New Securities, (ii) the number of such New Securities to be offered, and (iii) the price and terms, if any, upon which it proposes to offer such New Securities.

(b) By notification to the Company within twenty (20) days after the Offer Notice is given, each Major Investor may elect to purchase or otherwise acquire, at the price and on the terms specified in the Offer Notice, up to that portion of such New Securities which equals the proportion that the Common Stock issued and held, or issuable (directly or indirectly) upon conversion and/or exercise, as applicable, of the Preferred Stock and any other Derivative Securities then held, by such Major Investor bears to the total of Common Stock of the Company then outstanding (assuming full conversion and/or exercise, as applicable, of all Preferred Stock and other Derivative Securities). At the expiration of such twenty (20) day period, the Company shall promptly notify each Major Investor that elects to purchase or acquire all the shares available to it (each, a "**Fully Exercising Investor**") of any other Major Investor's failure to do likewise. During the ten (10) day period commencing after the Company has given such notice, each Fully Exercising Investor may, by giving notice to the Company, elect to purchase or acquire, in addition to the number of shares specified above, up to that portion of the New Securities for which Major Investors were entitled to subscribe but that were not subscribed for by the Major Investors, which is equal to the proportion that the Common Stock issued and held, or issuable upon conversion of Preferred Stock and any other Derivative Securities then held, by such Fully Exercising Investor bears to the Common Stock issued and held, or issuable (directly or indirectly) upon conversion of the Preferred Stock and any other Derivative Securities then held, by all Fully Exercising Investors who wish to purchase such unsubscribed shares. The closing of any sale pursuant to this Section 4.1(b) shall occur within the later of one hundred twenty (120) days of the date that the Offer Notice is given and the date of initial sale of New Securities pursuant to Section 4.1(c).



(c) If all New Securities referred to in the Offer Notice are not elected to be purchased or acquired as provided in Section 4.1(b), the Company may, during the ninety (90)-day period following the expiration of the periods provided in Section 4.1(b), offer and sell the remaining unsubscribed portion of such New Securities to any Person or Persons at a price not less than, and upon terms no more favorable to the offeree than, those specified in the Offer Notice. If the Company does not enter into an agreement for the sale of the New Securities within such period, or if such agreement is not consummated within thirty (30) days of the execution thereof, the right provided hereunder shall be deemed to be revived and such New Securities shall not be offered unless first reoffered to the Major Investors in accordance with this Section 4.1.

(d) The right of first offer in this Section 4.1 shall not be applicable to (i) Exempted Securities (as defined in the Company's Certificate of Incorporation), and (ii) shares of Common Stock issued in the IPO.

4.2 Termination. The covenants set forth in Section 4.1 shall terminate and be of no further force or effect upon the earliest to occur of (i) immediately before but subject to the consummation of the QPO, (ii) when the Company first becomes subject to the periodic reporting requirements of Section 12(g) or 15(d) of the Exchange Act, or (iii) upon a merger, consolidation, sale of capital stock or reorganization in which outstanding shares of the Company are exchanged for securities or other consideration issued, or caused to be issued, by the acquiring entity or its subsidiary whereby the Company's stockholders of record as constituted immediately prior to such transaction or series of related transactions does not immediately after such transaction or series of related transactions, hold a majority of the voting power of the surviving or acquiring entity.

## 5. Additional Covenants.

5.1 Insurance. The Company shall use commercially reasonable efforts to maintain from financially sound and reputable insurers Directors and Officers Errors and Omissions insurance in an amount satisfactory to the Board of Directors, until such time as the Board of Directors determines that such insurance should be discontinued.

5.2 Employee Agreements. The Company will cause (i) each person now or hereafter employed by it or by any subsidiary (or engaged by the Company or any subsidiary as a consultant/independent contractor) with access to confidential information and/or trade secrets to enter into a nondisclosure and proprietary rights assignment agreement and (ii) each Key Employee to enter into a one (1) year noncompetition and nonsolicitation agreement, substantially in the form approved by the Board of Directors, including the approval of both of the Preferred Directors. In addition, the Company shall not amend, modify, terminate, waive, or otherwise alter, in whole or in part, any of the above-referenced agreements or any restricted stock agreement between the Company and any employee, without the approval by the Board of Directors, including the approval of both of the Preferred Directors.

5.3 Employee Vesting. Unless otherwise approved by the Board of Directors, which approval shall include the approval of both of the Preferred Directors, all current and future employees and consultants of the Company who purchase, receive options to purchase, or

receive awards of shares of the Company's capital stock after the date hereof shall be required to execute restricted stock or option agreements, as applicable, providing for (i) vesting of shares, not faster than, over a four (4) year period, with the first twenty-five percent (25%) of such shares vesting following twelve (12) months of continued employment or service, and the remaining shares vesting in equal monthly installments over the following three (3) years, and (ii) a market stand-off provision substantially similar to that in Section 2.11. In addition, unless otherwise approved by the Board of Directors, including the approval of both of the Preferred Directors, the Company shall retain a "right of first refusal" on employee transfers until the Company's IPO and shall have the right to repurchase unvested shares at cost upon termination of employment of a holder of restricted stock.

5.4 Qualified Small Business Stock. The Company shall use commercially reasonable efforts to cause the shares of Series C Preferred Stock issued pursuant to the Purchase Agreement, as well as any shares into which such shares are converted, within the meaning of Section 1202(f) of the Internal Revenue Code of 1986, as amended (the "**Code**"), to constitute "qualified small business stock" as defined in Section 1202(c) of the Code; provided, however, that such requirement shall not be applicable if the Board of Directors determines, in its good-faith business judgment, that such qualification is inconsistent with the best interests of the Company. The Company shall submit to its stockholders (including the Investors) and to the Internal Revenue Service any reports that may be required under Section 1202(d)(1)(C) of the Code and the regulations promulgated thereunder. In addition, within twenty (20) business days after any Investor's written request therefor, the Company shall, at its option, either (i) deliver to such Investor a written statement indicating whether (and what portion of) such Investor's interest in the Company constitutes "qualified small business stock" as defined in Section 1202(c) of the Code or (ii) deliver to such Investor such factual information in the Company's possession as is reasonably necessary to enable such Investor to determine whether (and what portion of) such Investor's interest in the Company constitutes "qualified small business stock" as defined in Section 1202(c) of the Code.

5.5 Matters Requiring Investor Director Approval. So long as any shares of Preferred Stock remain outstanding, the Company hereby covenants and agrees with each of the Investors that it shall not, without first obtaining the approval of the Board of Directors, which approval must include the affirmative vote of both of the Preferred Directors:

- (a) make, or permit any subsidiary to make, any loan or advance to, or own any stock or other securities of, any subsidiary or other corporation, partnership, or other entity unless it is wholly owned by the Company;
- (b) make, or permit any subsidiary to make, any loan or advance to any Person, including, without limitation, any employee or director of the Company or any subsidiary, except advances and similar expenditures in the ordinary course of business or under the terms of an employee stock or option plan approved by the Board of Directors;
- (c) guarantee, directly or indirectly, or permit any subsidiary to guarantee, directly or indirectly, any indebtedness except for trade accounts of the Company or any subsidiary arising in the ordinary course of business;

(d) make any investment inconsistent with any investment policy approved by the Board of Directors;

(e) incur indebtedness in excess of \$50,000 in the aggregate that is not covered by the Budget, other than trade credit incurred in the ordinary course of business;

(f) otherwise enter into or be a party to any transaction with any director, officer or employee of the Company or any “associate” (as defined in Rule 12b-2 promulgated under the Exchange Act) of any such Person;

(g) hire, terminate, or change the compensation of the executive officers, including approving any option grants or stock awards to executive officers;

(h) change the principal business of the Company, or enter into a new line of business, or exit the existing line of business of the Company;

(i) sell, assign, license, pledge or encumber material technology or intellectual property, other than licenses granted in the ordinary course of business; or

(j) enter into any corporate strategic relationship involving the payment contribution or assignment by the Company or to the Company of money or assets greater than \$100,000.

5.6 Meetings of the Board of Directors; Committees. Unless otherwise determined at least by the vote of a majority of the directors then in office, the Board of Directors shall meet at least four (4) times per year, and at least once per quarter, in accordance with an agreed-upon schedule, unless otherwise agreed by a vote of the majority of the directors. Each non-employee director shall be entitled in such person’s discretion to be a member of any committee of the Board of Directors.

5.7 Successor Indemnification. If the Company or any of its successors or assignees consolidates with or merges into any other Person and is not the continuing or surviving corporation or entity of such consolidation or merger, then to the extent necessary, proper provision shall be made so that the successors and assignees of the Company assume the obligations of the Company with respect to indemnification of members of the Board of Directors as in effect immediately before such transaction, whether such obligations are contained in the Company’s Bylaws, its Certificate of Incorporation, or elsewhere, as the case may be.

5.8 Board Expenses. The Company shall reimburse the directors for all reasonable out-of-pocket expenses incurred (consistent with the Company’s policies) in connection with their role as a director of the Company.

5.9 Directors’ Liability and Indemnification. The Company’s Certificate of Incorporation and Bylaws (as such Certificate of Incorporation and Bylaws of the Company may be amended from time to time) shall provide (i) for limitation of the liability of directors to the maximum extent permitted by law, and (ii) for indemnification of directors for acts on behalf of the Company to the maximum extent permitted by law. In the event any suit is filed or claim is asserted against a director or former director of the Company as a result of such director’s or

former director's service on the Board of Directors, the Company will provide such director or former director access to all records and files of the Company as he or she may reasonably request in defending against or preparing to defend against any such suit or claim. The Company hereby acknowledges that one or more of the directors nominated by holders of Preferred Stock may have certain rights to indemnification, advancement of expenses and/or insurance provided by one or more of the Investors and certain of their affiliates (collectively, the "**Fund Indemnitors**") for alleged acts or omissions in their capacities as directors of the Company. The Company hereby agrees (i) that it is the indemnitor of first resort (i.e., its obligations to any such director are primary and any obligation of the Fund Indemnitors to advance expenses or to provide indemnification for the same expenses or liabilities incurred by such director are secondary), (ii) that it shall be required to advance the full amount of expenses incurred by such director and shall be liable for the full amount of all expenses, judgments, penalties, fines and amounts paid in settlement by or on behalf of any such director to the extent legally permitted and as required by the Certificate of Incorporation or Bylaws (or any agreement between the Company and such director), without regard to any rights such director may have against the Fund Indemnitors, and, (iii) that it irrevocably waives, relinquishes and releases the Fund Indemnitors from any and all claims against the Fund Indemnitors for contribution, subrogation or any other recovery of any kind in respect thereof. The Company further agrees that no advancement or payment by the Fund Indemnitors on behalf of any such director with respect to any claim for which such director has sought indemnification from the Company shall affect the foregoing and the Fund Indemnitors shall have a right of contribution and/or be subrogated to the extent of such advancement or payment to all of the rights of recovery of such director against the Company.

5.10 Termination of Covenants. The covenants set forth in this Section 5, except for Sections 5.7 and 5.9, shall terminate and be of no further force or effect upon the earliest to occur of (i) immediately before but subject to the consummation of a QPO, (ii) when the Company first becomes subject to the periodic reporting requirements of Section 12(g) or 15(d) of the Exchange Act, or (iii) upon a Deemed Liquidation Event.

## 6. Miscellaneous.

6.1 Successors and Assigns. The rights under this Agreement may be assigned (but only with all related obligations) by a Holder to a transferee of Registrable Securities that (i) is an Affiliate, partner, member, limited partner, retired partner, retired member, or stockholder of a Holder; (ii) is a Holder's Immediate Family Member or trust for the benefit of an individual Holder or one or more of such Holder's Immediate Family Members; or (iii) after such transfer, holds at least 1,000,000 shares of Registrable Securities (subject to appropriate adjustment for stock splits, stock dividends, combinations, and other recapitalizations); provided, however, that (x) the Company is, within a reasonable time after such transfer, furnished with written notice of the name and address of such transferee and the Registrable Securities with respect to which such rights are being transferred; and (y) such transferee agrees in a written instrument delivered to the Company to be bound by and subject to the terms and conditions of this Agreement, including the provisions of Section 2.11. For the purposes of determining the number of shares of Registrable Securities held by a transferee, the

holdings of a transferee (1) that is an Affiliate, limited partner, retired partner, member, retired member, or stockholder of a Holder; (2) who is a Holder's Immediate Family Member; or (3) that is a trust for the benefit of an individual Holder or such Holder's Immediate Family Member shall be aggregated together and with those of the transferring Holder; provided further that all transferees who would not qualify individually for assignment of rights shall have a single attorney-in-fact for the purpose of exercising any rights, receiving notices, or taking any action under this Agreement. The terms and conditions of this Agreement inure to the benefit of and are binding upon the respective successors and permitted assignees of the parties, including without limitation, the Investor's affiliated partnership or funds management by such Investor or any of its respective directors, officers or partners. Nothing in this Agreement, express or implied, is intended to confer upon any party other than the parties hereto or their respective successors and permitted assignees any rights, remedies, obligations or liabilities under or by reason of this Agreement, except as expressly provided herein.

6.2 Governing Law. This Agreement shall be governed by and construed in accordance with the General Corporation Law of the State of Delaware as to matters within the scope thereof, and as to all other matters shall be governed by and construed in accordance with the internal laws of the Commonwealth of Massachusetts, without regard to conflict of law principles that would result in the application of any law other than the law of the Commonwealth of Massachusetts.

6.3 Counterparts; Facsimile. This Agreement may be executed in two or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument. Counterparts may be delivered via facsimile, electronic mail (including pdf) or other transmission method and any counterpart so delivered shall be deemed to have been duly and validly delivered and be valid and effective for all purposes.

6.4 Titles and Subtitles. The titles and subtitles used in this Agreement are for convenience only and are not to be considered in construing or interpreting this Agreement.

6.5 Notices. All notices, requests, and other communications given or made pursuant to this Agreement shall be in writing and shall be deemed effectively given, delivered and received (i) upon personal delivery to the party to be notified; (ii) when sent by confirmed electronic mail or facsimile if sent during normal business hours of the recipient, and if not so confirmed, then on the next business day; (iii) five (5) days after having been sent by registered or certified mail, return receipt requested, postage prepaid; or (iv) one (1) business day after the business day of deposit with a nationally recognized overnight courier, specifying next-day delivery, with written verification of receipt. All communications shall be sent to the respective parties at their addresses as set forth on Schedule A hereto, or to the principal office of the Company and to the attention of the Chief Executive Officer, in the case of the Company, or to such email address, facsimile number, or address as subsequently modified by written notice given in accordance with this Section 6.5. If notice is given to the Company, a copy (which shall not constitute notice) shall also be sent to Mitchell S. Bloom, Esq. at Goodwin Procter LLP, 53 State St., Exchange Place, Boston, MA 02109.

6.6 Amendments and Waivers. Any term of this Agreement, including without limitation Section 4.1, may be amended and the observance of any term of this Agreement may be waived (either generally or in a particular instance, and either retroactively or prospectively) with the written consent of (a) the Company and (b) the holders of at least sixty-six percent (66%) of the Registrable Securities then outstanding; provided that the Company may in its sole discretion waive compliance with Section 2.12(c) (and the Company's failure to object promptly in writing after notification of a proposed assignment allegedly in violation of Section 2.12(c) shall be deemed to be a waiver); provided further that Sections 2.11, 3 and 4 and this sentence of Section 6.6 of this Agreement may not be amended to reduce or terminate the rights of the Fidelity Investors or the Blackrock Investors or their Affiliates thereunder, and the observance of any term of Section 3 may not be waived with respect to the Fidelity Investors or the BlackRock Investors or their respective Affiliates, in each case, without the prior written consent of the Fidelity Investors or the BlackRock Investors, as applicable; and provided further that any provision hereof may be waived by any waiving party on such party's own behalf, without the consent of any other party. Notwithstanding the foregoing, this Agreement may not be amended or terminated and the observance of any term hereof may not be waived with respect to any Investor without the written consent of such Investor, unless such amendment, termination, or waiver applies to all Investors in the same fashion (it being agreed that a waiver of the provisions of Section 4 with respect to a particular transaction shall be deemed to apply to all Investors in the same fashion if such waiver does so by its terms, notwithstanding the fact that certain Investors may nonetheless, by agreement with the Company, purchase securities in such transaction). The Company shall give prompt notice of any amendment or termination hereof or waiver hereunder to any party hereto that did not consent in writing to such amendment, termination, or waiver. Any amendment, termination, or waiver effected in accordance with this Section 6.6 shall be binding on all parties hereto, regardless of whether any such party has consented thereto. No waivers of or exceptions to any term, condition, or provision of this Agreement, in any one or more instances, shall be deemed to be or construed as a further or continuing waiver of any such term, condition, or provision.

6.7 Severability. In case any one or more of the provisions contained in this Agreement is for any reason held to be invalid, illegal or unenforceable in any respect, such invalidity, illegality, or unenforceability shall not affect any other provision of this Agreement, and such invalid, illegal, or unenforceable provision shall be reformed and construed so that it will be valid, legal, and enforceable to the maximum extent permitted by law.

6.8 Aggregation of Stock. All shares of Registrable Securities held or acquired by Affiliates shall be aggregated together for the purpose of determining the availability of any rights under this Agreement and such Affiliated person may apportion such rights as among themselves in any manner they deem appropriate.

6.9 Additional Investors. Notwithstanding anything to the contrary contained herein, if the Company issues additional shares of Preferred Stock after the date hereof, any purchaser of such shares of Preferred Stock may become a party to this Agreement by executing and delivering an additional counterpart signature page to this Agreement, and thereafter shall be deemed an "Investor" for all purposes hereunder. No action or consent by the Investors shall be required for such joinder to this Agreement by such additional Investor, so long as such additional Investor has agreed in writing to be bound by all of the obligations as an "Investor" hereunder.

6.10 Entire Agreement. This Agreement (including any Schedules and Exhibits hereto) constitutes the full and entire understanding and agreement among the parties with respect to the subject matter hereof, and any other written or oral agreement relating to the subject matter hereof existing between the parties, including without limitation, the Prior Agreement, is expressly canceled.

6.11 Delays or Omissions. No delay or omission to exercise any right, power, or remedy accruing to any party under this Agreement, upon any breach or default of any other party under this Agreement, shall impair any such right, power, or remedy of such nonbreaching or nondefaulting party, nor shall it be construed to be a waiver of or acquiescence to any such breach or default, or to any similar breach or default thereafter occurring, nor shall any waiver of any single breach or default be deemed a waiver of any other breach or default theretofore or thereafter occurring. All remedies, whether under this Agreement or by law or otherwise afforded to any party, shall be cumulative and not alternative.

6.12 Submission to Jurisdiction. The parties hereto submit to the exclusive jurisdiction of any federal or state court located within the Commonwealth of Massachusetts over any dispute arising out of or relating to this Agreement or any of the transactions contemplated hereby and each party hereby agree that all claims in respect of such dispute or any suit, action or proceeding related thereto may be heard and determined in such courts. The parties waive, to the fullest extent permitted by applicable law, any objection which they may not or hereafter have to the laying of venue of any such dispute brought in such court or any defense of inconvenient forum for the maintenance of such dispute. Each of the parties hereto agrees that a judgment in any such dispute may be enforced in other jurisdictions by suit on the judgment or in any other manner provided by law.

*[Remainder of Page Intentionally Left Blank]*

IN WITNESS WHEREOF, the parties have executed this Second Amended and Restated Investors' Rights Agreement as of the date first written above.

**COMPANY:**

**SAGE THERAPEUTICS, INC.**

By: /s/ Jeffrey M. Jonas

\_\_\_\_\_  
Name: Jeffrey M. Jonas

Title: President and CEO

**Address:**

215 First Street  
Cambridge, MA 02142

[Signature Page to Second Amended and Restated Investors' Rights Agreement]



IN WITNESS WHEREOF, the parties have executed this Second Amended and Restated Investors' Rights Agreement as of the date first written above.

**INVESTOR:**

**THIRD ROCK VENTURES II, L.P.**

By: Third Rock Ventures GP II, L.P., its general partner

By: TRV GP II, LLC, its general partner

By: /s/ Kevin Gillis

Name: Kevin Gillis

Title: CFO

[Signature Page to Second Amended and Restated Investors' Rights Agreement]

IN WITNESS WHEREOF, the parties have executed this Second Amended and Restated Investors' Rights Agreement as of the date first written above.

**INVESTOR:**

**ARCH VENTURE FUND VII, L.P.**

By: ARCH Venture Partners VII, L.P.  
Its: General Partner

By: ARCH Venture Partners VII, LLC  
Its: General Partner

By: /s/ Keith Crandell  
Name: Keith Crandell  
Title: Managing Director

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[Signature Page to Second Amended and Restated Investors' Rights Agreement]

IN WITNESS WHEREOF, the parties have executed this Second Amended and Restated Investors' Rights Agreement as of the date first written above.

**INVESTORS:**

**ECOR1 CAPITAL FUND, L.P.**

By: EcoR1 Capital, LLC  
Its: Manager

By: /s/ Oleg Nodelman  
Name: Oleg Nodelman  
Title: Managing Director

**ECOR1 CAPITAL FUND QUALIFIED, L.P.**

By: EcoR1 Capital, LLC  
Its: Manager

By: /s/ Oleg Nodelman  
Name: Oleg Nodelman  
Title: Managing Director

[Signature Page to Second Amended and Restated Investors' Rights Agreement]

IN WITNESS WHEREOF, the parties have executed this Second Amended and Restated Investors' Rights Agreement as of the date first written above.

**INVESTOR:**

**ORBIMED PRIVATE INVESTMENTS V, LP**

By: OrbiMed Capital GP V LLC, its general partner  
(For itself and for the Partnership)

By: OrbiMed Advisors LLC,  
its managing member

By /s/ Carl Gordon  
Name: Carl Gordon  
Title: Member

[Signature Page to Second Amended and Restated Investors' Rights Agreement]

IN WITNESS WHEREOF, the parties have executed this Second Amended and Restated Investors' Rights Agreement as of the date first written above.

**INVESTOR:**

**BLACKROCK HEALTH SCIENCES TRUST**

By: BlackRock Advisors, LLC, its Investment Advisor

By: /s/ Hongying Xie

Name: Hongying Xie

Title: Managing Director

**BLACKROCK HEALTH SCIENCES OPPORTUNITIES  
PORTFOLIO**, a series of BlackRock Funds

By: BlackRock Advisors, LLC, its Investment Advisor

By: /s/ Hongying Xie

Name: Hongying Xie

Title: Managing Director

[Signature Page to Second Amended and Restated Investors' Rights Agreement]

IN WITNESS WHEREOF, the parties have executed this Second Amended and Restated Investors' Rights Agreement as of the date first written above.

**INVESTOR:**

**FORESITE CAPITAL FUND II, L.P.**

By: Foresite Capital Management II, LLC  
Its: General Partner

By: /s/ Dennis D. Ryan

Name: Dennis D. Ryan  
Title: CFO

[Signature Page to Second Amended and Restated Investors' Rights Agreement]

**INVESTORS:**

**FIDELITY SELECT PORTFOLIOS:  
BIOTECHNOLOGY PORTFOLIO**

By: /s/ Stacie M. Smith  
Name: Stacie M. Smith  
Title: Deputy Treasurer

**FIDELITY ADVISOR SERIES VII: FIDELITY  
ADVISOR BIOTECHNOLOGY FUND**

By: /s/ Stacie M. Smith  
Name: Stacie M. Smith  
Title: Deputy Treasurer

**FIDELITY GROUP TRUST FOR EMPLOYEE BENEFIT  
PLANS: FIDELITY GROWTH COMPANY  
COMMINGLED POOL**

By: /s/ Rachel Tyler  
Name: Rachel Tyler  
Title: Sr. Vice President

**FIDELITY MT. VERNON STREET TRUST: FIDELITY  
SERIES GROWTH COMPANY FUND**

By: /s/ Stacie M. Smith  
Name: Stacie M. Smith  
Title: Deputy Treasurer

**FIDELITY MT. VERNON STREET TRUST: FIDELITY  
GROWTH COMPANY FUND**

By: /s/ Stacie M. Smith  
Name: Stacie M. Smith  
Title: Deputy Treasurer

IN WITNESS WHEREOF, the parties have executed this Second Amended and Restated Investors' Rights Agreement as of the date first written above.

**INVESTOR:**

**LEERINK HOLDINGS LLC**

By: /s/ Daniel Dubin

Name: Daniel Dubin

Title: Vice Chairman

**LEERINK SWANN CO INVESTMENT FUND, LLC**

By: /s/ Daniel Dubin

Name: Daniel Dubin

Title: Vice Chairman

[Signature Page to Second Amended and Restated Investors' Rights Agreement]



**SCHEDULE A**

**INVESTORS**

**Name and Contact Information for Investors**

**Third Rock Ventures II, L.P.**

29 Newbury Street; 3rd Floor  
Boston, MA 02116  
Attn: Kevin Starr  
Phone: (617) 585-2000  
Fax: (617) 859-2891

**ARCH Venture Fund VII, L.P.**

c/o ARCH Venture Partners VII, L.P.  
8725 W. Higgins Road  
Suite 290  
Chicago, IL 60631  
Attn: Mark McDonnell  
Email: mmcdonnell@archventure.com  
Fax: (773) 380-6606

**Alexandria Equities, LLC**

385 E. Colorado Blvd., Ste 299  
Pasadena, CA 91101  
Email: investments@are.com

**Fidelity Select Portfolios: Biotechnology Portfolio**

Brown Brothers Harriman & Co.  
525 Washington Blvd  
Jersey City NJ 07310  
Attn: Michael Lerman 15th Floor  
Corporate Actions  
Email: michael.lerman@bbh.com  
Fax number: 617 772-2418

**Fidelity Advisor Series VII: Fidelity Advisor Biotechnology Fund**

State Street Bank & Trust  
PO Box 5756  
Boston, Massachusetts 02206  
Attn: Bangle & Co fbo Fidelity Advisor Series VII: Fidelity Advisor Biotechnology Fund  
Email: SSBORPCTIONS@StateStreet.com  
Fax number: 617-988-9110

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**Fidelity Group Trust for Employee Benefit Plans: Fidelity Growth Company Commingled Pool**

Brown Brothers Harriman & Co.  
525 Washington Blvd  
Jersey City NJ 07310  
Attn: Michael Lerman 15th Floor  
Corporate Actions  
Email: michael.lerman@bbh.com  
Fax number: 617 772-2418

**Fidelity Mt. Vernon Street Trust: Fidelity Series Growth Company Fund**

State Street Bank & Trust  
PO Box 5756  
Boston, Massachusetts 02206  
Attn: WAVELENGTH + CO Fidelity Mt. Vernon Street Trust: Fidelity Series Growth Company Fund  
Email: SSBCORP ACTIONS@StateStreet.com  
Fax number: 617-988-9110

**Fidelity Mt. Vernon Street Trust: Fidelity Growth Company Fund**

Ball & Co  
C/o Citibank N.A./Custody  
IC&D Lock Box  
P.O Box 7247-7057  
Philadelphia, P.A 19170-7057  
Account #: 206681  
Email: fidelity.tpacd@citi.com  
Fax number: 813-604-1415

**BlackRock Health Sciences Trust**

**BlackRock Health Sciences Opportunities Portfolio**

c/o BlackRock Advisors, LLC  
Fundamental Equity – Global Opportunities Health & Sciences Team  
60 State Street, 19th/20th Floors  
Boston, MA 02109  
Attn: Erin Xie  
Email: erin.xie@blackrock.com

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With a copy (which shall not constitute notice) to:

c/o BlackRock, Inc.  
Office of the General Counsel  
40 East 52nd Street  
New York, NY 10022  
Attn: David Maryles and Vincent Taurassi  
Email: legaltransactions@blackrock.com

**Foresite Capital**  
101 California Street  
Suite 4100  
San Francisco, CA 94111

**EcoR1 Capital Fund, L.P.**

**EcoR1 Capital Fund Qualified, L.P.**

c/o EcoR1 Capital, LLC  
409 Illinois Street  
San Francisco, CA 94158

**OrbiMed Private Investments V, LP**

c/o OrbiMed Advisors LLC  
601 Lexington Ave, 54th Floor  
New York, NY 10022

**Leerink Partners LLP**  
One Federal Street, 37th Floor  
Boston, Massachusetts 02110

## SAGE THERAPEUTICS, INC.

## 2011 STOCK OPTION AND GRANT PLAN

SECTION 1. GENERAL PURPOSE OF THE PLAN; DEFINITIONS

The name of the plan is the Sage Therapeutics, Inc. 2011 Stock Option and Grant Plan (the “Plan”). The purpose of the Plan is to encourage and enable the officers, employees, directors, Consultants and other key persons of Sage Therapeutics, Inc., a Delaware corporation (including any successor entity, the “Company”) and its Subsidiaries, upon whose judgment, initiative and efforts the Company largely depends for the successful conduct of its business, to acquire a proprietary interest in the Company.

The following terms shall be defined as set forth below:

“*Affiliate*” of any Person means a Person that directly or indirectly, through one or more intermediaries, controls, is controlled by or is under common control with the first mentioned Person. A Person shall be deemed to control another Person if such first Person possesses directly or indirectly the power to direct, or cause the direction of, the management and policies of the second Person, whether through the ownership of voting securities, by contract or otherwise.

“*Award*” or “*Awards*,” except where referring to a particular category of grant under the Plan, shall include Incentive Stock Options, Non-Qualified Stock Options, Restricted Stock Awards, Unrestricted Stock Awards, Restricted Stock Units or any combination of the foregoing.

“*Award Agreement*” means a written or electronic agreement setting forth the terms and provisions applicable to an Award granted under the Plan. Each Award Agreement may contain terms and conditions in addition to those set forth in the Plan; *provided, however*, in the event of any conflict in the terms of the Plan and the Award Agreement, the terms of the Plan shall govern.

“*Bankruptcy*” shall mean (i) the filing of a voluntary petition under any bankruptcy or insolvency law, or a petition for the appointment of a receiver or the making of an assignment for the benefit of creditors, with respect to the Holder, (ii) the Holder being subjected involuntarily to such a petition or assignment or to an attachment or other legal or equitable interest with respect to the Holder’s assets, which involuntary petition or assignment or attachment is not discharged within sixty (60) days after its date, or (iii) the Holder being subject to a transfer of its Shares or Award(s) by operation of law (including by divorce, even if not insolvent), except by reason of death.

“*Board*” means the Board of Directors of the Company.

“*Cause*” shall have the meaning as set forth in the Award Agreement(s). In the case that any Award Agreement does not contain a definition of “*Cause*,” it shall mean (i) the grantee’s dishonest statements or acts with respect to the Company or any Affiliate of the Company, or

any current or prospective customers, suppliers vendors or other third parties with which such entity does business; (ii) the grantee's commission of (A) a felony or (B) any misdemeanor involving moral turpitude, deceit, dishonesty or fraud; (iii) the grantee's failure to perform his assigned duties and responsibilities to the reasonable satisfaction of the Company which failure continues, in the reasonable judgment of the Company, after written notice given to the grantee by the Company; (iv) the grantee's gross negligence, willful misconduct or insubordination with respect to the Company or any Affiliate of the Company; or (v) the grantee's material violation of any provision of any agreement(s) between the grantee and the Company relating to noncompetition, nonsolicitation, nondisclosure and/or assignment of inventions.

"*Chief Executive Officer*" means the Chief Executive Officer of the Company or, if there is no Chief Executive Officer, then the President of the Company.

"*Code*" means the Internal Revenue Code of 1986, as amended, and any successor Code, and related rules, regulations and interpretations.

"*Committee*" means the Committee of the Board referred to in Section 2.

"*Consultant*" means any natural person that provides bona fide services to the Company (including a Subsidiary), and such services are not in connection with the offer or sale of securities in a capital-raising transaction and do not directly or indirectly promote or maintain a market for the Company's securities.

"*Disability*" means "disability" as defined in Section 422(c) of the Code.

"*Effective Date*" means the date on which the Plan is adopted as set forth on the final page of the Plan.

"*Exchange Act*" means the Securities Exchange Act of 1934, as amended, and the rules and regulations thereunder.

"*Fair Market Value*" of the Stock on any given date means the fair market value of the Stock determined in good faith by the Committee based on the reasonable application of a reasonable valuation method not inconsistent with Section 409A of the Code. If the Stock is admitted to trade on a national securities exchange, the determination shall be made by reference to the closing price reported on such exchange. If there is no closing price for such date, the determination shall be made by reference to the last date preceding such date for which there is a closing price. If the date for which Fair Market Value is determined is the first day when trading prices for the Stock are reported on a national securities exchange, the Fair Market Value shall be the "Price to the Public" (or equivalent) set forth on the cover page for the final prospectus relating to the Company's Initial Public Offering.

"*Good Reason*" shall have the meaning as set forth in the Award Agreement(s). In the case that any Award Agreement does not contain a definition of "Good Reason," it shall mean (i) a material diminution in the grantee's base salary except for across-the-board salary reductions similarly affecting all or substantially all similarly situated employees of the Company or (ii) a change of more than fifty (50) miles in the geographic location at which the grantee provides services to the Company.

“*Grant Date*” means the date that the Committee designates in its approval of an Award in accordance with applicable law as the date on which the Award is granted, which date may not precede the date of such Committee approval.

“*Holder*” means, with respect to an Award or any Shares, the Person holding such Award or Shares, including the initial recipient of the Award or any Permitted Transferee.

“*Incentive Stock Option*” means any Stock Option designated and qualified as an “incentive stock option” as defined in Section 422 of the Code.

“*Initial Public Offering*” means the consummation of the first firm commitment underwritten public offering pursuant to an effective registration statement under the Securities Act covering the offer and sale by the Company of its equity securities, as a result of or following which the Stock shall be publicly held.

“*Non-Qualified Stock Option*” means any Stock Option that is not an Incentive Stock Option.

“*Option*” or “*Stock Option*” means any option to purchase shares of Stock granted pursuant to Section 5.

“*Permitted Transferees*” shall mean any of the following to whom a Holder may transfer Shares hereunder (as set forth in Section 9(a)(ii)(A)): the Holder’s child, stepchild, grandchild, parent, stepparent, grandparent, spouse, former spouse, sibling, niece, nephew, mother-in-law, father-in-law, son-in-law, daughter-in-law, brother-in-law, or sister-in-law, including adoptive relationships, any person sharing the Holder’s household (other than a tenant or employee), a trust in which these persons have more than fifty percent (50%) of the beneficial interest, a foundation in which these persons control the management of assets, and any other entity in which these persons own more than fifty percent (50%) of the voting interests; *provided, however*, that any such trust does not require or permit distribution of any Shares during the term of the Award Agreement unless subject to its terms. Upon the death of the Holder, the term Permitted Transferees shall also include such deceased Holder’s estate, executors, administrators, personal representatives, heirs, legatees and distributees, as the case may be.

“*Person*” shall mean any individual, corporation, partnership (limited or general), limited liability company, limited liability partnership, association, trust, joint venture, unincorporated organization or any similar entity.

“*Repurchase Event*” means (i) a Sale Event or (ii) the Holder’s Bankruptcy.

“*Restricted Stock Award*” means Awards granted pursuant to Section 6 and “*Restricted Stock*” means Shares issued pursuant to such Awards.

“*Restricted Stock Unit*” means an Award of phantom stock units to a grantee, which may be settled in cash or Shares as determined by the Committee, pursuant to Section 8.

“*Sale Event*” means the consummation of (i) the dissolution or liquidation of the Company, (ii) the sale, lease, transfer, exclusive license or other disposition, in a single-transaction

or series of related transactions, of all or substantially all of the assets of the Company on a consolidated basis to an unrelated person or entity, (iii) a merger, reorganization or consolidation pursuant to which the holders of the Company's outstanding voting power immediately prior to such transaction do not own a majority of the outstanding voting power of the surviving or resulting entity (or its ultimate parent, if applicable), (iv) the acquisition of all or a majority of the outstanding voting stock of the Company in a single transaction or a series of related transactions by a Person or group of Persons, or (v) any other acquisition of the business of the Company, as determined by the Board; *provided, however*, that the Company's Initial Public Offering, any subsequent public offering or another capital raising event, or a merger effected solely to change the Company's domicile shall not constitute a "Sale Event."

"Section 409A" means Section 409A of the Code and the regulations and other guidance promulgated thereunder.

"Securities Act" means the Securities Act of 1933, as amended, and the rules and regulations thereunder.

"Service Relationship" means any relationship as a full-time employee, part-time employee, director or other key person (including Consultants) of the Company or any Subsidiary or any successor entity (e.g., a Service Relationship shall be deemed to continue without interruption in the event an individual's status changes from full-time employee to part-time employee or Consultant).

"Shares" means shares of Stock.

"Stock" means the Common Stock, par value \$0.0001 per share, of the Company.

"Subsidiary" means any corporation or other entity (other than the Company) in which the Company has more than a fifty percent (50%) interest, either directly or indirectly.

"Ten Percent Owner" means an employee who owns or is deemed to own (by reason of the attribution rules of Section 424(d) of the Code) more than ten percent (10%) of the combined voting power of all classes of stock of the Company or any parent of the Company or any Subsidiary.

"Termination Event" means the termination of the Award recipient's Service Relationship with the Company and its Subsidiaries for any reason whatsoever, regardless of the circumstances thereof, and including, without limitation, upon death, disability, retirement, discharge or resignation for any reason, whether voluntarily or involuntarily. The following shall not constitute a Termination Event: (i) a transfer to the service of the Company from a Subsidiary or from the Company to a Subsidiary, or from one Subsidiary to another Subsidiary or (ii) an approved leave of absence for military service or sickness, or for any other purpose approved by the Committee, if the individual's right to re-employment is guaranteed either by a statute or by contract or under the policy pursuant to which the leave of absence was granted or if the Committee otherwise so provides in writing.

"Unrestricted Stock Award" means any Award granted pursuant to Section 7 and "Unrestricted Stock" means Shares issued pursuant to such Awards.

SECTION 2. ADMINISTRATION OF PLAN; COMMITTEE AUTHORITY TO SELECT GRANTEEES AND DETERMINE AWARDS

(a) Administration of Plan. The Plan shall be administered by the Board, or at the discretion of the Board, by a committee of the Board, comprised of not less than two (2) directors. All references herein to the "Committee" shall be deemed to refer to the group then responsible for administration of the Plan at the relevant time (i.e., either the Board of Directors or a committee or committees of the Board, as applicable).

(b) Powers of Committee. The Committee shall have the power and authority to grant Awards consistent with the terms of the Plan, including the power and authority:

(i) to select the individuals to whom Awards may from time to time be granted;

(ii) to determine the time or times of grant, and the amount, if any, of Incentive Stock Options, Non-Qualified Stock Options, Restricted Stock Awards, Unrestricted Stock Awards, Restricted Stock Units, or any combination of the foregoing, granted to any one or more grantees;

(iii) to determine the number of Shares to be covered by any Award and, subject to the provisions of the Plan, the price, exercise price, conversion ratio or other price relating thereto;

(iv) to determine and, subject to Section 12, to modify from time to time the terms and conditions, including restrictions, not inconsistent with the terms of the Plan, of any Award, which terms and conditions may differ among individual Awards and grantees, and to approve the form of Award Agreements;

(v) to accelerate at any time the exercisability or vesting of all or any portion of any Award;

(vi) to impose any limitations on Awards, including limitations on transfers, repurchase provisions and the like, and to exercise repurchase rights or obligations;

(vii) subject to Section 5(a)(ii) and any restrictions imposed by Section 409A, to extend at any time the period in which Stock Options may be exercised; and

(viii) at any time to adopt, alter and repeal such rules, guidelines and practices for administration of the Plan and for its own acts and proceedings as it shall deem advisable; to interpret the terms and provisions of the Plan and any Award (including Award Agreements); to make all determinations it deems advisable for the administration of the Plan; to decide all disputes arising in connection with the Plan; and to otherwise supervise the administration of the Plan.

All decisions and interpretations of the Committee shall be binding on all persons, including the Company and all Holders.



(c) Award Agreement. Awards under the Plan shall be evidenced by Award Agreements that set forth the terms, conditions and limitations for each Award.

(d) Indemnification. Neither the Board nor the Committee, nor any member of either or any delegate thereof, shall be liable for any act, omission, interpretation, construction or determination made in good faith in connection with the Plan, and the members of the Board and the Committee (and any delegate thereof) shall be entitled in all cases to indemnification and reimbursement by the Company in respect of any claim, loss, damage or expense (including, without limitation, reasonable attorneys' fees) arising or resulting therefrom to the fullest extent permitted by law and/or under the Company's governing documents, including its certificate of incorporation or bylaws, or any directors' and officers' liability insurance coverage which may be in effect from time to time and/or any indemnification agreement between such individual and the Company.

(e) Foreign Award Recipients. Notwithstanding any provision of the Plan to the contrary, in order to comply with the laws in other countries in which the Company and any Subsidiary operate or have employees or other individuals eligible for Awards, the Committee, in its sole discretion, shall have the power and authority to: (i) determine which Subsidiaries, if any, shall be covered by the Plan; (ii) determine which individuals, if any, outside the United States are eligible to participate in the Plan; (iii) modify the terms and conditions of any Award granted to individuals outside the United States to comply with applicable foreign laws; (iv) establish subplans and modify exercise procedures and other terms and procedures, to the extent the Committee determines such actions to be necessary or advisable (and such subplans and/or modifications shall be attached to the Plan as appendices); provided, however, that no such subplans and/or modifications shall increase the share limitation contained in Section 3(a) hereof; and (v) take any action, before or after an Award is made, that the Committee determines to be necessary or advisable to obtain approval or comply with any local governmental regulatory exemptions or approvals.

### SECTION 3. STOCK ISSUABLE UNDER THE PLAN; MERGERS AND OTHER TRANSACTIONS; SUBSTITUTION

(a) Stock Issuable. The maximum number of Shares reserved and available for issuance under the Plan shall be 3,640,000 Shares, subject to adjustment as provided in Section 3(b). For purposes of this limitation, the Shares underlying any Awards that are forfeited, canceled, reacquired by the Company prior to vesting, satisfied without the issuance of Stock or otherwise terminated (other than by exercise) and Shares that are withheld upon exercise of an Option or settlement of an Award to cover the exercise price or tax withholding shall be added back to the Shares available for issuance under the Plan. Subject to such overall limitations, Shares may be issued up to such maximum number pursuant to any type or types of Award. The Shares available for issuance under the Plan may be authorized but unissued Shares or Shares reacquired by the Company.

(b) Changes in Stock. Subject to Section 3(c) hereof, if, as a result of any reorganization, recapitalization, reclassification, stock dividend, stock split, reverse stock split or other similar change in the Company's capital stock, the outstanding Shares are increased or decreased or are exchanged for a different number or kind of shares or other securities of the

Company, or additional Shares or new or different shares or other securities of the Company or other non-cash assets are distributed with respect to such Shares or other securities, in each case, without the receipt of consideration by the Company, or, if, as a result of any merger or consolidation, or sale of all or substantially all of the assets of the Company, the outstanding Shares are converted into or exchanged for other securities of the Company or any successor entity (or a parent or subsidiary thereof), the Committee shall make an appropriate and proportionate adjustment in (i) the maximum number of Shares reserved for issuance under the Plan, (ii) the number and kind of Shares or other securities subject to any then outstanding Awards under the Plan, (iii) the repurchase price, if any, per Share subject to each outstanding Award, and (iv) the exercise price for each Share subject to any then outstanding Stock Options under the Plan, without changing the aggregate exercise price (i.e., the exercise price multiplied by the number of Stock Options) as to which such Stock Options remain exercisable. The Committee shall in any event make such adjustments as may be required by Section 25102(o) of the California Corporation Code and the rules and regulations promulgated thereunder. The adjustment by the Committee shall be final, binding and conclusive. No fractional Shares shall be issued under the Plan resulting from any such adjustment, but the Committee in its discretion may make a cash payment in lieu of fractional shares.

(c) Sale Events.

(i) Options.

(A) In the case of and subject to the consummation of a Sale Event, the Plan and all outstanding Options issued hereunder shall terminate upon the effective time of any such Sale Event unless assumed or continued by the successor entity, or new stock options or other awards of the successor entity or parent thereof are substituted therefor, with an equitable or proportionate adjustment as to the number and kind of shares and, if appropriate, the per share exercise prices, as such parties shall agree (after taking into account any acceleration hereunder and/or pursuant to the terms of any Award Agreement).

(B) In the event of the termination of the Plan and all outstanding Options issued hereunder pursuant to Section 3(c), each Holder of Options shall be permitted, within a period of time prior to the consummation of the Sale Event as specified by the Committee, to exercise all such Options which are then exercisable or will become exercisable as of the effective time of the Sale Event; *provided, however*, that the exercise of Options not exercisable prior to the Sale Event shall be subject to the consummation of the Sale Event.

(C) Notwithstanding anything to the contrary in Section 3(c)(i)(A), in the event of a Sale Event, the Company shall have the right, but not the obligation, to make or provide for a cash payment to the Holders of Options, without any consent of the Holders, in exchange for the cancellation thereof, in an amount equal to the difference between (A) the value as determined by the Committee of the consideration payable per share of Stock pursuant to the Sale Event (the "*Sale Price*") times the number of Shares subject to outstanding Options being cancelled (to the extent then vested and exercisable, including by reason of acceleration in connection with such Sale Event, at prices not in excess of the Sale Price) and (B) the aggregate exercise price of all such outstanding vested and exercisable Options.

(ii) Restricted Stock and Restricted Stock Unit Awards.

(A) In the case of and subject to the consummation of a Sale Event, all Restricted Stock and unvested Restricted Stock Unit Awards (other than those becoming vested as a result of the Sale Event) issued hereunder shall be forfeited immediately prior to the effective time of any such Sale Event unless assumed or continued by the successor entity, or awards of the successor entity or parent thereof are substituted therefor, with an equitable or proportionate adjustment as to the number and kind of shares subject to such awards as such parties shall agree (after taking into account any acceleration hereunder and/or pursuant to the terms of any Award Agreement).

(B) In the event of the forfeiture of Restricted Stock pursuant to Section 3(c)(ii)(A), such Restricted Stock shall be repurchased from the Holder thereof at a price per share equal to the lower of the original per share purchase price paid by the Holder (subject to adjustment as provided in Section 3(b)) or the current Fair Market Value of such Shares, determined immediately prior to the effective time of the Sale Event.

(C) Notwithstanding anything to the contrary in Section 3(c)(ii)(A), in the event of a Sale Event, the Company shall have the right, but not the obligation, to make or provide for a cash payment to the Holders of Restricted Stock or Restricted Stock Unit Awards, without consent of the Holders, in exchange for the cancellation thereof, in an amount equal to the Sale Price times the number of Shares subject to such Awards, to be paid at the time of such Sale Event or upon the later vesting of such Awards.

SECTION 4. ELIGIBILITY

Grantees under the Plan will be such full or part-time officers and other employees, directors, Consultants and key persons of the Company and any Subsidiary who are selected from time to time by the Committee in its sole discretion; provided, however, that Awards shall be granted only to those individuals described in Rule 701(c) of the Securities Act.

SECTION 5. STOCK OPTIONS

Upon the grant of a Stock Option, the Company and the grantee shall enter into an Award Agreement. The terms and conditions of each such Award Agreement shall be determined by the Committee, and such terms and conditions may differ among individual Awards and grantees.

Stock Options granted under the Plan may be either Incentive Stock Options or Non-Qualified Stock Options. Incentive Stock Options may be granted only to employees of the Company or any Subsidiary that is a "subsidiary corporation" within the meaning of Section 424(f) of the Code. To the extent that any Option does not qualify as an Incentive Stock Option, it shall be deemed a Non-Qualified Stock Option.

(a) Terms of Stock Options. The Committee in its discretion may grant Stock Options to those individuals who meet the eligibility requirements of Section 4. Stock Options shall be subject to the following terms and conditions and shall contain such additional terms and conditions, not inconsistent with the terms of the Plan, as the Committee shall deem desirable.

(i) Exercise Price. The exercise price per share for the Shares covered by a Stock Option shall be determined by the Committee at the time of grant but shall not be less than one hundred percent (100%) of the Fair Market Value on the Grant Date. In the case of an Incentive Stock Option that is granted to a Ten Percent Owner, the exercise price per share for the Shares covered by such Incentive Stock Option shall not be less than one hundred ten percent (110%) of the Fair Market Value on the Grant Date.

(ii) Option Term. The term of each Stock Option shall be fixed by the Committee, but no Stock Option shall be exercisable more than ten (10) years from the Grant Date. In the case of an Incentive Stock Option that is granted to a Ten Percent Owner, the term of such Stock Option shall be no more than five (5) years from the Grant Date.

(iii) Exercisability; Rights of a Stockholder. Stock Options shall become exercisable and/or vested at such time or times, whether or not in installments, as shall be determined by the Committee at or after the Grant Date. The Award Agreement may permit a grantee to exercise all or a portion of a Stock Option immediately at grant; provided that the Shares issued upon such exercise shall be subject to restrictions and a vesting schedule identical to the vesting schedule of the related Stock Option, such Shares shall be deemed to be Restricted Stock for purposes of the Plan, and the optionee may be required to enter into an additional or new Award Agreement as a condition to exercise of such Stock Option. An optionee shall have the rights of a stockholder only as to Shares acquired upon the exercise of a Stock Option and not as to unexercised Stock Options. An optionee shall not be deemed to have acquired any Shares unless and until a Stock Option shall have been exercised pursuant to the terms of the Award Agreement and this Plan and the optionee's name has been entered on the books of the Company as a stockholder.

(iv) Method of Exercise. Stock Options may be exercised by an optionee in whole or in part, by the optionee giving written or electronic notice of exercise to the Company, specifying the number of Shares to be purchased. Payment of the purchase price may be made by one or more of the following methods (or any combination thereof) to the extent provided in the Award Agreement:

(A) In cash, by certified or bank check, by wire transfer of immediately available funds, or other instrument acceptable to the Committee;

(B) If permitted by the Committee, by the optionee delivering to the Company a promissory note, if the Board has expressly authorized the loan of funds to the optionee for the purpose of enabling or assisting the optionee to effect the exercise of his or her Stock Option; provided, that at least so much of the exercise price as represents the par value of the Stock shall be paid in cash if required by state law;

(C) If permitted by the Committee and the Initial Public Offering has occurred (or the Stock otherwise becomes publicly-traded), through the delivery (or attestation to the ownership) of Shares that have been purchased by the optionee on the open market or that are beneficially owned by the optionee and are not then subject to restrictions under any Company plan. To the extent required to avoid variable accounting treatment under ASC 718 or other applicable accounting rules, such surrendered Shares if originally purchased from the Company shall have been owned by the optionee for at least six (6) months. Such surrendered Shares shall be valued at Fair Market Value on the exercise date;

(D) If permitted by the Committee and the Initial Public Offering has occurred (or the Stock otherwise becomes publicly-traded), by the optionee delivering to the Company a properly executed exercise notice together with irrevocable instructions to a broker to promptly deliver to the Company cash or a check payable and acceptable to the Company for the purchase price; provided that in the event the optionee chooses to pay the purchase price as so provided, the optionee and the broker shall comply with such procedures and enter into such agreements of indemnity and other agreements as the Committee shall prescribe as a condition of such payment procedure; or

(E) If permitted by the Committee, and only with respect to Stock Options that are not Incentive Stock Options, by a “net exercise” arrangement pursuant to which the Company will reduce the number of Shares issuable upon exercise by the largest whole number of Shares with a Fair Market Value that does not exceed the aggregate exercise price.

Payment instruments will be received subject to collection. No certificates for Shares so purchased will be issued to the optionee or, with respect to uncertificated Stock, no transfer to the optionee on the records of the Company will take place, until the Company has completed all steps it has deemed necessary to satisfy legal requirements relating to the issuance and sale of the Shares, which steps may include, without limitation, (i) receipt of a representation from the optionee at the time of exercise of the Option that the optionee is purchasing the Shares for the optionee’s own account and not with a view to any sale or distribution of the Shares or other representations relating to compliance with applicable law governing the issuance of securities, (ii) the legending of the certificate (or notation on any book entry) representing the Shares to evidence the foregoing restrictions, and (iii) obtaining from optionee payment or provision for all withholding taxes due as a result of the exercise of the Option. The delivery of certificates representing the shares of Stock (or the transfer to the optionee on the records of the Company with respect to uncertificated Stock) to be purchased pursuant to the exercise of a Stock Option will be contingent upon (A) receipt from the optionee (or a purchaser acting in his or her stead in accordance with the provisions of the Stock Option) by the Company of the full purchase price for such Shares and the fulfillment of any other requirements contained in the Award Agreement or applicable provisions of laws and (B) if required by the Company, the optionee shall have entered into any stockholders agreements or other agreements with the Company and/or certain other of the Company’s stockholders relating to the Stock. In the event an optionee chooses to pay the purchase price by previously-owned Shares through the attestation method, the number of Shares transferred to the optionee upon the exercise of the Stock Option shall be net of the number of Shares attested to.

(b) Annual Limit on Incentive Stock Options. To the extent required for “incentive stock option” treatment under Section 422 of the Code, the aggregate Fair Market Value (determined as of the Grant Date) of the Shares with respect to which Incentive Stock Options granted under the Plan and any other plan of the Company or its parent and any Subsidiary that become exercisable for the first time by an optionee during any calendar year shall not exceed \$100,000 or such other limit as may be in effect from time to time under Section 422 of the Code. To the extent that any Stock Option exceeds this limit, it shall constitute a Non-Qualified Stock Option.

(c) Termination. Any portion of a Stock Option that is not vested and exercisable on the date of termination of an optionee’s Service Relationship shall immediately expire and be null and void. Once any portion of the Stock Option becomes vested and exercisable, the optionee’s right to exercise such portion of the Stock Option (or the optionee’s representatives and legatees as applicable) in the event of a termination of the optionee’s Service Relationship shall continue until the earliest of: (i) the date which is: (A) six (6) months following the date on which the optionee’s Service Relationship terminates due to death or Disability (or such longer period of time as determined by the Committee and set forth in the applicable Award Agreement), or (B) thirty (30) days following the date on which the optionee’s Service Relationship terminates if the termination is due to any reason other than death or Disability (or such longer period of time as determined by the Committee and set forth in the applicable Award Agreement), or (ii) the Expiration Date set forth in the Award Agreement; provided that notwithstanding the foregoing, an Award Agreement may provide that if the optionee’s Service Relationship is terminated for Cause, the Stock Option shall terminate immediately and be null and void upon the date of the optionee’s termination and shall not thereafter be exercisable.

## SECTION 6. RESTRICTED STOCK AWARDS

(a) Nature of Restricted Stock Awards. The Committee may, in its sole discretion, grant (or sell at par value or such other purchase price determined by the Committee) to an eligible individual under Section 4 hereof a Restricted Stock Award under the Plan. The Committee shall determine the restrictions and conditions applicable to each Restricted Stock Award at the time of grant. Conditions may be based on continuing employment (or other Service Relationship), achievement of pre-established performance goals and objectives and/or such other criteria as the Committee may determine. Upon the grant of a Restricted Stock Award, the Company and the grantee shall enter into an Award Agreement. The terms and conditions of each such Award Agreement shall be determined by the Committee, and such terms and conditions may differ among individual Awards and grantees.

(b) Rights as a Stockholder. Upon the grant of the Restricted Stock Award and payment of any applicable purchase price, a grantee of Restricted Stock shall be considered the record owner of and shall be entitled to vote the Restricted Stock if, and to the extent, such Shares are entitled to voting rights, subject to such conditions contained in the Award Agreement. The grantee shall be entitled to receive all dividends and any other distributions declared on the Shares; provided, however, that the Company is under no duty to declare any such dividends or to make any such distribution. Unless the Committee shall otherwise determine, certificates evidencing the Restricted Stock shall remain in the possession of the Company until such Restricted Stock is vested as provided in subsection (d) below of this

Section, and the grantee shall be required, as a condition of the grant, to deliver to the Company a stock power endorsed in blank and such other instruments of transfer as the Committee may prescribe.

(c) Restrictions. Restricted Stock may not be sold, assigned, transferred, pledged or otherwise encumbered or disposed of except as specifically provided herein or in the Award Agreement. Except as may otherwise be provided by the Committee either in the Award Agreement or, subject to Section 12 below, in writing after the Award Agreement is issued, if a grantee's Service Relationship with the Company and any Subsidiary terminates, the Company or its assigns shall have the right, as may be specified in the relevant instrument, to repurchase some or all of the Shares subject to the Award at such purchase price as is set forth in the Award Agreement.

(d) Vesting of Restricted Stock. The Committee at the time of grant shall specify in the Award Agreement the date or dates and/or the attainment of pre-established performance goals, objectives and other conditions on which the substantial risk of forfeiture imposed shall lapse and the Restricted Stock shall become vested, subject to such further rights of the Company or its assigns as may be specified in the Award Agreement.

#### SECTION 7. UNRESTRICTED STOCK AWARDS

The Committee may, in its sole discretion, grant (or sell at par value or such other purchase price determined by the Committee) to an eligible person under Section 4 hereof an Unrestricted Stock Award under the Plan. Unrestricted Stock Awards may be granted in respect of past services or other valid consideration, or in lieu of cash compensation due to such grantee.

#### SECTION 8. RESTRICTED STOCK UNITS

(a) Nature of Restricted Stock Units. The Committee may, in its sole discretion, grant to an eligible person under Section 4 hereof Restricted Stock Units under the Plan. The Committee shall determine the restrictions and conditions applicable to each Restricted Stock Unit at the time of grant. Vesting conditions may be based on continuing employment (or other Service Relationship), achievement of pre-established performance goals and objectives and/or other such criteria as the Committee may determine. Upon the grant of Restricted Stock Units, the grantee and the Company shall enter into an Award Agreement. The terms and conditions of each such Award Agreement shall be determined by the Committee and may differ among individual Awards and grantees. On or promptly following the vesting date or dates applicable to any Restricted Stock Unit, but in no event later than March 15 of the year following the year in which such vesting occurs, such Restricted Stock Unit(s) shall be settled in the form of cash or shares of Stock, as specified in the Award Agreement. Restricted Stock Units may not be sold, assigned, transferred, pledged, or otherwise encumbered or disposed of.

(b) Rights as a Stockholder. A grantee shall have the rights of a stockholder only as to Shares, if any, acquired upon settlement of Restricted Stock Units. A grantee shall not be deemed to have acquired any such Shares unless and until the Restricted Stock Units shall have been settled in Shares pursuant to the terms of the Plan and the Award Agreement, the Company shall have issued and delivered a certificate representing the Shares to the grantee (or transferred on the records of the Company with respect to uncertificated stock), and the grantee's name has been entered in the books of the Company as a stockholder.

(c) Termination. Except as may otherwise be provided by the Committee either in the Award Agreement or in writing after the Award Agreement is issued, a grantee's right in all Restricted Stock Units that have not vested shall automatically terminate upon the grantee's cessation of Service Relationship with the Company and any Subsidiary for any reason.

SECTION 9. TRANSFER RESTRICTIONS; COMPANY RIGHT OF FIRST REFUSAL; COMPANY REPURCHASE RIGHTS

(a) Restrictions on Transfer.

(i) Non-Transferability of Stock Options. Stock Options and, prior to exercise, the Shares issuable upon exercise of such Stock Option, shall not be transferable by the optionee otherwise than by will, or by the laws of descent and distribution, and all Stock Options shall be exercisable, during the optionee's lifetime, only by the optionee, or by the optionee's legal representative or guardian in the event of the optionee's incapacity. Notwithstanding the foregoing, the Committee, in its sole discretion, may provide in the Award Agreement regarding a given Stock Option that the optionee may transfer by gift, without consideration for the transfer, his or her Non-Qualified Stock Options to his or her family members (as defined in Rule 701 of the Securities Act), to trusts for the benefit of such family members, or to partnerships in which such family members are the only partners (to the extent such trusts or partnerships are considered "family members" for purposes of Rule 701 of the Securities Act), provided that the transferee agrees in writing with the Company to be bound by all of the terms and conditions of this Plan and the applicable Award Agreement, including the execution of a stock power upon the issuance of Shares. Stock Options, and the Shares issuable upon exercise of such Stock Options, shall be restricted as to any pledge, hypothecation, or other transfer, including any short position, any "put equivalent position" (as defined in the Exchange Act) or any "call equivalent position" (as defined in the Exchange Act) prior to exercise.

(ii) Shares. No Shares shall be sold, assigned, transferred, pledged, hypothecated, given away or in any other manner disposed of or encumbered, whether voluntarily or by operation of law, unless (i) the transfer is in compliance with the terms of the applicable Award Agreement, all applicable securities laws (including, without limitation, the Securities Act), and with the terms and conditions of this Section 9, (ii) the transfer does not cause the Company to become subject to the reporting requirements of the Exchange Act, and (iii) the transferee consents in writing to be bound by the provisions of the Plan and the Award Agreement, including this Section 9. In connection with any proposed transfer, the Committee may require the transferor to provide at the transferor's own expense an opinion of counsel to the transferor, satisfactory to the Committee, that such transfer is in compliance with all foreign, federal and state securities laws (including, without limitation, the Securities Act). Any attempted transfer of Shares not in accordance with the terms and conditions of this Section 9 shall be null and void, and the Company shall not reflect on its records any change in record ownership of any Shares as a result of any such transfer, shall otherwise refuse to recognize any such transfer and shall not in any way give effect to any such transfer of Shares. The Company shall be entitled to seek protective orders, injunctive relief and other remedies available at law or



in equity including, without limitation, seeking specific performance or the rescission of any transfer not made in strict compliance with the provisions of this Section 9. Subject to the foregoing general provisions, and unless otherwise provided in the applicable Award Agreement, Shares may be transferred pursuant to the following specific terms and conditions (provided that with respect to any transfer of Restricted Stock, all vesting and forfeiture provisions shall continue to apply with respect to the original recipient):

(A) Transfers to Permitted Transferees. The Holder may transfer any or all of the Shares to one or more Permitted Transferees; *provided, however,* that following such transfer, such Shares shall continue to be subject to the terms of this Plan (including this Section 9) and such Permitted Transferee(s) shall, as a condition to any such transfer, deliver a written acknowledgment to that effect to the Company and shall deliver a stock power to the Company with respect to the Shares. Notwithstanding the foregoing, the Holder may not transfer any of the Shares to a Person whom the Company reasonably determines is a direct competitor or a potential competitor of the Company or any of its Subsidiaries.

(B) Transfers Upon Death. Upon the death of the Holder, any Shares then held by the Holder at the time of such death and any Shares acquired after the Holder's death by the Holder's legal representative shall be subject to the provisions of this Plan, and the Holder's estate, executors, administrators, personal representatives, heirs, legatees and distributees shall be obligated to convey such Shares to the Company or its assigns under the terms contemplated by the Plan and the Award Agreement.

(b) Right of First Refusal. In the event that a Holder desires at any time to sell or otherwise transfer all or any part of his or her Shares (other than shares of Restricted Stock which by their terms are not transferrable), the Holder first shall give written notice to the Company of the Holder's intention to make such transfer. Such notice shall state the number of Shares that the Holder proposes to sell (the "*Offered Shares*"), the price and the terms at which the proposed sale is to be made and the name and address of the proposed transferee. At any time within thirty (30) days after the receipt of such notice by the Company, the Company or its assigns may elect to purchase all or any portion of the Offered Shares at the price and on the terms offered by the proposed transferee and specified in the notice. The Company or its assigns shall exercise this right by mailing or delivering written notice to the Holder within the foregoing 30-day period. If the Company or its assigns elect to exercise its purchase rights under this Section 9(b), the closing for such purchase shall, in any event, take place within forty-five (45) days after the receipt by the Company of the initial notice from the Holder. In the event that the Company or its assigns do not elect to exercise such purchase right, or in the event that the Company or its assigns do not pay the full purchase price within such 45-day period, the Holder may, within sixty (60) days thereafter, sell the Offered Shares to the proposed transferee and at the same price and on the same terms as specified in the Holder's notice. The Shares purchased by or not sold to the proposed transferee shall remain subject to the Plan. If the Holder is a party to any stockholders agreements or other agreements with the Company and/or certain other of the Company's stockholders relating to the Shares, (i) the transferring Holder shall comply with the requirements of such stockholders agreements or other agreements relating to any proposed transfer of the Offered Shares, and (ii) any proposed transferee that purchases Offered Shares shall enter into such stockholders agreements or other agreements with the Company and/or certain of the Company's stockholders relating to the Offered Shares on the same terms and in the same capacity as the transferring Holder.

(c) Company's Right of Repurchase.

(i) Right of Repurchase for Shares Issued Upon the Exercise of an Option. The Company or its assigns shall have the right and option upon a Repurchase Event to repurchase from a Holder some or all (as determined by the Company) of the Shares acquired upon exercise of a Stock Option by such Holder at the price per share specified below. In addition, upon a Termination Event, the Company or its assigns shall have the right and option to repurchase from a Holder of Shares acquired upon exercise of a Stock Option which are still subject to a risk of forfeiture as of the Termination Event. Such repurchase rights may be exercised by the Company within the later of (A) six (6) months following the date of such Repurchase Event or (B) seven (7) months after the acquisition of Shares upon exercise of a Stock Option. The repurchase price shall be equal to (i) in the case of Shares that are not subject to a risk of forfeiture as of the Repurchase Event, the Fair Market Value of the Shares, determined as of the date the Committee elects to exercise its repurchase rights in connection with a Repurchase Event and (ii) in the case of Shares that are still subject to a risk of forfeiture as of the Repurchase Event or Termination Event (as applicable), the lower of the original per share price paid by the Holder, subject to adjustment as provided in Section 3(b) of the Plan, or the current Fair Market Value of such Shares as of the date the Company elects to exercise its repurchase rights in connection with a Repurchase Event or Termination Event (as applicable).

(ii) Right of Repurchase With Respect to Restricted Stock and Shares issued pursuant to an Unrestricted Stock Award or Restricted Stock Unit Award. Unless otherwise set forth in the Award Agreement in connection with a Restricted Stock Award, Unrestricted Stock Award or Restricted Stock Unit Award, the Company or its assigns shall have the right and option upon a Repurchase Event to repurchase from a Holder of Shares received pursuant to a Restricted Stock Award, Unrestricted Stock Award or Restricted Stock Unit Award some or all (as determined by the Company) of such Shares at the price per share specified below. In addition, upon a Termination Event, the Company or its assigns shall have the right and option to repurchase from a Holder of Shares received pursuant to a Restricted Stock Award any Shares that are still subject to a risk of forfeiture as of the Termination Event. Such repurchase right may be exercised by the Company within six (6) months following the date of such Repurchase Event or Termination Event as applicable. The repurchase price shall be (i) in the case of Shares that are vested as of the date of the Repurchase Event, the Fair Market Value of such Shares as of the date the Company elects to exercise its repurchase rights in connection with a Repurchase Event and (ii) in the case of Shares that are still subject to a risk of forfeiture as of the date of the Repurchase Event or Termination Event (as applicable), the lower of the original per share purchase price paid by the Holder, subject to adjustment as provided in Section 3(b) of the Plan, or the current Fair Market Value of such Shares as of the date the Company elects to exercise its repurchase rights in connection with a Repurchase Event or Termination Event (as applicable).

(iii) Procedure. Any repurchase right of the Company shall be exercised by the Company or its assigns by giving the Holder written notice on or before the last day of the repurchase period of its intention to exercise such repurchase right. Upon such notification, the Holder shall promptly surrender to the Company, free and clear of any liens or encumbrances,

any certificates representing the Shares being purchased, together with a duly executed stock power for the transfer of such Shares to the Company or the Company's assignee or assignees. Upon the Company's or its assignee's receipt of the certificates from the Holder, the Company or its assignee or assignees shall deliver to him, her or them a check for the applicable repurchase price; provided, however, that the Company may pay the repurchase price by offsetting and canceling any indebtedness then owed by the Holder to the Company.

(d) Drag Along Right. In the event the holders of a majority of the Company's equity securities then outstanding (the "*Majority Shareholders*") determine to enter into a Sale Event in a bona fide negotiated transaction (a "*Sale*"), with any non-Affiliate of the Company or any majority shareholder (in each case, the "*Buyer*"), a Holder of Shares, including any Permitted Transferee, shall be obligated to and shall upon the written request of the Majority Shareholders: (a) sell, transfer and deliver, or cause to be sold, transferred and delivered, to the Buyer, his or her Shares (including for this purpose all of such Holder's Shares that presently or as a result of any such transaction may be acquired upon the exercise of an Option (following the payment of the exercise price therefor)) on substantially the same terms applicable to the Majority Shareholders (with appropriate adjustments to reflect the conversion of convertible securities, the redemption of redeemable securities and the exercise of exercisable securities as well as the relative preferences and priorities of preferred stock); and (b) execute and deliver such instruments of conveyance and transfer and take such other action, including voting such Shares in favor of any Sale proposed by the Majority Shareholders and executing any purchase agreements, merger agreements, indemnity agreements, escrow agreements or related documents as the Majority Shareholders or the Buyer may reasonably require in order to carry out the terms and provisions of this Section 9(d).

(e) Escrow Arrangement.

(i) Escrow. In order to carry out the provisions of this Section 9 of this Plan more effectively, the Company shall hold any Shares issued pursuant to Awards granted under the Plan in escrow together with separate stock powers executed by the Holder in blank for transfer. The Company shall not dispose of the Shares except as otherwise provided in this Plan. In the event of any repurchase by the Company (or any of its assigns), the Company is hereby authorized by the Holder, as the Holder's attorney-in-fact, to date and complete the stock powers necessary for the transfer of the Shares being purchased and to transfer such Shares in accordance with the terms hereof. At such time as any Shares are no longer subject to the Company's repurchase and first refusal rights, the Company shall, at the written request of the Holder, deliver to the Holder a certificate representing such Shares with the balance of the Shares to be held in escrow pursuant to this Section.

(ii) Remedy. Without limitation of any other provision of this Plan or other rights, in the event that a Holder or any other Person is required to sell a Holder's Shares pursuant to the provisions of Sections 9(b) or (c) hereof and in the further event that he or she refuses or for any reason fails to deliver to the Company or its designated purchaser of such Shares the certificate or certificates evidencing such Shares together with a related stock power, the Company or such designated purchaser may deposit the applicable purchase price for such Shares with a bank designated by the Company, or with the Company's independent public accounting firm, as agent or trustee, or in escrow, for such Holder or other Person, to be held by

such bank or accounting firm for the benefit of and for delivery to him, her, them or it, and/or, in its discretion, pay such purchase price by offsetting any indebtedness then owed by such Holder as provided above. Upon any such deposit and/or offset by the Company or its designated purchaser of such amount and upon notice to the Person who was required to sell the Shares to be sold pursuant to the provisions of Sections 9(b) or (c), such Shares shall at such time be deemed to have been sold, assigned, transferred and conveyed to such purchaser, such Holder shall have no further rights thereto (other than the right to withdraw the payment thereof held in escrow, if applicable), and the Company shall record such transfer in its stock transfer book or in any appropriate manner.

(f) Lockup Provision. If requested by the Company, a Holder shall not sell or otherwise transfer or dispose of any Shares (including, without limitation, pursuant to Rule 144 under the Securities Act) held by him or her for such period following the effective date of a public offering by the Company of Shares as the Company shall specify reasonably and in good faith. If requested by the underwriter engaged by the Company, each Holder shall execute a separate letter confirming his or her agreement to comply with this Section.

(g) Adjustments for Changes in Capital Structure. If, as a result of any reorganization, recapitalization, reclassification, stock dividend, stock split, reverse stock split or other similar change in the Common Stock, the outstanding Shares are increased or decreased or are exchanged for a different number or kind of securities of the Company, the restrictions contained in this Section 9 shall apply with equal force to additional and/or substitute securities, if any, received by Holder in exchange for, or by virtue of his or her ownership of, Shares.

(h) Termination. The terms and provisions of Section 9(b) and Section 9(c) (except for the Company's right to repurchase Shares still subject to a risk of forfeiture upon a Termination Event) shall terminate upon the closing of the Company's Initial Public Offering or upon consummation of any Sale Event, in either case as a result of which Shares are registered under Section 12 of the Exchange Act and publicly-traded on any national security exchange.

#### SECTION 10. TAX WITHHOLDING

(a) Payment by Grantee. Each grantee shall, no later than the date as of which the value of an Award or of any Shares or other amounts received thereunder first becomes includable in the gross income of the grantee for income tax purposes, pay to the Company, or make arrangements satisfactory to the Committee regarding payment of, any Federal, state, or local taxes of any kind required by law to be withheld by the Company with respect to such income. The Company and any Subsidiary shall, to the extent permitted by law, have the right to deduct any such taxes from any payment of any kind otherwise due to the grantee. The Company's obligation to deliver stock certificates (or evidence of book entry) to any grantee is subject to and conditioned on any such tax withholding obligations being satisfied by the grantee.

(b) Payment in Stock. The Company's minimum required tax withholding obligation may be satisfied, in whole or in part, by the Company withholding from Shares to be issued pursuant to an Award a number of Shares having an aggregate Fair Market Value (as of the date the withholding is effected) that would satisfy the minimum withholding amount due.

SECTION 11. SECTION 409A AWARDS.

To the extent that any Award is determined to constitute “nonqualified deferred compensation” within the meaning of Section 409A (a “409A Award”), the Award shall be subject to such additional rules and requirements as may be specified by the Committee from time to time. In this regard, if any amount under a 409A Award is payable upon a “separation from service” (within the meaning of Section 409A) to a grantee who is considered a “specified employee” (within the meaning of Section 409A), then no such payment shall be made prior to the date that is the earlier of (i) six (6) months and one (1) day after the grantee’s separation from service, or (ii) the grantee’s death, but only to the extent such delay is necessary to prevent such payment from being subject to interest, penalties and/or additional tax imposed pursuant to Section 409A. The Company makes no representation or warranty and shall have no liability to any grantee under the Plan or any other Person with respect to any penalties or taxes under Section 409A that are, or may be, imposed with respect to any Award.

SECTION 12. AMENDMENTS AND TERMINATION

The Board may, at any time, amend or discontinue the Plan and the Committee may, at any time, amend or cancel any outstanding Award for the purpose of satisfying changes in law or for any other lawful purpose, but no such action shall adversely affect rights under any outstanding Award without the consent of the holder of the Award. The Committee may exercise its discretion to reduce the exercise price of outstanding Stock Options or effect repricing through cancellation of outstanding Stock Options and by granting such holders new Awards in replacement of the cancelled Stock Options. To the extent determined by the Committee to be required either by the Code to ensure that Incentive Stock Options granted under the Plan are qualified under Section 422 of the Code or otherwise, Plan amendments shall be subject to approval by the Company stockholders entitled to vote at a meeting of stockholders. Nothing in this Section 12 shall limit the Board’s or Committee’s authority to take any action permitted pursuant to Section 3(c). The Board reserves the right to amend the Plan and/or the terms of any outstanding Stock Options to the extent reasonably necessary to comply with the requirements of the exemption pursuant to paragraph (f)(4) of Rule 12h-1 of the Exchange Act.

SECTION 13. STATUS OF PLAN

With respect to the portion of any Award that has not been exercised and any payments in cash, Stock or other consideration not received by a grantee, a grantee shall have no rights greater than those of a general creditor of the Company unless the Committee shall otherwise expressly so determine in connection with any Award.

SECTION 14. GENERAL PROVISIONS

(a) No Distribution; Compliance with Legal Requirements. The Committee may require each person acquiring Shares pursuant to an Award to represent to and agree with the Company in writing that such person is acquiring the Shares without a view to distribution thereof. No Shares shall be issued pursuant to an Award until all applicable securities law and other legal and stock exchange or similar requirements have been satisfied. The Committee may require the placing of such stop-orders and restrictive legends on certificates for Stock and Awards as it deems appropriate.

(b) Delivery of Stock Certificates. Stock certificates to grantees under the Plan shall be deemed delivered for all purposes when the Company or a stock transfer agent of the Company shall have mailed such certificates in the United States mail, addressed to the grantee, at the grantee's last known address on file with the Company; provided that stock certificates to be held in escrow pursuant to Section 9 of the Plan shall be deemed delivered when the Company shall have recorded the issuance in its records. Uncertificated Stock shall be deemed delivered for all purposes when the Company or a stock transfer agent of the Company shall have given to the grantee by electronic mail (with proof of receipt) or by United States mail, addressed to the grantee, at the grantee's last known address on file with the Company, notice of issuance and recorded the issuance in its records (which may include electronic "book entry" records).

(c) No Employment Rights. The adoption of the Plan and the grant of Awards do not confer upon any Person any right to continued employment or Service Relationship with the Company or any Subsidiary.

(d) Trading Policy Restrictions. Option exercises and other Awards under the Plan shall be subject to the Company's insider trading policy-related restrictions, terms and conditions as may be established by the Committee, or in accordance with policies set by the Committee, from time to time.

(e) Designation of Beneficiary. Each grantee to whom an Award has been made under the Plan may designate a beneficiary or beneficiaries to exercise any Award on or after the grantee's death or receive any payment under any Award payable on or after the grantee's death. Any such designation shall be on a form provided for that purpose by the Committee and shall not be effective until received by the Committee. If no beneficiary has been designated by a deceased grantee, or if the designated beneficiaries have predeceased the grantee, the beneficiary shall be the grantee's estate.

(f) Legend. Any certificate(s) representing the Shares shall carry substantially the following legend (and with respect to uncertificated Stock, the book entries evidencing such shares shall contain the following notation):

The transferability of this certificate and the shares of stock represented hereby are subject to the restrictions, terms and conditions (including repurchase and restrictions against transfers) contained in the Sage Therapeutics, Inc. 2011 Stock Option and Grant Plan and any agreements entered into thereunder by and between the company and the holder of this certificate (a copy of which is available at the offices of the company for examination).

(g) Information to Holders of Options. In the event the Company is relying on the exemption from the registration requirements of Section 12(g) of the Exchange Act contained in paragraph (f)(1) of Rule 12h-1 of the Exchange Act, the Company shall provide the information

described in Rule 701(e)(3), (4) and (5) of the Securities Act to all holders of Options in accordance with the requirements thereunder. The foregoing notwithstanding, the Company shall not be required to provide such information unless the optionholder has agreed in writing, on a form prescribed by the Company, to keep such information confidential.

SECTION 15. EFFECTIVE DATE OF PLAN

The Plan shall become effective upon adoption by the Board and shall be approved by stockholders in accordance with applicable state law and the Company's articles of incorporation and bylaws within twelve (12) months thereafter. If the stockholders fail to approve the Plan within twelve (12) months after its adoption by the Board of Directors, then any Awards granted or sold under the Plan shall be rescinded and no additional grants or sales shall thereafter be made under the Plan. Subject to such approval by stockholders and to the requirement that no Shares may be issued hereunder prior to such approval, Stock Options and other Awards may be granted hereunder on and after adoption of the Plan by the Board. No grants of Stock Options and other Awards may be made hereunder after the tenth anniversary of the date the Plan is adopted by the Board or the date the Plan is approved by the Company's stockholders, whichever is earlier.

SECTION 16. GOVERNING LAW

This Plan, all Awards and any controversy arising out of or relating to this Plan and all Awards shall be governed by and construed in accordance with the General Corporation Law of the State of Delaware as to matters within the scope thereof, and as to all other matters shall be governed by and construed in accordance with the internal laws of the Commonwealth of Massachusetts, without regard to conflict of law principles that would result in the application of any law other than the law of the Commonwealth of Massachusetts.

DATE ADOPTED BY THE BOARD OF DIRECTORS: September 30, 2011

DATE APPROVED BY THE STOCKHOLDERS: September 30, 2011

**AMENDMENT NO. 1**

**TO**

**SAGE THERAPEUTICS, INC.**

**2011 STOCK OPTION AND GRANT PLAN**

The Sage Therapeutics, Inc. 2011 Stock Option and Grant Plan (the "Plan") is hereby amended by the Board of Directors and stockholders of Sage Therapeutics, Inc., a Delaware corporation (the "Company"), as follows:

Section 3(a) of the Plan is amended and restated to read in its entirety as follows:

"(a) Stock Issuable. The maximum number of Shares reserved and available for issuance under the Plan shall be 4,680,000 Shares, subject to adjustment as provided in Section 3(b). For purposes of this limitation, the Shares underlying any Awards that are forfeited, canceled, reacquired by the Company prior to vesting, satisfied without the issuance of Stock or otherwise terminated (other than by exercise) and Shares that are withheld upon exercise of an Option or settlement of an Award to cover the exercise price or tax withholding shall be added back to the Shares available for issuance under the Plan. Subject to such overall limitations, Shares may be issued up to such maximum number pursuant to any type or types of Award. The Shares available for issuance under the Plan may be authorized but unissued Shares or Shares reacquired by the Company."

ADOPTED BY BOARD OF DIRECTORS: November 9, 2012

ADOPTED BY STOCKHOLDERS: November 9, 2012



AMENDMENT NO. 2

TO

SAGE THERAPEUTICS, INC.

2011 STOCK OPTION AND GRANT PLAN

The Sage Therapeutics, Inc. 2011 Stock Option and Grant Plan (the “Plan”) is hereby amended by the Board of Directors and stockholders of Sage Therapeutics, Inc., a Delaware corporation (the “Company”), as follows:

Section 3(a) of the Plan is amended and restated to read in its entirety as follows:

“(a) Stock Issuable. The maximum number of Shares reserved and available for issuance under the Plan shall be 8,400,000 Shares, subject to adjustment as provided in Section 3(b). For purposes of this limitation, the Shares underlying any Awards that are forfeited, canceled, reacquired by the Company prior to vesting, satisfied without the issuance of Stock or otherwise terminated (other than by exercise) and Shares that are withheld upon exercise of an Option or settlement of an Award to cover the exercise price or tax withholding shall be added back to the Shares available for issuance under the Plan. Subject to such overall limitations, Shares may be issued up to such maximum number pursuant to any type or types of Award. The Shares available for issuance under the Plan may be authorized but unissued Shares or Shares reacquired by the Company.”

ADOPTED BY BOARD OF DIRECTORS: August 12, 2013

ADOPTED BY STOCKHOLDERS: August 12, 2013

AMENDMENT NO. 3

TO

SAGE THERAPEUTICS, INC.

2011 STOCK OPTION AND GRANT PLAN

The Sage Therapeutics, Inc. 2011 Stock Option and Grant Plan (the “Plan”) is hereby amended by the Board of Directors and stockholders of Sage Therapeutics, Inc., a Delaware corporation (the “Company”), as follows:

Section 3(a) of the Plan is amended and restated to read in its entirety as follows:

“(a) Stock Issuable. The maximum number of Shares reserved and available for issuance under the Plan shall be 9,900,000 Shares, subject to adjustment as provided in Section 3(b). For purposes of this limitation, the Shares underlying any Awards that are forfeited, canceled, reacquired by the Company prior to vesting, satisfied without the issuance of Stock or otherwise terminated (other than by exercise) and Shares that are withheld upon exercise of an Option or settlement of an Award to cover the exercise price or tax withholding shall be added back to the Shares available for issuance under the Plan. Subject to such overall limitations, Shares may be issued up to such maximum number pursuant to any type or types of Award. The Shares available for issuance under the Plan may be authorized but unissued Shares or Shares reacquired by the Company.”

ADOPTED BY BOARD OF DIRECTORS: February 12, 2014

ADOPTED BY STOCKHOLDERS: February 12, 2014

**INCENTIVE STOCK OPTION GRANT NOTICE  
UNDER THE SAGE THERAPEUTICS, INC.  
2011 STOCK OPTION AND GRANT PLAN**

Pursuant to the Sage Therapeutics, Inc. 2011 Stock Option and Grant Plan (the "Plan"), Sage Therapeutics, Inc., a Delaware corporation (together with any successor, the "Company"), has granted to the individual named below, an option (the "Stock Option") to purchase on or prior to the Expiration Date, or such earlier date as is specified herein, all or any part of the number of shares of Common Stock, par value \$0.0001 per share ("Common Stock"), of the Company indicated below (the "Shares"), at the Option Exercise Price per share, subject to the terms and conditions set forth in this Incentive Stock Option Grant Notice (the "Grant Notice"), the attached Incentive Stock Option Agreement (the "Agreement") and the Plan. This Stock Option is intended to qualify as an "incentive stock option" as defined in Section 422(b) of the Internal Revenue Code of 1986, as amended from time to time (the "Code"). To the extent that any portion of the Stock Option does not so qualify, it shall be deemed a non-qualified stock option.

Name of Optionee: (the "Optionee")

No. of Shares: Shares of Common Stock

Grant Date:

Vesting Commencement Date: (the "Vesting Commencement Date")

Expiration Date: (the "Expiration Date")

Option Exercise Price/Share: \$ (the "Option Exercise Price")

Vesting Schedule: [25] percent of the Shares shall vest and become exercisable on the first anniversary of the Vesting Commencement Date; provided that the Optionee continues to have a Service Relationship with the Company at such time. Thereafter, the remaining [75] percent of the Shares shall vest and become exercisable in [36] equal monthly installments at the end of each month following the first anniversary of the Vesting Commencement Date, provided the Optionee continues to have a Service Relationship with the Company at such time. Notwithstanding anything in the Agreement to the contrary, in the case of a Sale Event, this Stock Option and the Shares shall be treated as provided in Section 3(c) of the Plan[; **provided, however INSERT ANY ACCELERATED VESTING PROVISION HERE**].

**Attachments:** Incentive Stock Option Agreement, 2011 Stock Option and Grant Plan

**INCENTIVE STOCK OPTION AGREEMENT  
UNDER THE SAGE THERAPEUTICS, INC.  
2011 STOCK OPTION AND GRANT PLAN**

All capitalized terms used herein and not otherwise defined shall have the respective meanings set forth in the Grant Notice and the Plan.

**SECTION 17. VESTING, EXERCISABILITY AND TERMINATION.**

(a) No portion of this Stock Option may be exercised until such portion shall have vested and become exercisable.

(b) Except as set forth below, and subject to the determination of the Committee in its sole discretion to accelerate the vesting schedule hereunder, this Stock Option shall be vested and exercisable on the respective dates indicated below:

(i) This Stock Option shall initially be unvested and unexercisable.

(ii) This Stock Option shall vest and become exercisable in accordance with the Vesting Schedule set forth in the Grant Notice.

(c) Termination. Except as may otherwise be provided by the Committee, if the Optionee's Service Relationship is terminated, the period within which to exercise this Stock Option will be subject to earlier termination as set forth below (and if not exercised within such period, shall thereafter terminate subject, in each case, to Section 3(c) of the Plan):

(i) Termination Due to Death or Disability. If the Optionee's Service Relationship terminates by reason of such Optionee's death or Disability, this Stock Option may be exercised, to the extent exercisable on the date of such termination, by the Optionee, the Optionee's legal representative or legatee for a period of twelve (12) months from the date of death or Disability or until the Expiration Date, if earlier.

(ii) Other Termination. If the Optionee's Service Relationship terminates for any reason other than death or Disability, and unless otherwise determined by the Committee, this Stock Option may be exercised, to the extent exercisable on the date of termination, for a period of ninety (90) days from the date of termination or until the Expiration Date, if earlier; provided however, if the Optionee's Service Relationship is terminated for Cause, this Stock Option shall terminate immediately upon the date of such termination.

For purposes hereof, the Committee's determination of the reason for termination of the Optionee's Service Relationship shall be conclusive and binding on the Optionee and his or her representatives or legatees. Any portion of this Stock Option that is not vested and exercisable on the date of termination of the Service Relationship shall terminate immediately and be null and void.

(d) It is understood and intended that this Stock Option is intended to qualify as an "incentive stock option" as defined in Section 422 of the Code to the extent permitted under

applicable law. Accordingly, the Optionee understands that in order to obtain the benefits of an incentive stock option under Section 422 of the Code, no sale or other disposition may be made of Shares for which incentive stock option treatment is desired within the one-year period beginning on the day after the day of the transfer of such Shares to him or her, nor within the two-year period beginning on the day after Grant Date of this Stock Option and further that this Stock Option must be exercised within three (3) months after termination of employment as an employee (or twelve (12) months in the case of death or disability) to qualify as an incentive stock option. If the Optionee disposes (whether by sale, gift, transfer or otherwise) of any such Shares within either of these periods, he or she will notify the Company within thirty (30) days after such disposition. The Optionee also agrees to provide the Company with any information concerning any such dispositions required by the Company for tax purposes. Further, to the extent this Stock Option and any other incentive stock options of the Optionee having an aggregate Fair Market Value in excess of \$100,000 (determined as of the Grant Date) first become exercisable in any year, such options will not qualify as incentive stock options.

SECTION 18. EXERCISE OF STOCK OPTION.

(a) The Optionee may exercise this Stock Option only in the following manner: Prior to the Expiration Date, the Optionee may deliver a Stock Option exercise notice (an "Exercise Notice") in the form of Appendix A hereto indicating his or her election to purchase some or all of the Shares with respect to which this Stock Option is then exercisable. Such notice shall specify the number of Shares to be purchased. Payment of the purchase price may be made by one or more of the methods described in Section 5 of the Plan, subject to the limitations contained in such Section of the Plan, including the requirement that the Committee specifically approve in advance certain payment methods.

(b) Notwithstanding any other provision hereof or of the Plan, no portion of this Stock Option shall be exercisable after the Expiration Date.

SECTION 19. INCORPORATION OF PLAN. NOTWITHSTANDING ANYTHING HEREIN TO THE CONTRARY, THIS STOCK OPTION SHALL BE SUBJECT TO AND GOVERNED BY ALL THE TERMS AND CONDITIONS OF THE PLAN.

SECTION 20. TRANSFERABILITY OF STOCK OPTION. THIS STOCK OPTION IS PERSONAL TO THE OPTIONEE AND IS NOT TRANSFERABLE BY THE OPTIONEE IN ANY MANNER OTHER THAN BY WILL OR BY THE LAWS OF DESCENT AND DISTRIBUTION. THE STOCK OPTION MAY BE EXERCISED DURING THE OPTIONEE'S LIFETIME ONLY BY THE OPTIONEE (OR BY THE OPTIONEE'S GUARDIAN OR PERSONAL REPRESENTATIVE IN THE EVENT OF THE OPTIONEE'S INCAPACITY). THE OPTIONEE MAY ELECT TO DESIGNATE A BENEFICIARY BY PROVIDING WRITTEN NOTICE OF THE NAME OF SUCH BENEFICIARY TO THE COMPANY, AND MAY REVOKE OR CHANGE SUCH DESIGNATION AT ANY TIME BY FILING WRITTEN NOTICE OF REVOCATION OR CHANGE WITH THE COMPANY; SUCH BENEFICIARY MAY EXERCISE THE OPTIONEE'S STOCK OPTION IN THE EVENT OF THE OPTIONEE'S DEATH TO THE EXTENT PROVIDED HEREIN. IF THE

OPTIONEE DOES NOT DESIGNATE A BENEFICIARY, OR IF THE DESIGNATED BENEFICIARY PREDECEASES THE OPTIONEE, THE LEGAL REPRESENTATIVE OF THE OPTIONEE MAY EXERCISE THIS STOCK OPTION TO THE EXTENT PROVIDED HEREIN IN THE EVENT OF THE OPTIONEE'S DEATH.

SECTION 21. RESTRICTIONS ON TRANSFER OF SHARES. THE SHARES ACQUIRED UPON EXERCISE OF THE STOCK OPTION SHALL BE SUBJECT TO CERTAIN TRANSFER RESTRICTIONS AND OTHER LIMITATIONS INCLUDING, WITHOUT LIMITATION, THE PROVISIONS CONTAINED IN SECTION 9 OF THE PLAN.

SECTION 22. MISCELLANEOUS PROVISIONS.

(a) Equitable Relief. The parties hereto agree and declare that legal remedies may be inadequate to enforce the provisions of this Agreement and that equitable relief, including specific performance and injunctive relief, may be used to enforce the provisions of this Agreement.

(b) Adjustments for Changes in Capital Structure. If, as a result of any reorganization, recapitalization, reincorporation, reclassification, stock dividend, stock split, reverse stock split or other similar change in the Common Stock, the outstanding shares of Common Stock are increased or decreased or are exchanged for a different number or kind of securities of the Company, the restrictions contained in this Agreement shall apply with equal force to additional and/or substitute securities, if any, received by the Optionee in exchange for, or by virtue of his or her ownership of, this Stock Option or Shares acquired pursuant thereto.

(c) Change and Modifications. This Agreement may not be orally changed, modified or terminated, nor shall any oral waiver of any of its terms be effective. This Agreement may be changed, modified or terminated only by an agreement in writing signed by the Company and the Optionee.

(d) Governing Law. This Agreement shall be governed by and construed in accordance with the General Corporation Law of the State of Delaware as to matters within the scope thereof, and as to all other matters shall be governed by and construed in accordance with the internal laws of the Commonwealth of Massachusetts, without regard to conflict of law principles that would result in the application of any law other than the law of the Commonwealth of Massachusetts.

(e) Headings. The headings are intended only for convenience in finding the subject matter and do not constitute part of the text of this Agreement and shall not be considered in the interpretation of this Agreement.

(f) Saving Clause. If any provision(s) of this Agreement shall be determined to be illegal or unenforceable, such determination shall in no manner affect the legality or enforceability of any other provision hereof.

(g) Notices. All notices, requests, consents and other communications shall be in writing and be deemed given when delivered personally, by telex or facsimile transmission or when received if mailed by first class registered or certified mail, postage prepaid. Notices to the Company or the Optionee shall be addressed as set forth underneath their signatures below, or to such other address or addresses as may have been furnished by such party in writing to the other.

(h) Benefit and Binding Effect. This Agreement shall be binding upon and shall inure to the benefit of the parties hereto, their respective successors, assigns, and legal representatives. The Company has the right to assign this Agreement, and such assignee shall become entitled to all the rights of the Company hereunder to the extent of such assignment.

(i) Counterparts. For the convenience of the parties and to facilitate execution, this Agreement may be executed in two or more counterparts, each of which shall be deemed an original, but all of which shall constitute one and the same document.

(j) Integration. This Agreement constitutes the entire agreement between the parties with respect to this Stock Option and supersedes all prior agreements and discussions between the parties concerning such subject matter.

#### SECTION 23. DISPUTE RESOLUTION.

(a) Except as provided below, any dispute arising out of or relating to the Plan or this Stock Option, this Agreement, or the breach, termination or validity of the Plan, this Stock Option or this Agreement, shall be finally settled by binding arbitration conducted expeditiously in accordance with the J.A.M.S./Endispute Comprehensive Arbitration Rules and Procedures (the "J.A.M.S. Rules"). The arbitration shall be governed by the United States Arbitration Act, 9 U.S.C. Sections 1 16, and judgment upon the award rendered by the arbitrators may be entered by any court having jurisdiction thereof. The place of arbitration shall be Boston, Massachusetts.

(b) The arbitration shall commence within sixty (60) days of the date on which a written demand for arbitration is filed by any party hereto. In connection with the arbitration proceeding, the arbitrator shall have the power to order the production of documents by each party and any third-party witnesses. In addition, each party may take up to three depositions as of right, and the arbitrator may in his or her discretion allow additional depositions upon good cause shown by the moving party. However, the arbitrator shall not have the power to order the answering of interrogatories or the response to requests for admission. In connection with any arbitration, each party to the arbitration shall provide to the other, no later than seven business days before the date of the arbitration, the identity of all persons that may testify at the arbitration and a copy of all documents that may be introduced at the arbitration or considered or used by a party's witness or expert. The arbitrator's decision and award shall be made and delivered within six (6) months of the selection of the arbitrator. The arbitrator's decision shall set forth a reasoned basis for any award of damages or finding of liability. The arbitrator shall not have power to award damages in excess of actual compensatory damages and shall not multiply actual damages or award punitive damages, and each party hereby irrevocably waives any claim to such damages.

(c) The Company, the Optionee, each party to the Agreement and any other holder of Shares issued pursuant to this Agreement (each, a "Party") covenants and agrees that such party will participate in the arbitration in good faith. This Section 7 applies equally to requests for temporary, preliminary or permanent injunctive relief, except that in the case of temporary or preliminary injunctive relief any party may proceed in court without prior arbitration for the limited purpose of avoiding immediate and irreparable harm.

(d) Each Party (i) hereby irrevocably submits to the jurisdiction of any United States District Court of competent jurisdiction for the purpose of enforcing the award or decision in any such proceeding, (ii) hereby waives, and agrees not to assert, by way of motion, as a defense, or otherwise, in any such suit, action or proceeding, any claim that it is not subject personally to the jurisdiction of the above named courts, that its property is exempt or immune from attachment or execution (except as protected by applicable law), that the suit, action or proceeding is brought in an inconvenient forum, that the venue of the suit, action or proceeding is improper or that this Agreement or the subject matter hereof may not be enforced in or by such court, and (iii) hereby waives and agrees not to seek any review by any court of any other jurisdiction which may be called upon to grant an enforcement of the judgment of any such court. Each Party hereby consents to service of process by registered mail at the address to which notices are to be given. Each Party agrees that its, his or her submission to jurisdiction and its, his or her consent to service of process by mail is made for the express benefit of each other Party. Final judgment against any Party in any such action, suit or proceeding may be enforced in other jurisdictions by suit, action or proceeding on the judgment, or in any other manner provided by or pursuant to the laws of such other jurisdiction.

[SIGNATURE PAGE FOLLOWS]



The foregoing Agreement is hereby accepted and the terms and conditions thereof hereby agreed to by the undersigned as of the date first above written.

SAGE THERAPEUTICS, INC.

By: \_\_\_\_\_

Name:

Title:

Address:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

The undersigned hereby acknowledges receiving and reviewing a copy of the Plan, including, without limitation, Section 9 thereof, and understands that this Stock Option is subject to the terms of the Plan and of this Agreement. This Agreement is hereby accepted, and the terms and conditions of the Plan, the Grant Notice and this Agreement, SPECIFICALLY INCLUDING THE ARBITRATION PROVISIONS SET FORTH IN SECTION 7 OF THIS AGREEMENT, are hereby agreed to, by the undersigned as of the date first above written.

OPTIONEE:

\_\_\_\_\_  
Name:

Address:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

[SPOUSE'S CONSENT<sup>1</sup>

I acknowledge that I have read the foregoing Incentive Stock Option Agreement and understand the contents thereof.

\_\_\_\_\_ ]

<sup>1</sup> A spouse's consent is recommended only if the Optionee's state of residence is one of the following community property states: Arizona, California, Idaho, Louisiana, Nevada, New Mexico, Texas, Washington and Wisconsin.

DESIGNATED BENEFICIARY:

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Beneficiary's Address:

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Appendix A

STOCK OPTION EXERCISE NOTICE

Sage Therapeutics, Inc.  
Attention: President

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Pursuant to the terms of the grant notice and stock option agreement between the undersigned and Sage Therapeutics, Inc. (the "Company") dated (the "Agreement") under the Sage Therapeutics, Inc. 2011 Stock Option and Grant Plan, I, [Insert Name], hereby [Circle One] partially/fully exercise such option by including herein payment in the amount of \$ \_\_\_\_\_ representing the purchase price for [Fill in number of Shares] Shares. I have chosen the following form(s) of payment:

- 1. Cash
  - 2. Certified or bank check payable to Sage Therapeutics, Inc.
  - 3. Other (as referenced in the Agreement and described in the Plan (please describe))
- 

In connection with my exercise of the option as set forth above, I hereby represent and warrant to the Company as follows:

(i) I am purchasing the Shares for my own account for investment only, and not for resale or with a view to the distribution thereof.

(ii) I have had such an opportunity as I have deemed adequate to obtain from the Company such information as is necessary to permit me to evaluate the merits and risks of my investment in the Company and have consulted with my own advisers with respect to my investment in the Company.

(iii) I have sufficient experience in business, financial and investment matters to be able to evaluate the risks involved in the purchase of the Shares and to make an informed investment decision with respect to such purchase.

(iv) I can afford a complete loss of the value of the Shares and am able to bear the economic risk of holding such Shares for an indefinite period of time.

(v) I understand that the Shares may not be registered under the Securities Act of 1933 (it being understood that the Shares are being issued and sold in reliance on the exemption provided in Rule 701 thereunder) or any applicable state securities or "blue sky" laws and may not be sold or otherwise transferred or disposed of in the absence of an effective registration statement under the Securities Act of 1933 and under any applicable state securities or "blue sky" laws (or exemptions from the registration requirement thereof). I further

acknowledge that certificates representing Shares will bear restrictive legends reflecting the foregoing and/or that book entries for uncertificated Shares will include similar restrictive notations.

(vi) I have read and understand the Plan and acknowledge and agree that the Shares are subject to all of the relevant terms of the Plan, including without limitation, the transfer restrictions set forth in Section 9 of the Plan.

(vii) I understand and agree that the Company has a right of first refusal with respect to the Shares pursuant to Section 9(b) of the Plan.

(viii) I understand and agree that the Company has certain repurchase rights with respect to the Shares pursuant to Section 9(c) of the Plan.

(ix) I understand and agree that I may not sell or otherwise transfer or dispose of the Shares for a period of time following the effective date of a public offering by the Company as described in Section 9(f) of the Plan.

(x) I hereby agree to be bound by and subject to the terms of that certain Stockholders Agreement dated as of September [ ], 2011, as may be amended from time to time, by and among the Company and the other parties named therein (the "Stockholders Agreement") as a Key Holder (as defined in the Stockholders Agreement).

Sincerely yours,

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Name:

Address:

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**NON-QUALIFIED STOCK OPTION GRANT NOTICE  
UNDER THE SAGE THERAPEUTICS, INC.  
2011 STOCK OPTION AND GRANT PLAN**

Pursuant to the Sage Therapeutics, Inc. 2011 Stock Option and Grant Plan (the "Plan"), Sage Therapeutics, Inc., a Delaware corporation (together with any successor, the "Company"), has granted to the individual named below, an option (the "Stock Option") to purchase on or prior to the Expiration Date, or such earlier date as is specified herein, all or any part of the number of shares of Common Stock, par value \$0.0001 per share ("Common Stock"), of the Company indicated below (the "Shares"), at the Option Exercise Price per share, subject to the terms and conditions set forth in this Non-Qualified Stock Option Grant Notice (the "Grant Notice"), the attached Non-Qualified Stock Option Agreement (the "Agreement") and the Plan. This Stock Option is not intended to qualify as an "incentive stock option" as defined in Section 422(b) of the Internal Revenue Code of 1986, as amended from time to time (the "Code").

Name of Optionee: (the "Optionee")

No. of Shares: Shares of Common Stock

Grant Date:

Vesting Commencement Date: (the "Vesting Commencement Date")

Expiration Date: (the "Expiration Date")

Option Exercise Price/Share: \$ (the "Option Exercise Price")

Vesting Schedule: [25] percent of the Shares shall vest and become exercisable on the first anniversary of the Vesting Commencement Date; provided that the Optionee continues to have a Service Relationship with the Company at such time. Thereafter, the remaining [75] percent of the Shares shall vest and become exercisable in [36] equal monthly installments at the end of each month following the first anniversary of the Vesting Commencement Date, provided the Optionee continues to have a Service Relationship with the Company at such time. Notwithstanding anything in the Agreement to the contrary, in the case of a Sale Event, this Stock Option and the Shares shall be treated as provided in Section 3(c) of the Plan[; **provided, however INSERT ANY ACCELERATED VESTING PROVISION HERE**].

**Attachments:** Non-Qualified Stock Option Agreement, 2011 Stock Option and Grant Plan

**NON-QUALIFIED STOCK OPTION AGREEMENT  
UNDER THE SAGE THERAPEUTICS, INC.  
2011 STOCK OPTION AND GRANT PLAN**

All capitalized terms used herein and not otherwise defined shall have the respective meanings set forth in the Grant Notice and the Plan.

**SECTION 24. VESTING, EXERCISABILITY AND TERMINATION.**

(a) No portion of this Stock Option may be exercised until such portion shall have vested and become exercisable.

(b) Except as set forth below, and subject to the determination of the Committee in its sole discretion to accelerate the vesting schedule hereunder, this Stock Option shall be vested and exercisable on the respective dates indicated below:

(i) This Stock Option shall initially be unvested and unexercisable.

(ii) This Stock Option shall vest and become exercisable in accordance with the Vesting Schedule set forth in the Grant Notice.

(c) Termination. Except as may otherwise be provided by the Committee, if the Optionee's Service Relationship is terminated, the period within which to exercise this Stock Option will be subject to earlier termination as set forth below (and if not exercised within such period, shall thereafter terminate subject, in each case, to Section 3(c) of the Plan):

(i) Termination Due to Death or Disability. If the Optionee's Service Relationship terminates by reason of such Optionee's death or Disability, this Stock Option may be exercised, to the extent exercisable on the date of such termination, by the Optionee, the Optionee's legal representative or legatee for a period of twelve (12) months from the date of death or Disability or until the Expiration Date, if earlier.

(ii) Other Termination. If the Optionee's Service Relationship terminates for any reason other than death or Disability, and unless otherwise determined by the Committee, this Stock Option may be exercised, to the extent exercisable on the date of termination, for a period of ninety (90) days from the date of termination or until the Expiration Date, if earlier; provided however, if the Optionee's Service Relationship is terminated for Cause, this Stock Option shall terminate immediately upon the date of such termination.

For purposes hereof, the Committee's determination of the reason for termination of the Optionee's Service Relationship shall be conclusive and binding on the Optionee and his or her representatives or legatees and any Permitted Transferee. Any portion of this Stock Option that is not vested and exercisable on the date of termination of the Service Relationship shall terminate immediately and be null and void.

SECTION 25. EXERCISE OF STOCK OPTION.

(a) The Optionee may exercise this Stock Option only in the following manner: Prior to the Expiration Date, the Optionee may deliver a Stock Option exercise notice (an "Exercise Notice") in the form of Appendix A hereto indicating his or her election to purchase some or all of the Shares with respect to which this Stock Option is then exercisable. Such notice shall specify the number of Shares to be purchased. Payment of the purchase price may be made by one or more of the methods described in Section 5 of the Plan, subject to the limitations contained in such Section of the Plan, including the requirement that the Committee specifically approve in advance certain payment methods.

(b) Notwithstanding any other provision hereof or of the Plan, no portion of this Stock Option shall be exercisable after the Expiration Date.



SECTION 26. INCORPORATION OF PLAN. NOTWITHSTANDING ANYTHING HEREIN TO THE CONTRARY, THIS STOCK OPTION SHALL BE SUBJECT TO AND GOVERNED BY ALL THE TERMS AND CONDITIONS OF THE PLAN.

SECTION 27. TRANSFERABILITY OF STOCK OPTION. THIS STOCK OPTION IS PERSONAL TO THE OPTIONEE AND IS NOT TRANSFERABLE BY THE OPTIONEE IN ANY MANNER OTHER THAN BY WILL OR BY THE LAWS OF DESCENT AND DISTRIBUTION. THE STOCK OPTION MAY BE EXERCISED DURING THE OPTIONEE'S LIFETIME ONLY BY THE OPTIONEE (OR BY THE OPTIONEE'S GUARDIAN OR PERSONAL REPRESENTATIVE IN THE EVENT OF THE OPTIONEE'S INCAPACITY). THE OPTIONEE MAY ELECT TO DESIGNATE A BENEFICIARY BY PROVIDING WRITTEN NOTICE OF THE NAME OF SUCH BENEFICIARY TO THE COMPANY, AND MAY REVOKE OR CHANGE SUCH DESIGNATION AT ANY TIME BY FILING WRITTEN NOTICE OF REVOCATION OR CHANGE WITH THE COMPANY; SUCH BENEFICIARY MAY EXERCISE THE OPTIONEE'S STOCK OPTION IN THE EVENT OF THE OPTIONEE'S DEATH TO THE EXTENT PROVIDED HEREIN. IF THE OPTIONEE DOES NOT DESIGNATE A BENEFICIARY, OR IF THE DESIGNATED BENEFICIARY PREDECEASES THE OPTIONEE, THE LEGAL REPRESENTATIVE OF THE OPTIONEE MAY EXERCISE THIS STOCK OPTION TO THE EXTENT PROVIDED HEREIN IN THE EVENT OF THE OPTIONEE'S DEATH.

SECTION 28. RESTRICTIONS ON TRANSFER OF SHARES. THE SHARES ACQUIRED UPON EXERCISE OF THE STOCK OPTION SHALL BE SUBJECT TO CERTAIN TRANSFER RESTRICTIONS AND OTHER LIMITATIONS INCLUDING, WITHOUT LIMITATION, THE PROVISIONS CONTAINED IN SECTION 9 OF THE PLAN.

SECTION 29. MISCELLANEOUS PROVISIONS.

(a) Equitable Relief. The parties hereto agree and declare that legal remedies may be inadequate to enforce the provisions of this Agreement and that equitable relief, including specific performance and injunctive relief, may be used to enforce the provisions of this Agreement.

(b) Adjustments for Changes in Capital Structure. If, as a result of any reorganization, recapitalization, reincorporation, reclassification, stock dividend, stock split, reverse stock split or other similar change in the Common Stock, the outstanding shares of Common Stock are increased or decreased or are exchanged for a different number or kind of securities of the Company, the restrictions contained in this Agreement shall apply with equal force to additional and/or substitute securities, if any, received by the Optionee in exchange for, or by virtue of his or her ownership of, this Stock Option or Shares acquired pursuant thereto.

(c) Change and Modifications. This Agreement may not be orally changed, modified or terminated, nor shall any oral waiver of any of its terms be effective. This Agreement may be changed, modified or terminated only by an agreement in writing signed by the Company and the Optionee.

(d) Governing Law. This Agreement shall be governed by and construed in accordance with the **General Corporation Law of the State of Delaware** as to matters within the scope thereof, and as to all other matters shall be governed by and construed in accordance with the internal laws of the Commonwealth of Massachusetts, without regard to conflict of law principles that would result in the application of any law other than the law of the Commonwealth of Massachusetts.

(e) Headings. The headings are intended only for convenience in finding the subject matter and do not constitute part of the text of this Agreement and shall not be considered in the interpretation of this Agreement.

(f) Saving Clause. If any provision(s) of this Agreement shall be determined to be illegal or unenforceable, such determination shall in no manner affect the legality or enforceability of any other provision hereof.

(g) Notices. All notices, requests, consents and other communications shall be in writing and be deemed given when delivered personally, by telex or facsimile transmission or when received if mailed by first class registered or certified mail, postage prepaid. Notices to the Company or the Optionee shall be addressed as set forth underneath their signatures below, or to such other address or addresses as may have been furnished by such party in writing to the other.

(h) Benefit and Binding Effect. This Agreement shall be binding upon and shall inure to the benefit of the parties hereto, their respective successors, assigns, and legal representatives. The Company has the right to assign this Agreement, and such assignee shall become entitled to all the rights of the Company hereunder to the extent of such assignment.

(i) Counterparts. For the convenience of the parties and to facilitate execution, this Agreement may be executed in two or more counterparts, each of which shall be deemed an original, but all of which shall constitute one and the same document.

(j) Integration. This Agreement constitutes the entire agreement between the parties with respect to this Stock Option and supersedes all prior agreements and discussions between the parties concerning such subject matter.

#### SECTION 30. DISPUTE RESOLUTION.

(a) Except as provided below, any dispute arising out of or relating to the Plan or this Stock Option, this Agreement, or the breach, termination or validity of the Plan, this Stock Option or this Agreement, shall be finally settled by binding arbitration conducted expeditiously in accordance with the J.A.M.S./Endispute Comprehensive Arbitration Rules and Procedures (the "J.A.M.S. Rules"). The arbitration shall be governed by the United States Arbitration Act, 9 U.S.C. Sections 1-16, and judgment upon the award rendered by the arbitrators may be entered by any court having jurisdiction thereof. The place of arbitration shall be Boston, Massachusetts.

(b) The arbitration shall commence within sixty (60) days of the date on which a written demand for arbitration is filed by any party hereto. In connection with the arbitration proceeding, the arbitrator shall have the power to order the production of documents by each party and any third-party witnesses. In addition, each party may take up to three depositions as of right, and the arbitrator may in his or her discretion allow additional depositions upon good cause shown by the moving party. However, the arbitrator shall not have the power to order the answering of interrogatories or the response to requests for admission. In connection with any arbitration, each party to the arbitration shall provide to the other, no later than seven business days before the date of the arbitration, the identity of all persons that may testify at the arbitration and a copy of all documents that may be introduced at the arbitration or considered or used by a party's witness or expert. The arbitrator's decision and award shall be made and delivered within six (6) months of the selection of the arbitrator. The arbitrator's decision shall set forth a reasoned basis for any award of damages or finding of liability. The arbitrator shall not have power to award damages in excess of actual compensatory damages and shall not multiply actual damages or award punitive damages, and each party hereby irrevocably waives any claim to such damages.

(c) The Company, the Optionee, each party to the Agreement and any other holder of Shares issued pursuant to this Agreement (each, a "Party") covenants and agrees that such party will participate in the arbitration in good faith. This Section 7 applies equally to requests for temporary, preliminary or permanent injunctive relief, except that in the case of temporary or preliminary injunctive relief any party may proceed in court without prior arbitration for the limited purpose of avoiding immediate and irreparable harm.

(d) Each Party (i) hereby irrevocably submits to the jurisdiction of any United States District Court of competent jurisdiction for the purpose of enforcing the award or decision in any such proceeding, (ii) hereby waives, and agrees not to assert, by way of motion, as a defense, or otherwise, in any such suit, action or proceeding, any claim that it is not subject personally to the jurisdiction of the above named courts, that its property is exempt or immune from attachment or execution (except as protected by applicable law), that the suit, action or proceeding is brought in an inconvenient forum, that the venue of the suit, action or proceeding is improper or that this Agreement or the subject matter hereof may not be enforced in or by such court, and (iii) hereby waives and agrees not to seek any review by any court of any other jurisdiction which may be called upon to grant an enforcement of the judgment of any such court. Each Party hereby consents to service of process by registered mail at the address to which notices are to be given. Each Party agrees that its, his or her submission to jurisdiction and its, his or her consent to service of process by mail is made for the express benefit of each other Party. Final judgment against any Party in any such action, suit or proceeding may be enforced in other jurisdictions by suit, action or proceeding on the judgment, or in any other manner provided by or pursuant to the laws of such other jurisdiction.

[SIGNATURE PAGE FOLLOWS]

The foregoing Agreement is hereby accepted and the terms and conditions thereof hereby agreed to by the undersigned as of the date first above written.

**SAGE THERAPEUTICS, INC.**

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_  
Address: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

The undersigned hereby acknowledges receiving and reviewing a copy of the Plan, including, without limitation, Section 9 thereof, and understands that this Stock Option is subject to the terms of the Plan and of this Agreement. This Agreement is hereby accepted, and the terms and conditions of the Plan, the Grant Notice and this Agreement, SPECIFICALLY INCLUDING THE ARBITRATION PROVISIONS SET FORTH IN SECTION 7 OF THIS AGREEMENT, are hereby agreed to, by the undersigned as of the date first above written.

OPTIONEE:

\_\_\_\_\_  
Name: \_\_\_\_\_  
Address: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

[SPOUSE'S CONSENT<sup>2</sup>

I acknowledge that I have read the foregoing Non-Qualified Stock Option Agreement and understand the contents thereof.

\_\_\_\_\_ ]

<sup>2</sup> A spouse's consent is recommended only if the Optionee's state of residence is one of the following community property states: Arizona, California, Idaho, Louisiana, Nevada, New Mexico, Texas, Washington and Wisconsin.

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DESIGNATED BENEFICIARY:

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Beneficiary's Address:

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Appendix A

**STOCK OPTION EXERCISE NOTICE**

Sage Therapeutics, Inc.  
Attention: President

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Pursuant to the terms of the grant notice and stock option agreement between the undersigned and Sage Therapeutics, Inc. (the "Company") dated (the "Agreement") under the Sage Therapeutics, Inc. 2011 Stock Option and Grant Plan, I, [Insert Name], hereby [Circle One] partially/fully exercise such option by including herein payment in the amount of \$ \_\_\_\_\_ representing the purchase price for [Fill in number of Shares] Shares. I have chosen the following form(s) of payment:

- 1. Cash
- 2. Certified or bank check payable to Sage Therapeutics, Inc.
- 3. Other (as referenced in the Agreement and described in the Plan (please describe))  
\_\_\_\_\_

In connection with my exercise of the option as set forth above, I hereby represent and warrant to the Company as follows:

(i) I am purchasing the Shares for my own account for investment only, and not for resale or with a view to the distribution thereof.

(ii) I have had such an opportunity as I have deemed adequate to obtain from the Company such information as is necessary to permit me to evaluate the merits and risks of my investment in the Company and have consulted with my own advisers with respect to my investment in the Company.

(iii) I have sufficient experience in business, financial and investment matters to be able to evaluate the risks involved in the purchase of the Shares and to make an informed investment decision with respect to such purchase.

(iv) I can afford a complete loss of the value of the Shares and am able to bear the economic risk of holding such Shares for an indefinite period of time.

(v) I understand that the Shares may not be registered under the Securities Act of 1933 (it being understood that the Shares are being issued and sold in reliance on the exemption provided in Rule 701 thereunder) or any applicable state securities or "blue sky" laws and may not be sold or otherwise transferred or disposed of in the absence of an effective registration statement under the Securities Act of 1933 and under any applicable state securities or "blue sky" laws (or exemptions from the registration requirement thereof). I further

acknowledge that certificates representing Shares will bear restrictive legends reflecting the foregoing and/or that book entries for uncertificated Shares will include similar restrictive notations.

(vi) I have read and understand the Plan and acknowledge and agree that the Shares are subject to all of the relevant terms of the Plan, including without limitation, the transfer restrictions set forth in Section 9 of the Plan.

(vii) I understand and agree that the Company has a right of first refusal with respect to the Shares pursuant to Section 9(b) of the Plan.

(viii) I understand and agree that the Company has certain repurchase rights with respect to the Shares pursuant to Section 9(c) of the Plan.

(ix) I understand and agree that I may not sell or otherwise transfer or dispose of the Shares for a period of time following the effective date of a public offering by the Company as described in Section 9(f) of the Plan.

(x) I hereby agree to be bound by and subject to the terms of that certain Stockholders Agreement dated as of September [ ], 2011, as may be amended from time to time, by and among the Company and the other parties named therein (the "Stockholders Agreement") as a Key Holder (as defined in the Stockholders Agreement).

Sincerely yours,

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Name:

Address:

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**RESTRICTED STOCK AWARD NOTICE  
UNDER THE SAGE THERAPEUTICS, INC.  
2011 STOCK OPTION AND GRANT PLAN**

Pursuant to the Sage Therapeutics, Inc. 2011 Stock Option and Grant Plan (the "Plan"), Sage Therapeutics, Inc., a Delaware corporation (together with any successor, the "Company"), hereby grants, sells and issues to the individual named below, the Shares at the Per Share Purchase Price, subject to the terms and conditions set forth in this Restricted Stock Award Notice (the "Award Notice"), the attached Restricted Stock Agreement (the "Agreement") and the Plan. The Grantee agrees to the provisions set forth herein and acknowledges that each such provision is a material condition of the Company's agreement to issue and sell the Shares to him or her. The Company hereby acknowledges receipt of \$[ ] in full payment for the Shares. All references to share prices and amounts herein shall be equitably adjusted to reflect stock splits, stock dividends, recapitalizations, mergers, reorganizations and similar changes affecting the capital stock of the Company, and any shares of capital stock of the Company received on or in respect of Shares in connection with any such event (including any shares of capital stock or any right, option or warrant to receive the same or any security convertible into or exchangeable for any such shares or received upon conversion of any such shares) shall be subject to this Agreement on the same basis and extent at the relevant time as the Shares in respect of which they were issued, and shall be deemed Shares as if and to the same extent they were issued at the date hereof.

Name of Grantee: (the "Grantee")  
No. of Shares: Shares of Common Stock (the "Shares")  
Grant Date: ,  
Vesting Commencement Date: , (the "Vesting Commencement Date")  
Per Share Purchase Price: \$ (the "Per Share Purchase Price")

Vesting Schedule: [25] percent of the Shares shall vest on the [first] anniversary of the Vesting Commencement Date; provided that the Grantee continues to have a Service Relationship with the Company at such time. Thereafter, the remaining [75] percent of the Shares shall vest in [36] equal monthly installments at the end of each month following the first anniversary of the Vesting Commencement Date, provided the Grantee continues to have a Service Relationship with the Company at such time. Notwithstanding anything in the Agreement to the contrary in the case of a Sale Event, the Shares of Restricted Stock shall be treated as provided in Section 3(c) of the Plan **;** **provided, however INSERT ANY ACCELERATED VESTING PROVISION HERE].**



**RESTRICTED STOCK AGREEMENT  
UNDER THE SAGE THERAPEUTICS, INC.  
2011 STOCK OPTION AND GRANT PLAN**

All capitalized terms used herein and not otherwise defined shall have the respective meanings set forth in the Award Notice and the Plan.

1. PURCHASE AND SALE OF SHARES; VESTING; INVESTMENT REPRESENTATIONS.

(a) Purchase and Sale. The Company hereby sells to the Grantee, and the Grantee hereby purchases from the Company, the number of Shares set forth in the Award Notice for the Per Share Purchase Price.

(b) Vesting. Initially, all of the Shares are non-transferable and subject to a substantial risk of forfeiture and are Shares of Restricted Stock. The risk of forfeiture shall lapse with respect to the Shares on the respective dates indicated on the Vesting Schedule set forth in the Award Notice.

(c) Investment Representations. In connection with the purchase and sale of the Shares contemplated by Section 1(a) above, the Grantee hereby represents and warrants to the Company as follows:

(i) The Grantee is purchasing the Shares for the Grantee's own account for investment only, and not for resale or with a view to the distribution thereof.

(ii) The Grantee has had such an opportunity as he or she has deemed adequate to obtain from the Company such information as is necessary to permit him or her to evaluate the merits and risks of the Grantee's investment in the Company and has consulted with the Grantee's own advisers with respect to the Grantee's investment in the Company.

(iii) The Grantee has sufficient experience in business, financial and investment matters to be able to evaluate the risks involved in the purchase of the Shares and to make an informed investment decision with respect to such purchase.

(iv) The Grantee can afford a complete loss of the value of the Shares and is able to bear the economic risk of holding such Shares for an indefinite period.

(v) The Grantee understands that the Shares are not registered under the Act (it being understood that the Shares are being issued and sold in reliance on the exemption provided in Rule 701 thereunder) or any applicable state securities or "blue sky" laws and may not be sold or otherwise transferred or disposed of in the absence of an effective registration statement under the Act and under any applicable state securities or "blue sky" laws (or exemptions from the registration requirements thereof). The Grantee further acknowledges that certificates representing the Shares will bear restrictive legends reflecting the foregoing and/or that book entries for uncertificated Shares will include similar restrictive notations.

(vi) The Grantee has read and understands the Plan and acknowledges and agrees that the Shares are subject to all of the relevant terms of the Plan, including without limitation, the transfer restrictions set forth in Section 9 of the Plan.

(vii) The Grantee understands and agrees that the Company has a right of first refusal with respect to the Shares pursuant to Section 9(b) of the Plan.

(viii) The Grantee understands and agree that the Company has certain repurchase rights with respect to the Shares pursuant to Section 9(c) of the Plan.

(ix) The Grantee understands and agrees that the Grantee may not sell or otherwise transfer or dispose of the Shares for a period of time following the effective date of a public offering by the Company as described in Section 9(f) of the Plan.

2. REPURCHASE RIGHT. UPON A TERMINATION EVENT OR OTHER REPURCHASE EVENT, THE COMPANY SHALL HAVE THE RIGHT TO REPURCHASE THE SHARES AS SET FORTH IN SECTION 9(C) OF THE PLAN; PROVIDED, HOWEVER, THAT IN THE CASE OF A TERMINATION EVENT, THE COMPANY SHALL ONLY HAVE THE RIGHT TO REPURCHASE SHARES OF RESTRICTED STOCK THAT ARE UNVESTED AS OF THE DATE OF SUCH TERMINATION EVENT.

3. RESTRICTIONS ON TRANSFER OF SHARES. THE SHARES (WHETHER OR NOT VESTED) SHALL BE SUBJECT TO CERTAIN TRANSFER RESTRICTIONS AND OTHER LIMITATIONS INCLUDING, WITHOUT LIMITATION, THE PROVISIONS CONTAINED IN SECTION 9 OF THE PLAN

4. INCORPORATION OF PLAN. NOTWITHSTANDING ANYTHING HEREIN TO THE CONTRARY, THIS RESTRICTED STOCK AWARD SHALL BE SUBJECT TO AND GOVERNED BY ALL THE TERMS AND CONDITIONS OF THE PLAN.

5. MISCELLANEOUS PROVISIONS.

(a) Record Owner; Dividends. The Grantee and any Permitted Transferees, during the duration of this Agreement, shall be considered the record owners of and shall be entitled to vote the Shares if and to the extent the Shares are entitled to voting rights. The Grantee and any Permitted Transferees shall be entitled to receive all dividends and any other distributions declared on the Shares; provided, however, that the Company is under no duty to declare any such dividends or to make any such distribution.

(b) Section 83(b) Election. The Grantee shall consult with the Grantee's tax advisor to determine whether it would be appropriate for the Grantee to make an election under Section 83(b) of the Code with respect to this Award. Any such election must be filed with the Internal Revenue Service within thirty (30) days of the date of this Award. If the Grantee makes an election under Section 83(b) of the Code, the Grantee shall give prompt notice to the Company (and provide a copy of such election to the Company).

(c) Equitable Relief. The parties hereto agree and declare that legal remedies may be inadequate to enforce the provisions of this Agreement and that equitable relief, including specific performance and injunctive relief, may be used to enforce the provisions of this Agreement.

(d) Change and Modifications. This Agreement may not be orally changed, modified or terminated, nor shall any oral waiver of any of its terms be effective. This Agreement may be changed, modified or terminated only by an agreement in writing signed by the Company and the Grantee.

(e) Governing Law. This Agreement shall be governed by and construed in accordance with the General Corporation Law of the State of Delaware as to matters within the scope thereof, and as to all other matters shall be governed by and construed in accordance with the internal laws of the Commonwealth of Massachusetts, without regard to conflict of law principles that would result in the application of any law other than the law of the Commonwealth of Massachusetts.

(f) Headings. The headings are intended only for convenience in finding the subject matter and do not constitute part of the text of this Agreement and shall not be considered in the interpretation of this Agreement.

(g) Saving Clause. If any provision(s) of this Agreement shall be determined to be illegal or unenforceable, such determination shall in no manner affect the legality or enforceability of any other provision hereof.

(h) Notices. All notices, requests, consents and other communications shall be in writing and be deemed given when delivered personally, by telex or facsimile transmission or when received if mailed by first class registered or certified mail, postage prepaid. Notices to the Company or the Grantee shall be addressed as set forth underneath their signatures below, or to such other address or addresses as may have been furnished by such party in writing to the other.

(i) Benefit and Binding Effect. This Agreement shall be binding upon and shall inure to the benefit of the parties hereto, their respective successors, assigns, and legal representatives. The Company has the right to assign this Agreement, and such assignee shall become entitled to all the rights of the Company hereunder to the extent of such assignment.

(j) Counterparts. For the convenience of the parties and to facilitate execution, this Agreement may be executed in two or more counterparts, each of which shall be deemed an original, but all of which shall constitute one and the same document.

(k) Integration. This Agreement constitutes the entire agreement between the parties with respect to this Award and supersedes all prior agreements and discussions between the parties concerning such subject matter.

## 6. DISPUTE RESOLUTION.

(a) Except as provided below, any dispute arising out of or relating to the Plan or the Shares, this Agreement, or the breach, termination or validity of the Plan, the Shares or this Agreement, shall be finally settled by binding arbitration conducted expeditiously in accordance with the J.A.M.S./Endispute Comprehensive Arbitration Rules and Procedures (the "J.A.M.S. Rules"). The arbitration shall be governed by the United States Arbitration Act, 9 U.S.C. Sections 1 - 16, and judgment upon the award rendered by the arbitrators may be entered by any court having jurisdiction thereof. The place of arbitration shall be Boston, Massachusetts.

(b) The arbitration shall commence within sixty (60) days of the date on which a written demand for arbitration is filed by any party hereto. In connection with the arbitration proceeding, the arbitrator shall have the power to order the production of documents by each party and any third-party witnesses. In addition, each party may take up to three depositions as of right, and the arbitrator may in his or her discretion allow additional depositions upon good cause shown by the moving party. However, the arbitrator shall not have the power to order the answering of interrogatories or the response to requests for admission. In connection with any arbitration, each party to the arbitration shall provide to the other, no later than seven business days before the date of the arbitration, the identity of all persons that may testify at the arbitration and a copy of all documents that may be introduced at the arbitration or considered or used by a party's witness or expert. The arbitrator's decision and award shall be made and delivered within six (6) months of the selection of the arbitrator. The arbitrator's decision shall set forth a reasoned basis for any award of damages or finding of liability. The arbitrator shall not have power to award damages in excess of actual compensatory damages and shall not multiply actual damages or award punitive damages, and each party hereby irrevocably waives any claim to such damages.

(c) The Company, the Grantee, each party to the Agreement and any other holder of Shares issued pursuant to this Agreement (each, a "Party") covenants and agrees that such party will participate in the arbitration in good faith. This Section 6 applies equally to requests for temporary, preliminary or permanent injunctive relief, except that in the case of temporary or preliminary injunctive relief any party may proceed in court without prior arbitration for the limited purpose of avoiding immediate and irreparable harm.

(d) Each Party (i) hereby irrevocably submits to the jurisdiction of any United States District Court of competent jurisdiction for the purpose of enforcing the award or decision in any such proceeding, (ii) hereby waives, and agrees not to assert, by way of motion, as a defense, or otherwise, in any such suit, action or proceeding, any claim that it is not subject personally to the jurisdiction of the above named courts, that its property is exempt or immune from attachment or execution (except as protected by applicable law), that the suit, action or proceeding is brought in an inconvenient forum, that the venue of the suit, action or proceeding is improper or that this Agreement or the subject matter hereof may not be enforced in or by such court, and (iii) hereby waives and agrees not to seek any review by any court of any other jurisdiction which may be called upon to grant an enforcement of the judgment of any such court. Each Party hereby consents to service of process by registered mail at the address to which notices are to be given. Each Party agrees that its, his or her submission to jurisdiction and its, his or her consent to service of process by mail is made for the express benefit of each

other Party. Final judgment against any Party in any such action, suit or proceeding may be enforced in other jurisdictions by suit, action or proceeding on the judgment, or in any other manner provided by or pursuant to the laws of such other jurisdiction.

[SIGNATURE PAGE FOLLOWS]

The foregoing Restricted Stock Agreement is hereby accepted and the terms and conditions thereof are hereby agreed to by the undersigned as of the date first above written.

**SAGE THERAPEUTICS, INC.**

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_  
Address: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

The undersigned hereby acknowledges receiving and reviewing a copy of the Plan, including, without limitation, Section 9 thereof and understands that the Shares granted hereby are subject to the terms of the Plan and of this Agreement. This Agreement is hereby accepted, and the terms and conditions of the Plan, the Award Notice and this Agreement, SPECIFICALLY INCLUDING THE ARBITRATION PROVISIONS SET FORTH IN SECTION 6 OF THIS AGREEMENT, are hereby agreed to, by the undersigned as of the date first above written.

**GRANTEE:**

\_\_\_\_\_  
Name: \_\_\_\_\_  
Address: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

[SPOUSE'S CONSENT<sup>3</sup>  
I acknowledge that I have read the  
foregoing Restricted Stock Agreement  
and understand the contents thereof.

\_\_\_\_\_ ]

<sup>3</sup> A spouse's consent is required only if the Grantee's state of residence is one of the following community property states: Arizona, California, Idaho, Louisiana, New Mexico, Nevada, Texas, Washington and Wisconsin.



## LEASE AGREEMENT

THIS LEASE AGREEMENT (this “**Lease**”) is made this 21 day of December, 2011, between **ARE-MA REGION NO. 38, LLC**, a Delaware limited liability company (“**Landlord**”), and **SAGE THERAPEUTICS, INC.**, a Delaware corporation (“**Tenant**”).

## BASIC LEASE PROVISIONS

**Address:** 215 First Street, Cambridge, MA 02142

**Premises:** That portion of the second floor of the Building (as defined below) containing approximately 5,900 rentable square feet, as determined by Landlord, as shown on **Exhibit A**.

**Shared Conference Facility:** That portion of the Building depicted as the “Shared Conference Facility” on **Exhibit C** attached hereto, subject to adjustment and relocation by Landlord from time to time.

**Project:** The real property on which the Building is located, together with all improvements thereon and appurtenances thereto as described on **Exhibit D**.

**Building:** That building located on the Project and commonly known and numbered as 215 First Street, Cambridge, Massachusetts.

**Base Rent:** Months 1 – 12: \$37.50 per rsf of the Premises per year  
Months 13 – 24: \$38.50 per rsf of the Premises per year  
Months 25 – 36: \$39.50 per rsf of the Premises per year  
Months 37 – 48: \$40.50 per rsf of the Premises per year  
Months 49 – 60: \$41.50 per rsf of the Premises per year

**Rentable Area of Premises:** Approximately 5,900 rentable square feet.

**Rentable Area of Project:** Approximately 366,719 rentable square feet.

**Tenant’s Share:** 1.61%.

**Security Deposit:** \$38,842

**Target Commencement Date:** February 15, 2012

**Base Year for Operating Expenses:** 2012

**Base Year for Taxes:** July 1, 2012 – June 30, 2013

**Term:** Beginning on the Commencement Date and ending 60 months from the first day of the first full month commencing on or after the Commencement Date.

**Permitted Use:** Office and related uses consistent with the character of the Project and otherwise in compliance with the provisions of Section 7 hereof.

**Address for Rent Payment:**

P.O. Box 975383  
Dallas, TX 75397-5383

**Landlord's Notice Address:**

385 East Colorado Boulevard,  
Suite 299  
Pasadena, CA 91101  
Attention: Corporate Secretary  
Facsimile: 626-578-0770

**Tenant's Notice Address:**

215 First Street, Suite 430  
Cambridge, MA 02142  
Attention: Lease Administrator

**1. Lease of Premises; Right to Use Common Areas; License to Shared Areas.**

(a) **Lease of Premises; Common Areas.** Upon and subject to all of the terms and conditions hereof, Landlord hereby leases the Premises to Tenant and Tenant hereby leases the Premises from Landlord. The portions of the Project that are for the non-exclusive use of tenants of the Project (including but not limited to the restrooms, elevators, stairways, lobbies, corridors, walkways and Building entrances) are collectively referred to herein as the "**Common Areas.**" Tenant shall have the non-exclusive right to use the Common Areas of the Project, excluding the (i) shared science facility located at the Project, which Tenant shall have no right to use, and (ii) Shared Conference Facility to which Tenant's rights are as set forth in Section 1(b) below. Landlord reserves the right to modify, reconfigure and relocate the Common Areas, provided that such modifications, reconfigurations or relocations do not affect Tenant's use of the Premises for the Permitted Use. Notwithstanding the foregoing, no interruption in Building Systems, services or Utilities, from any cause whatsoever, in connection with any work to effect any such modification, reconfiguration or relocation shall result in eviction or constructive eviction of Tenant, termination of this Lease or the abatement of Rent. Landlord reserves the right to change the form of ownership of the Project or any part thereof. From and after the Commencement Date through the expiration of the Term, Tenant shall have access to the Building and the Premises 24 hours a day, 7 days a week, except in the case of emergencies, as the result of Legal Requirements, the performance by Landlord of any installation, maintenance or repairs, or any other temporary interruptions, and otherwise subject to the terms of this Lease.

(b) **Shared Conference Facility.** Concurrently with the execution and delivery of this Lease by Tenant, Tenant shall execute and deliver to Landlord a license agreement in the form attached as **Exhibit E** attached hereto (the "**License Agreement**"). Tenant shall have the non-exclusive right to use the Shared Conference Facility pursuant to the terms and conditions of the License Agreement. Tenant shall have no right to use or access the Shared Conference Facility, except as provided in the License Agreement.

**2. Delivery; Acceptance of Premises; Commencement Date.** Landlord shall use reasonable efforts to deliver the Premises to Tenant on or before the Target Commencement Date, vacant, broom clean and free of all occupants, personal property and debris, with Landlord's Work Substantially Completed ("**Delivery**" or "**Deliver**"). If Landlord fails to so Deliver the Premises on or before the Target Commencement Date, Landlord shall not be liable to Tenant for any loss or damage resulting therefrom, and this Lease shall not be void or voidable except as provided herein. If Landlord does not Deliver the Premises within 60 days of the Target Commencement Date for any reason other than Force Majeure delays and Tenant Delays, this Lease may be terminated by Landlord or Tenant by written notice to the other (except that Landlord shall have no right to terminate this Lease other than in the event of Force Majeure), and if so terminated by either: (a) any Rent paid prior to the date of such termination (except any Rent paid for any time period that Tenant occupied the Premises and conducted its business therein) the Security Deposit, or any balance thereof (i.e., after deducting therefrom all amounts to which Landlord is entitled under the provisions of this Lease), shall be returned to Tenant, and (b) neither Landlord nor Tenant shall have any further rights, duties or obligations under this Lease, except with respect to provisions which expressly survive termination of this Lease. As used herein, the terms "**Landlord's Work,**" "**Tenant Delays**" and "**Substantially Completed**" shall have the meanings set forth for such terms in the work letter attached to this Lease as **Exhibit F** ("**Work Letter**"). If neither Landlord nor Tenant elects to void this Lease within 5 business days of the lapse of such 60 day period pursuant to this Section 2, such right to void this Lease shall be waived and this Lease shall remain in full force and effect. In addition to Landlord's Work, Landlord shall install carpet in the break room area only of the premises located directly above the Premises. Landlord shall endeavor to complete such carpet installation prior to the Commencement Date.

The “**Commencement Date**” shall be the earlier of: (i) the date Landlord Delivers the Premises to Tenant; and (ii) the date Landlord could have Delivered the Premises but for Tenant Delays; provided, however, that in no event shall the Commencement Date occur prior to February 1, 2012. Upon request of Landlord, Tenant shall execute and deliver a written acknowledgment of the Commencement Date and the expiration date of the Term when such are established in the form of the “Acknowledgement of Commencement Date” attached to this Lease as **Exhibit G**; provided, however, Tenant’s failure to execute and deliver such acknowledgment shall not affect Landlord’s rights hereunder. The “**Term**” of this Lease shall be as defined above in the Basic Lease Provisions and the Extension Term which Tenant may elect pursuant to Section 34 hereof.

Except as set forth in this Lease: (i) Tenant shall accept the Premises in their condition as of the Commencement Date, subject to all applicable Legal Requirements (as defined in Section 7 hereof); (ii) Landlord shall have no obligation for any defects in the Premises; and (iii) Tenant’s taking possession of the Premises shall be conclusive evidence that Tenant accepts the Premises and that the Premises were in good condition at the time possession was taken. The Premises shall be delivered to Tenant without any furniture.

Subject to the provisions of Section 6 of the Work Letter, Landlord shall permit Tenant access to the Premises commencing on the date that is 30 days prior to the Commencement Date for Tenant’s installation and set up of its operational wiring and work stations, furniture and other equipment in the Premises (“**FF&E Installation**”), provided that such FF&E Installation is coordinated with Landlord, and Tenant complies with the Lease and all other reasonable restrictions and conditions Landlord may impose. All such access shall be during normal business hours. Any access to the Premises by Tenant before the Commencement Date shall be subject to all of the terms and conditions of this Lease, excluding the obligation to pay Base Rent and Operating Expenses.

Tenant agrees and acknowledges that neither Landlord nor any agent of Landlord has made any representation or warranty with respect to the condition of all or any portion of the Premises or the Project, and/or the suitability of the Premises or the Project for the conduct of Tenant’s business, and Tenant waives any implied warranty that the Premises or the Project are suitable for the Permitted Use. This Lease constitutes the complete agreement of Landlord and Tenant with respect to the subject matter hereof and supersedes any and all prior representations, inducements, promises, agreements, understandings and negotiations which are not contained herein.

### 3. **Base Rent.**

(a) The first month’s Base Rent and Security Deposit shall be due and payable on delivery of an executed copy of this Lease to Landlord. Tenant shall pay to Landlord in advance, equal monthly installments of Base Rent on or before the first day of each calendar month during the Term hereof, in lawful money of the United States of America, at the office or address of Landlord for payment of Rent set forth above. If the Commencement Date is other than the first day of a calendar month, the difference between the first full calendar month’s Base Rent paid pursuant to the first sentence of this Section 3(a), and the prorated Base Rent for the fractional month in which the Commencement Date occurs shall be applied by Landlord to the first full calendar month after the Commencement Date. Base Rent shall be increased during the Base Term as provided for in the schedule set forth on page 1 of this Lease. Base Rent adjustments for any fractional calendar month shall be prorated.

(b) In addition to Base Rent, Tenant agrees to pay to Landlord as additional rent (“**Additional Rent**”): (i) Tenant’s Share of “Excess Operating Expenses” (as defined in Section 4), and (ii) any and all other amounts Tenant assumes or agrees to pay under the provisions of this Lease, including, without limitation, any and all other sums that may become due by reason of any default of Tenant or failure to comply with the agreements, terms, covenants and conditions of this Lease to be performed by Tenant, after any applicable notice and cure period. Tenant’s obligation to pay Base Rent and Additional Rent hereunder are collectively referred to herein as “**Rent**”.

**4. Operating Expense Payments.** Landlord shall deliver to Tenant a written estimate of Excess Operating Expenses for each calendar year during the Term after the Base Year for Operating Expenses (together, the “**Annual Estimate of Excess Operating Expenses**”), which may be revised by Landlord from time to time during such calendar year. During each month of the Term after the Base Year for Operating Expenses, on the same date that Base Rent is due, Tenant shall pay Landlord an amount equal to 1/12th of Tenant’s Share of Operating Expenses and 1/12th of Tenant’s Share of the Annual Estimate of Excess Operating Expenses as shown on the Annual Estimate of Excess Operating Expenses. Payments for any fractional calendar month shall be prorated. The term “**Excess Operating Expenses**” means (i) with respect to Operating Expenses (other than Taxes), Operating Expenses (other than Taxes) for the applicable year in excess of Operating Expenses for the Base Year for Operating Expenses, and (ii) with respect to Taxes, Taxes for the applicable year in excess of Taxes for the Base Year for Taxes.

The term “**Operating Expenses**” means all costs and expenses of any kind or description whatsoever incurred or accrued each calendar year by Landlord with respect to the Project (including, without duplication, Taxes (as defined below in this Section 4), transportation services (including costs associated with Landlord’s participation in the EZ-Ride shuttle or a successor shuttle service), capital repairs, replacements and improvements to the Project the purpose of which is to reduce Operating Expenses and/or to comply with Legal Requirements first made effective after the date of this Lease, which capital repairs, replacements and capital improvements are in each case amortized over the lesser of 7 years and the useful life of such capital items, and the costs of Landlord’s third party property manager (which shall not exceed 3% of Base Rent) or, if there is no third party property manager, administration rent in the amount of 3.0% of Base Rent), excluding only:

- (a) the original construction costs of the Project and renovation prior to the date of the Lease and costs of correcting defects in such original construction or renovation;
- (b) capital expenditures for expansion of the Project or capital improvements that are not for the purpose of reducing Operating Expenses and/or complying with Legal Requirements first made effective after the date of this Lease;
- (c) interest, principal payments of Mortgage (as defined in Section 23) debts of Landlord, financing costs and amortization of funds borrowed by Landlord, whether secured or unsecured and all payments of base rent (but not taxes or operating expenses) under any ground lease or other underlying lease of all or any portion of the Project;
- (d) depreciation of the Project (except for those capital improvements, the cost of which are includable in Operating Expenses as provided above in this Section 4);
- (e) advertising, legal and space planning expenses and leasing commissions and other costs and expenses incurred in procuring and leasing space to tenants for the Project, including any leasing office maintained in the Project, free rent and construction allowances for tenants;
- (f) legal and other expenses incurred in the negotiation or enforcement of leases;
- (g) completing, fixturing, improving, renovating, painting, redecorating or other work, which Landlord pays for or performs for other tenants within their premises, and costs of correcting defects in such work;
- (h) costs of utilities outside normal business hours sold to tenants of the Project;

- (i) costs to be reimbursed by other tenants of the Project or Taxes to be paid directly by Tenant or other tenants of the Project, whether or not actually paid;
- (j) salaries, wages, benefits and other compensation paid to officers and employees of Landlord who are not assigned in whole or in part to the operation, management, maintenance or repair of the Project;
- (k) general organizational, administrative and overhead costs relating to maintaining Landlord's existence, either as a corporation, partnership, or other entity, including general corporate, legal and accounting expenses;
- (l) costs (including attorneys' fees and costs of settlement, judgments and payments in lieu thereof) incurred in connection with disputes with tenants, other occupants, or prospective tenants, and costs and expenses, including legal fees, incurred in connection with negotiations or disputes with employees, consultants, management agents, leasing agents, purchasers or mortgagees of the Building;
- (m) costs incurred by Landlord due to the violation by Landlord, its employees, agents or contractors or any tenant of the terms and conditions of any lease of space in the Project or any Legal Requirement (as defined in Section 6);
- (n) penalties, fines or interest incurred as a result of Landlord's inability or failure to make payment of Taxes and/or to file any tax or informational returns when due, or from Landlord's failure to make any payment of Taxes required to be made by Landlord hereunder before delinquency;
- (o) overhead and profit increment paid to Landlord or to subsidiaries or affiliates of Landlord for goods and/or services in or to the Project to the extent the same exceeds the costs of such goods and/or services rendered by unaffiliated third parties on a competitive basis;
- (p) costs of Landlord's charitable or political contributions, or of fine art maintained at the Project;
- (q) costs in connection with services (including electricity), items or other benefits of a type which are not standard for the Project and which are not available to Tenant without specific charges therefor, but which are provided to another tenant or occupant of the Project, whether or not such other tenant or occupant is specifically charged therefor by Landlord;
- (r) costs incurred in the sale or refinancing of the Project;
- (s) net income taxes of Landlord or the owner of any interest in the Project, franchise, capital stock, gift, estate or inheritance taxes or any federal, state or local documentary taxes imposed against the Project or any portion thereof or interest therein;
- (t) any expenses otherwise includable within Operating Expenses to the extent actually reimbursed by persons other than tenants of the Project under leases for space in the Project; and
- (u) costs incurred in connection with the clean-up, response action or remediation of Hazardous Materials on the Project or in the Premises that Tenant demonstrates to Landlord's reasonable satisfaction were present on the Project or in the Premises prior to the date of this Lease, except to the extent Tenant and/or any of the Tenant Parties have exacerbated or contributed to such contamination.

Within 90 days after the end of each calendar year (or such longer period as may be reasonably required), Landlord shall furnish to Tenant a statement (an "**Annual Statement**") showing in reasonable detail: (a) the actual totals of Operating Expenses, Tenant's Share of Excess Operating Expenses, in

each case for the previous calendar year, and (b) the total of Tenant's payments in respect of Excess Operating Expenses for such year. If Tenant's Share of actual Excess Operating Expenses for such year exceeds Tenant's payments of Excess Operating Expenses for such year, the excess shall be due and payable by Tenant as Rent within 30 days after delivery of such Annual Statement to Tenant. If Tenant's payments of Excess Operating Expenses for such year exceed Tenant's Share of actual Excess Operating Expenses for such year, Landlord shall pay the excess to Tenant within 30 days after delivery of such Annual Statement, except that after the expiration, or earlier termination of the Term or if Tenant is delinquent in its obligation to pay Rent, Landlord shall pay the excess to Tenant after deducting all other amounts due Landlord.

The Annual Statement shall be final and binding upon Tenant unless Tenant, within 90 days after Tenant's receipt thereof, shall contest any item therein by giving written notice to Landlord, specifying each item contested and the reason therefor. If, during such 90 day period, Tenant reasonably and in good faith questions or contests the accuracy of Landlord's statement of Tenant's Share of Excess Operating Expenses, Landlord will provide Tenant with access to Landlord's books and records relating to the operation of the Project and such information as Landlord reasonably determines to be responsive to Tenant's questions (the "**Expense Information**"). If after Tenant's review of such Expense Information, Landlord and Tenant cannot agree upon the amount of Tenant's Share of Excess Operating Expenses then Tenant shall have the right to have an independent public accounting firm selected by Tenant, working pursuant to a fee arrangement other than a contingent fee (at Tenant's sole cost and expense) and approved by Landlord (which approval shall not be unreasonably withheld or delayed), audit and/or review the Expense Information for the year in question (the "**Independent Review**"). The results of any such Independent Review shall be binding on Landlord and Tenant. If the Independent Review shows that the payments actually made by Tenant with respect to Excess Operating Expenses for the calendar year in question exceeded Tenant's Share of Excess Operating Expenses for such calendar year, Landlord shall at Landlord's option either (i) credit the excess amount to the next succeeding installments of estimated Excess Operating Expenses or (ii) pay the excess to Tenant within 30 days after delivery of such statement, except that after the expiration or earlier termination of this Lease or if Tenant is delinquent in its obligation to pay Rent, Landlord shall pay the excess to Tenant after deducting all other amounts due Landlord. If the Independent Review shows that Tenant's payments with respect to Excess Operating Expenses for such calendar year were less than Tenant's Share of Excess Operating Expenses for the calendar year, Tenant shall pay the deficiency to Landlord within 30 days after delivery of such statement. If the Independent Review shows that Tenant has overpaid with respect to Excess Operating Expenses by more than 5% then Landlord shall reimburse Tenant for all costs incurred by Tenant for the Independent Review.

Excess Operating Expenses for the calendar years in which Tenant's obligation to share therein begins and ends shall include Excess Operating Expenses for whole calendar months in such calendar years and any partial calendar months shall be prorated. Notwithstanding anything set forth herein to the contrary, if the Project is not at least 95% occupied on average during any year of the Term, for such year those expenses included in Tenant's Share of Excess Operating Expenses that vary with the level of occupancy of the Building shall be computed as though the Project had been 95% occupied on average during such year.

"**Tenant's Share**" shall be the percentage set forth in the Basic Lease Provisions as Tenant's Share as reasonably adjusted by Landlord for changes in the physical size of the Premises or the Project occurring thereafter. Landlord may equitably increase Tenant's Share for any item of expense or cost reimbursable by Tenant that relates to a repair, replacement, or service that benefits only the Premises or only a portion of the Project that includes the Premises or that varies with occupancy or use.

Landlord shall pay, as part of Operating Expenses, all taxes, levies, fees, assessments and governmental charges of any kind, existing as of the Commencement Date or thereafter enacted (collectively referred to as "**Taxes**"), imposed by any federal, state, regional, municipal, local or other governmental authority or agency, including, without limitation, quasi-public agencies (collectively, "**Governmental Authority**") during the Term, including, without limitation, all Taxes: (i) imposed on or

measured by or based, in whole or in part, on rent payable to (or gross receipts received by) Landlord under this Lease and/or from the rental by Landlord of the Project or any portion thereof, or (ii) based on the square footage, assessed value or other measure or evaluation of any kind of the Premises, or the Project, or (iii) assessed or imposed by or on the operation or maintenance of any portion of the Premises, or the Project, including parking, or (iv) assessed or imposed by, or at the direction of, or resulting from Legal Requirements, or interpretations thereof, promulgated by, any Governmental Authority, or (v) imposed as a license or other fee, charge, tax or assessment on Landlord's business or occupation of leasing space in the Project. Landlord may contest by appropriate legal proceedings the amount, validity, or application of any Taxes or liens securing Taxes. Taxes shall not include any net income taxes imposed on Landlord except to the extent such net income taxes are in substitution for any Taxes payable hereunder, nor franchise, conveyance, excess profit taxes, transfer taxes, capital stock taxes, estate taxes or excise taxes. Operating Expenses hereunder shall also include the cost of tax monitoring services provided to Landlord with respect to the Project. Tenant shall pay, prior to delinquency, any and all Taxes levied or assessed against any personal property or trade fixtures placed by Tenant in the Premises, whether levied or assessed against Landlord or Tenant. If any Taxes on Tenant's personal property or trade fixtures are levied against Landlord or Landlord's property, or if the assessed valuation of the Project is increased by a value attributable to improvements in or alterations to the Premises, whether owned by Landlord or Tenant and whether or not affixed to the real property so as to become a part thereof, higher than the base valuation on which Landlord from time-to-time allocates Taxes to all tenants in the Project, Landlord shall have the right, but not the obligation, to pay such Taxes. Landlord's determination of any excess assessed valuation shall be binding and conclusive, absent manifest error. The amount of any such payment by Landlord shall constitute Additional Rent due from Tenant to Landlord immediately upon demand. If Landlord shall receive any abatement or refund of Taxes that does not derive from any vacancy in the Building or rent losses and such abatement or refund is for a time period for which Tenant has made payments during the Term, then out of any balance remaining after deducting Landlord's expenses incurred in obtaining such refund or abatement, Landlord shall, at Landlord's option, either (i) credit the excess amount determined by Landlord to be attributable to the Premises to the next succeeding installments of estimated Taxes or (ii) pay the excess amount determined by Landlord to be attributable to the Premises to Tenant within 30 days after delivery of the Annual Statement, except that after the expiration or earlier termination of this Lease or if Tenant is delinquent in its obligation to pay Rent, Landlord shall pay such excess amount determined by Landlord to be attributable to the Premises to Tenant after deducting all other amounts due Landlord. Nothing contained in this Lease shall obligate Landlord to seek a refund or abatement of Taxes.

**5. Security Deposit.** Tenant shall deposit with Landlord, upon delivery of an executed copy of this Lease to Landlord, a security deposit (the "**Security Deposit**") for the performance of all of Tenant's obligations hereunder in the amount set forth in the Basic Lease Provisions, which Security Deposit shall be in the form of an unconditional and irrevocable letter of credit (the "**Letter of Credit**"): (i) in form and substance reasonably satisfactory to Landlord, (ii) naming Landlord as beneficiary, (iii) expressly allowing Landlord to draw upon it at any time from time to time by delivering to the issuer notice that Landlord is entitled to draw thereunder, (iv) issued by a FDIC-insured financial institution satisfactory to Landlord, and (v) redeemable by presentation of a sight draft (which may be presented by delivery by overnight courier) at the financial institution's offices in the United States. With respect to any Letter of Credit given as a Security Deposit or Additional Security Deposit (as defined below) hereunder, if Tenant does not provide Landlord with a substitute Letter of Credit complying with all of the requirements hereof at least 10 days before the stated expiration date of any then current Letter of Credit, Landlord shall have the right to draw the full amount of the current Letter of Credit and hold the funds drawn in cash without obligation for interest thereon as the Security Deposit and, if applicable, the Additional Security Deposit. The Security Deposit and Additional Security Deposit, if any, shall be held by Landlord as security for the performance of Tenant's obligations under this Lease. The Security Deposit and, if any, Additional Security Deposit do not constitute an advance rental deposit or a measure of Landlord's damages in case of Tenant's default. Upon each occurrence of a Default (as defined in [Section 16](#)), Landlord may use all or any part of the Security Deposit and, if any, the Additional Security Deposit to pay delinquent payments due under this Lease, and the cost of any damage, injury, expense or liability caused by such Default, without prejudice to any other remedy provided herein or provided by law

Tenant hereby waives the provisions of any law, now or hereafter in force, which provide that Landlord may claim from a security deposit only those sums reasonably necessary to remedy defaults in the payment of Rent, to repair damage caused by Tenant or to clean the Premises, it being agreed that Landlord may, in addition, claim those sums reasonably necessary to compensate Landlord for any other loss or damage, foreseeable or unforeseeable, caused by the act or omission of Tenant or any officer, employee, agent or invitee of Tenant. Upon any such use of all or any portion of the Security Deposit and/or Additional Security Deposit, Tenant shall, within 5 days after demand from Landlord, restore the Security Deposit to its original amount. If Tenant shall fully perform every provision of this Lease to be performed by Tenant, the Security Deposit, or any balance thereof (i.e., after deducting therefrom all amounts to which Landlord is entitled under the provisions of this Lease), shall be returned to Tenant (or, at Landlord's option, to the last assignee of Tenant's interest hereunder) within 90 days after the expiration or earlier termination of this Lease.

**6. Use.** The Premises shall be used solely for the Permitted Use set forth in the Basic Lease Provisions, in compliance with all laws, orders, judgments, ordinances, regulations, codes, directives, permits, licenses, covenants and restrictions now or hereafter applicable to the Premises, and the use and occupancy thereof (collectively, "**Legal Requirements**"). Tenant will use the Premises in a careful, safe and proper manner and will not commit waste, overload the floor or structure of the Premises, subject the Premises to use that would damage the Premises or obstruct or interfere with the rights of Landlord or other tenants or occupants of the Project, including conducting or giving notice of any auction, liquidation, or going out of business sale on the Premises, or using or allowing the Premises to be used for any unlawful purpose.

**7. Holding Over.** If Tenant remains in possession of the Premises after the expiration or earlier termination of the Term without the express written consent of Landlord, (A) Tenant shall become a tenant at sufferance upon the terms of this Lease except that the monthly rental shall be equal to 150% of the Rent in effect during the last 30 days of the Term, and (B) Tenant shall be responsible for all damages suffered by Landlord resulting from or occasioned by Tenant's holding over, including consequential damages. Acceptance by Landlord of Rent after the expiration of the Term or earlier termination of this Lease shall not result in a renewal or reinstatement of this Lease.

**8. Parking.** Subject to all matters of record, Force Majeure, a casualty or Taking (as defined in Section 15 below) and the exercise by Landlord of its rights hereunder, Landlord shall make available to Tenant at then-current market rates from time to time a license for 6 parking spaces in the surface parking lots at the Project or at the "Brown Lot" at 100 Binney Street, Cambridge, Massachusetts, all of such parking spaces to be on a non-reserved basis; provided, however, that Tenant shall be required to pay for the number of parking spaces that Tenant from time to time elects to license pursuant to this Section 8 (not to exceed 6 parking spaces). As of the Commencement Date, the market parking rate for the parking spaces in such surface lots is \$220 per parking space per month. Tenant shall notify Landlord prior to the Commencement Date as to how many parking spaces (not to exceed 6) that Tenant will initially license hereunder and Tenant shall give Landlord 30 days' notice if it wishes to license additional spaces during the Term, up to 6 spaces in the aggregate hereunder. Landlord shall not be responsible for enforcing Tenant's parking rights against any third parties, including without limitation other tenants of the Project. Landlord shall have the right, exercisable by notice to Tenant given at any time during the Term, to relocate all or a portion of the parking spaces made available to Tenant hereunder to another location within a 7-minute walk of the Building.

#### **9. Utilities, Services.**

(a) The hours of operation of the Project are 8:00 a.m. to 6:00 p.m., Monday through Friday and 8:00 a.m. to 1:00 p.m. on Saturday, legal holidays excepted. Landlord shall provide, subject to the terms of this Section 9, water, electricity, heat and air conditioning ("**HVAC**") (during such hours of operation), light, power, passenger elevator service, telephone (to the central demarcation room only), sewer, and other utilities (including gas and fire sprinklers to the extent the Project is plumbed for such services) to the Premises, the Common Areas and the Shared Conference Facility, and, for the Premises,



Common Areas and Shared Conference Facility, refuse and trash collection and janitorial services (collectively, "**Utilities**"). Upon request, Landlord shall make available at Tenant's sole cost and expense after hours HVAC. The minimum use of after hours HVAC and the cost thereof shall be determined by Landlord and may thereafter be amended by Landlord as the same may change from time to time upon reasonable advance notice to Tenant. Landlord shall pay, as part of Operating Expenses or subject to Tenant's reimbursement obligation, for all Utilities used on the Premises, all maintenance charges for Utilities, and any storm sewer charges or other similar charges for Utilities imposed by any Governmental Authority or Utility provider, and any taxes, penalties, surcharges or similar charges thereon. Electricity serving the Premises will be separately submetered, at Landlord's expense, and electricity to the Premises shall be charged directly to Tenant by Landlord. Landlord may cause, at Landlord's expense, any other Utilities to be separately metered or charged directly to Tenant by the provider. Tenant shall pay directly to the Utility provider, prior to delinquency, any separately metered Utilities and services which may be furnished to Tenant or the Premises during the Term. Tenant shall pay, as part of Operating Expenses, its share of all charges for jointly metered Utilities based upon consumption, as reasonably determined by Landlord. No interruption or failure of Utilities, from any cause whatsoever, shall result in eviction or constructive eviction of Tenant, termination of this Lease or the abatement of Rent. Tenant agrees to limit use of water and sewer with respect to Common Areas to normal restroom use.

(b) Landlord shall, as an Operating Expense, provide janitorial services and trash collection for the Premises, and a dumpster and/or compactor at the loading dock for use by Tenant in common with others entitled thereto for the disposal of non-hazardous and non-controlled substances and material.

(c) Tenant may use the freight elevator and loading dock in common with others entitled thereto at no additional charge. The regular hours of operation of the freight elevator and loading dock are 24 hours per day, 7 days per week, subject to downtime for maintenance and repairs. Tenant shall provide Landlord with advance written notice prior to Tenant's use of the freight elevator and/or loading dock outside of the hours of operation of the Project set forth in Section 9(a), above.

**10. Alterations; Tenant's Property.** Any alterations, additions, or improvements made to the Premises by or on behalf of Tenant, including additional locks or bolts of any kind or nature upon any doors or windows in the Premises, but excluding installation, removal or realignment of furniture systems (other than removal of furniture systems owned or paid for by Landlord) not involving any modifications to the structure or connections (other than by ordinary plugs or jacks) to Building Systems (as defined in Section 11(a) below) ("**Alterations**") shall be subject to Landlord's prior written consent, which may be given or withheld in Landlord's sole discretion if any such Alteration affects the structure or Building Systems, but which shall otherwise not be unreasonably withheld or delayed. If Landlord approves any Alterations, Landlord may impose such conditions on Tenant in connection with the commencement, performance and completion of such Alterations as Landlord may deem appropriate in Landlord's reasonable discretion. Tenant agrees to take such steps as may be required, or as otherwise directed by Landlord, with respect to contractors and subcontractors performing any Alterations to ensure that no labor disruption, strikes, pickets, protests or other similar labor actions occur on or about the Premises in connection with the performance of work on any Alterations. Any request for approval of Alterations shall be in writing, delivered not less than 15 business days in advance of any proposed construction, and accompanied by plans, specifications, bid proposals, work contracts and such other information concerning the nature and cost of the Alterations as may be reasonably requested by Landlord, including the identities and mailing addresses of all persons performing work or supplying materials. Landlord's right to review plans and specifications and to monitor construction shall be solely for its own benefit, and Landlord shall have no duty to ensure that such plans and specifications or construction comply with applicable Legal Requirements. Tenant shall cause, at its sole cost and expense, all Alterations to comply with insurance requirements and with Legal Requirements and shall implement at its sole cost and expense any alteration or modification required by Legal Requirements as a result of any Alterations. Tenant shall pay to Landlord, as Additional Rent, within 10 days after demand Landlord's out-of-pocket expenses for plan review, coordination, scheduling and supervision in connection with any Alterations.

Before Tenant begins any Alteration, Landlord may post on and about the Premises notices of non-responsibility pursuant to applicable law. Tenant shall reimburse Landlord for, and indemnify and hold Landlord harmless from, any expense incurred by Landlord by reason of faulty work done by Tenant or its contractors, delays caused by such work, or inadequate cleanup.

Tenant shall furnish security or make other arrangements satisfactory to Landlord to assure payment for the completion of all Alterations work free and clear of liens, and shall provide (and cause each contractor or subcontractor to provide) certificates of insurance for workers' compensation and other coverage in amounts and from an insurance company satisfactory to Landlord protecting Landlord against liability for personal injury or property damage during construction. Upon completion of any Alterations, Tenant shall deliver to Landlord: (i) sworn statements setting forth the names of all contractors and subcontractors who did the work and final lien waivers from all such contractors and subcontractors; and (ii) "as built" plans for any such Alteration.

Other than (i) the items, if any, listed on **Exhibit H** attached hereto, (ii) any items agreed by Landlord in writing to be included on **Exhibit H** in the future, and (iii) any trade fixtures, machinery, equipment and other personal property not installed by Landlord which may be removed without material damage to the Premises, which damage shall be repaired (including capping or terminating utility hook-ups behind walls) by Tenant during the Term (collectively, "**Tenant's Property**"), all property of any kind paid for or installed by Landlord or its contractor as part of the Tenant Improvements, Alterations, real property fixtures, built-in machinery and equipment, built-in cabinets and other similar additions and improvements built into the Premises so as to become an integral part of the Premises, such as electrical and mechanical equipment and systems, and any power generator and transfer switch (collectively, "**Installations**") shall be and shall remain the property of Landlord during the Term and following the expiration or earlier termination of the Term, shall not be removed by Tenant at any time during the Term and shall remain upon and be surrendered with the Premises as a part thereof in accordance with Section 24 following the expiration or earlier termination of this Lease; provided, however, that Landlord shall, at the time its approval of such Installation is requested notify Tenant in writing if Landlord elects to cause Tenant to remove such Installation upon the expiration or earlier termination of this Lease. If Landlord so elects, Tenant shall remove such Installation upon the expiration or earlier termination of this Lease and restore any damage caused by or occasioned as a result of such removal, including, when removing any of Tenant's Property which was plumbed, wired or otherwise connected to any of the Building's plumbing, electrical or other Building Systems, capping off all such connections behind the walls of the Premises and repairing any holes. During any such restoration period, Tenant shall pay Rent to Landlord as provided herein as if said space were otherwise occupied by Tenant.

#### 11. Repairs.

(a) **Landlord's Repairs.** Landlord, as an Operating Expense, shall maintain all of the structural, exterior, parking and other Common Areas of the Project, including HVAC, plumbing, fire sprinklers, elevators and all other building systems serving the Premises and other portions of the Project ("**Building Systems**"), in good repair, reasonable wear and tear and uninsured losses and damages caused by Tenant, or by any of Tenant's agents, servants, employees, invitees and contractors (individually, a "**Tenant Party**" and collectively, "**Tenant Parties**") excluded. Subject to the provisions of the last paragraph of Section 14, Landlord shall repair losses and damages caused by Tenant or any Tenant Party at Tenant's sole cost and expense. Such maintenance and repairs by Landlord under this Section shall include Landlord's making such replacements as Landlord may deem necessary in its sole discretion. Landlord reserves the right to stop building system services when necessary by reason of accident or emergency, or for repairs, alterations or improvements. Landlord shall have no responsibility or liability for failure to supply building system services during any such period of interruption; provided, however, that Landlord shall give Tenant 24 hours advance notice of any planned stoppage of building system services for routine maintenance, repairs, alterations or improvements. Landlord shall not be liable for any failure to make any repairs or to perform any maintenance unless such failure shall persist for an unreasonable time after Tenant's written notice of the need for such repairs or maintenance. Tenant waives its rights under any state or local law to terminate this Lease or to make such repairs at

Landlord's expense and agrees that the parties' respective rights with respect to such matters shall be solely as set forth herein. Repairs required as the result of fire, earthquake, flood, vandalism, war, or similar cause of damage or destruction shall be controlled by Section 15.

(b) **Tenant's Repairs.** Subject to Section 11(a) and Section 15 hereof, Tenant, at its expense, shall repair, replace and maintain in good condition, reasonable wear and tear and damage covered by Section 15 excepted, all portions of the Premises, including, without limitation, entries, doors, ceilings, interior windows (excluding exterior glass), interior walls, and the interior side of demising walls. Such repair and replacement may include capital expenditures and repairs whose benefit may extend beyond the Term. Should Tenant fail to make any such repair or replacement or fail to maintain the Premises, Landlord shall give Tenant notice of such failure. If Tenant fails to commence cure of such failure within 10 days of Landlord's notice, and thereafter diligently prosecute such cure to completion, Landlord may perform such work and shall be reimbursed by Tenant within 10 days after demand therefor; provided, however, that if such failure by Tenant creates or could create an emergency, Landlord may immediately commence cure of such failure and shall thereafter be entitled to recover the costs of such cure from Tenant. Subject to Section 14 and Section 15, Tenant shall bear the full uninsured cost of any repair or replacement to any part of the Project that results from damage caused by Tenant or any Tenant Party and any repair that benefits only the Premises.

12. **Liens.** Tenant shall discharge, by bond or otherwise, any liens filed against the Premises or against the Project arising out of work performed or claimed to have been performed, materials furnished or claimed to have been or obligations incurred or claimed to have been incurred by Tenant within 10 days after Tenant receives notice of the filing thereof, at Tenant's sole cost.

13. **Indemnification.** Tenant hereby indemnifies and agrees to defend, save and hold Landlord harmless from and against any and all claims for injury or death to persons or damage to property (i) occurring within the Premises and arising directly or indirectly out of use or occupancy of the Premises, unless caused solely by the willful misconduct or negligence of Landlord, (ii) occurring outside of the Premises (including without limitation in the Shared Conference Facility) and arising directly or indirectly out of an act or omission of Tenant, or (iii) arising directly or indirectly out of or a breach or default by Tenant in the performance of any of its obligations hereunder or under the License Agreement. Landlord shall not be liable to Tenant for, and Tenant assumes all risk of damage to, personal property (including, without limitation, loss of records kept within the Premises or any part of the Project). Tenant further waives any and all claims for injury to Tenant's business or loss of income relating to any such damage or destruction of personal property (including, without limitation, any loss of records). Landlord shall not be liable for any damages arising from any act, omission or neglect of any tenant in the Project or of any other third party.

14. **Insurance.** Landlord shall, as an Operating Expense, maintain such insurance covering the Project as Landlord shall reasonably determine. Tenant, at its sole cost and expense, shall maintain during the Term: all risk property insurance with business interruption and extra expense coverage, covering the full replacement cost of all property and improvements installed or placed in the Premises by Tenant at Tenant's expense; workers' compensation insurance with no less than the minimum limits required by law; employer's liability insurance with such limits as required by law; and commercial general liability insurance, with a minimum limit of not less than \$2,000,000 per occurrence for bodily injury and property damage with respect to the Premises and Shared Conference Facility. The commercial general liability insurance policy shall name Landlord, its officers, directors, employees, managers, members and agents (individually, a "**Landlord Party**" and collectively, "**Landlord Parties**") and Alexandria Real Estate Equities, Inc., as additional insureds; insure on an occurrence and not a claims-made basis; be issued by insurance companies which have a rating of not less than policyholder rating of A- and financial category rating of at least Class VIII in "Best's Insurance Guide"; shall not be cancelable for nonpayment of premium unless 10 days prior written notice shall have been given to Landlord from the insurer; contain a hostile fire endorsement and a contractual liability endorsement; and provide primary coverage to Landlord (any policy issued to Landlord providing duplicate or similar coverage shall be deemed excess over Tenant's policies). Certificates of insurance showing the limits of coverage required hereunder and

showing Landlord as an additional insured, along with reasonable evidence of the payment of premiums for the applicable period, shall be delivered to Landlord by Tenant upon commencement of the Term and upon each renewal of said insurance. Tenant's policy may be a "blanket policy" with an aggregate per location endorsement which specifically provides that the amount of insurance shall not be prejudiced by other losses covered by the policy. Tenant shall, at least 5 days prior to the expiration of such policies, furnish Landlord with renewal certificates.

In each instance where insurance is to name Landlord as an additional insured, Tenant shall upon written request of Landlord also designate and furnish certificates so evidencing Landlord as additional insured to: (i) any lender of Landlord holding a security interest in the Project or any portion thereof and any servicer in connection therewith, (ii) the landlord under any lease wherein Landlord is tenant of the real property on which the Project is located, if the interest of Landlord is or shall become that of a tenant under a ground or other underlying lease rather than that of a fee owner, and/or (iii) any management company retained by Landlord to manage the Project.

The property insurance obtained by Landlord and Tenant shall include a waiver of subrogation by the insurers and all rights based upon an assignment from its insured, against Landlord or Tenant, and their respective officers, directors, employees, managers, members and agents ("**Related Parties**"), in connection with any loss or damage thereby insured against. Neither party nor its respective Related Parties shall be liable to the other for loss or damage caused by any risk insured against under property insurance required to be maintained hereunder, and each party waives any claims against the other party, and its respective Related Parties, for such loss or damage. The failure of a party to insure its property shall not void this waiver. Landlord and its respective Related Parties shall not be liable for, and Tenant hereby waives all claims against such parties for, business interruption and losses occasioned thereby sustained by Tenant or any person claiming through Tenant resulting from any accident or occurrence in or upon the Premises or the Project from any cause whatsoever. If the foregoing waivers shall contravene any law with respect to exculpatory agreements, the liability of Landlord or Tenant shall be deemed not released but shall be secondary to the other's insurer.

15. **Condemnation and Casualty.** If at any time during the Term the Premises, Common Areas or Project is in whole or in part (i) materially damaged or destroyed by a fire or other casualty, or (ii) taken for any public or quasi-public use under governmental law, ordinance, or regulation, or by right of eminent domain, or by private purchase in lieu thereof (a "**Taking**"), then this Lease shall, at the written election of Landlord delivered to Tenant within sixty (60) days following such casualty or taking, terminate as of the date of such damage, destruction or Taking. If at any time during the Term the Premises or Common Areas are in whole or in part (i) materially damaged or destroyed by a fire or other casualty, or (ii) subject to a Taking, then this Lease shall, at the written election of Tenant delivered to Landlord within sixty (60) days following such casualty or taking, terminate as of the date of such damage, destruction or Taking. Unless either Landlord or Tenant so elects to terminate this Lease, Landlord shall, subject to receipt of sufficient insurance proceeds (with any deductible to be treated as a current Operating Expense), promptly restore the Premises and Common Areas (excluding the improvements installed by Tenant or by Landlord and paid for by Tenant), subject to delays arising from the collection of insurance proceeds, from Force Majeure events.

If neither Tenant nor Landlord elect to terminate this Lease pursuant to the immediately preceding paragraph, Rent shall be abated from the date of discovery of such damage or destruction until the Premises or Common Areas are repaired and restored, in the proportion which the area of the Premises, if any, which is not usable by Tenant bears to the total area of the Premises, unless Landlord provides Tenant with other space during the period of repair that is suitable for the temporary conduct of Tenant's business. Such abatement shall be the sole remedy of Tenant, and except as provided in this Section 15, *Tenant waives* any right to terminate the Lease by reason of damage or casualty loss, provided that, if Landlord shall fail to restore the Premises or Common Areas within 12 months of the end of the 60-day period referred to in the first and second sentences of the immediately preceding paragraph), Tenant shall have a further right to terminate this Lease by written notice to Landlord delivered within 60 days after the expiration of such 12-month period, provided further, that if Landlord completes such restoration within 30 days after receipt of Tenant's termination notice, such termination notice shall be void and this Lease shall continue in full force and effect.

The provisions of this Lease, including this Section 15, constitute an express agreement between Landlord and Tenant with respect to any and all damage to, or destruction of, all or any part of the Premises, or any other portion of the Project, and any statute or regulation which is now or may hereafter be in effect shall have no application to this Lease or any damage or destruction to all or any part of the Premises or any other portion of the Project, the parties hereto expressly agreeing that this Section 15 sets forth their entire understanding and agreement with respect to such matters. Upon any fire or other casualty or Taking, Landlord shall be entitled to receive the entire proceeds of the insurance maintained by Landlord and the entire price or award from any such Taking without, in either case, any payment to Tenant, and Tenant hereby assigns to Landlord Tenant's interest, if any, in such proceeds or award, except that Tenant shall have the right, to the extent that same shall not diminish Landlord's award, to make a separate claim against the condemning authority (but not Landlord) for such compensation as may be separately awarded or recoverable by Tenant for moving expenses and damage to Tenant's trade fixtures, if a separate award for such items is made to Tenant.

16. **Events of Default.** Each of the following events shall be a default ("**Default**") by Tenant under this Lease:

(a) **Payment Defaults.** Tenant shall fail to pay any installment of Rent or any other payment hereunder when due; provided, however, that Landlord will give Tenant notice and an opportunity to cure any failure to pay Rent within 3 business days of any such notice not more than once in any 12 month period and Tenant agrees that such notice shall be in lieu of and not in addition to, or shall be deemed to be, any notice required by law; provided, further, however, that no such notice or opportunity to cure shall be required for any failure by Tenant to pay the first month's Base Rent and deliver the Security Deposit to Landlord at such time as required pursuant to Section 3(a) above.

(b) **Insurance.** Any insurance required to be maintained by Tenant pursuant to this Lease shall be canceled or terminated or shall expire or shall be reduced or materially changed, or Landlord shall receive a notice of nonrenewal of any such insurance and Tenant shall fail to obtain replacement insurance at least 10 days before the expiration of the current coverage.

(c) **Improper Transfer.** Tenant shall assign, sublease or otherwise transfer or attempt to transfer all or any portion of Tenant's interest in this Lease or the Premises except as may be expressly permitted herein, or Tenant's interest in this Lease shall be attached, executed upon, or otherwise judicially seized and such action is not released within 90 days of the action.

(d) **Liens.** Tenant shall fail to discharge or otherwise obtain the release of any lien upon the Premises in violation of this Lease within 10 days after any such lien is filed against the Premises.

(e) **Insolvency Events.** Tenant or any guarantor or surety of Tenant's obligations hereunder shall: (A) make a general assignment for the benefit of creditors; (B) commence any case, proceeding or other action seeking to have an order for relief entered on its behalf as a debtor or to adjudicate it a bankrupt or insolvent, or seeking reorganization, arrangement, adjustment, liquidation, dissolution or composition of it or its debts or seeking appointment of a receiver, trustee, custodian or other similar official for it or for all or of any substantial part of its property (collectively a "**Proceeding for Relief**"); (C) become the subject of any Proceeding for Relief which is not dismissed within 90 days of its filing or entry; or (D) die or suffer a legal disability (if Tenant, guarantor, or surety is an individual) or be dissolved or otherwise fail to maintain its legal existence (if Tenant, guarantor or surety is a corporation, partnership or other entity).

(f) **Estoppel Certificate or Subordination Agreement.** Tenant fails to execute any document required from Tenant under Sections 19 or 23 within 5 business days after a second notice requesting such document.

(g) **Default under License.** Tenant shall be in default or breach of any of its obligations under the License beyond any cure period as may be expressly set forth in the License.

(h) **Other Defaults.** Tenant shall fail to comply with any provision of this Lease other than those specifically referred to in this Section 16, and, except as otherwise expressly provided herein, such failure shall continue for a period of 30 days after written notice thereof from Landlord to Tenant, provided that if the nature of such default is such that it cannot be cured by the payment of money and reasonably requires more than 30 days to cure, then Tenant shall not be deemed to be in Default if Tenant commences such cure within 30 days of the aforesaid notice from Landlord and thereafter diligently prosecutes such cure to completion within 90 days of the aforesaid notice from Landlord. Any notice given under this Section 16(h) shall: (i) specify the alleged default, (ii) demand that Tenant cure such default, (iii) be in lieu of, and not in addition to, or shall be deemed to be, any notice required under any provision of applicable law, and (iv) not be deemed a forfeiture or a termination of this Lease unless Landlord elects otherwise in such notice.

#### 17. Landlord's Remedies.

(a) **Payment By Landlord; Interest.** Upon a Default by Tenant hereunder, Landlord may, without waiving or releasing any obligation of Tenant hereunder, make such payment or perform such act that is the subject of the Default. All reasonable sums so paid or incurred by Landlord, together with interest thereon, from the date such sums were paid or incurred, at the annual rate equal to 12% per annum or the highest rate permitted by law (the "**Default Rate**"), whichever is less, shall be payable to Landlord on demand as Additional Rent. Nothing herein shall be construed to create or impose a duty on Landlord to mitigate any damages resulting from Tenant's Default hereunder.

(b) **Late Payment Rent.** Late payment by Tenant to Landlord of Rent and other sums due will cause Landlord to incur costs not contemplated by this Lease, the exact amount of which will be extremely difficult and impracticable to ascertain. Such costs include, but are not limited to, processing and accounting charges and late charges which may be imposed on Landlord under any Mortgage covering the Premises. Therefore, if any installment of Rent due from Tenant is not received by Landlord within 5 days after the date such payment is due, Tenant shall pay to Landlord an additional sum equal to 6% of the overdue Rent as a late charge. The parties agree that this late charge represents a fair and reasonable estimate of the costs Landlord will incur by reason of late payment by Tenant. In addition to the late charge, Rent not paid when due shall bear interest at the Default Rate from the 5th day after the date due until paid.

(c) **Other Remedies.** Upon and during the continuance of a Default, Landlord, at its option, without further notice or demand to Tenant, shall have in addition to all other rights and remedies provided in this Lease, at law or in equity, the option to pursue any one or more of the following remedies, each and all of which shall be cumulative and nonexclusive, without any notice or demand whatsoever. No cure in whole or in part of such Default by Tenant after Landlord has taken any action beyond giving Tenant notice of such Default to pursue any remedy provided for herein (including retaining counsel to file an action or otherwise pursue any remedies) shall in any way affect Landlord's right to pursue such remedy or any other remedy provided Landlord herein or under law or in equity, unless Landlord, in its sole discretion, elects to waive such Default.

This Lease and the Term and estate hereby granted are subject to the limitation that whenever a Default shall have happened and be continuing, Landlord shall have the right, at its election, then or thereafter while any such Default shall continue and notwithstanding the fact that Landlord may have some other remedy hereunder or at law or in equity, to give Tenant written notice of Landlord's intention to terminate this Lease on a date specified in such notice, which date shall be not less than 5 days after the giving of such notice, and upon the date so specified, this Lease and the estate hereby granted shall expire and terminate with the same force and effect as if the date specified in such notice were the date hereinbefore fixed for the expiration of this Lease, and all rights of Tenant hereunder shall expire and terminate, and Tenant shall be liable as hereinafter in this Section 17(c) provided. If any such notice is

given, Landlord shall have, on such date so specified, the right of re-entry and possession of the Premises and the right to remove all persons and property therefrom and to store such property in a warehouse or elsewhere at the risk and expense, and for the account, of Tenant. Should Landlord elect to re-enter as herein provided or should Landlord take possession pursuant to legal proceedings or pursuant to any notice provided for by law, Landlord may from time to time re-let the Premises or any part thereof for such term or terms and at such rental or rentals and upon such terms and conditions as Landlord may deem advisable, with the right to make commercially reasonable alterations in and repairs to the Premises.

(i) In the event of any termination of this Lease as in this Section 17 provided or as required or permitted by law or in equity, Tenant shall forthwith quit and surrender the Premises to Landlord, and Landlord may, without further notice, enter upon, re-enter, possess and repossess the same by summary proceedings, ejectment or otherwise, and again have, repossess and enjoy the same as if this Lease had not been made, and in any such event Tenant and no person claiming through or under Tenant by virtue of any law or an order of any court shall be entitled to possession or to remain in possession of the Premises. Landlord, at its option, notwithstanding any other provision of this Lease, shall be entitled to recover from Tenant, as and for liquidated damages, the sum of;

(A) all Base Rent, Additional Rent and other amounts payable by Tenant hereunder then due or accrued and unpaid; and

(B) the amount equal to the aggregate of all unpaid Base Rent and Additional Rent which would have been payable if this Lease had not been terminated prior to the end of the Term then in effect, discounted to its then present value in accordance with accepted financial practice using a rate of 5% per annum, for loss of the bargain; and

(C) all other damages and expenses (including attorneys' fees and expenses), if any, which Landlord shall have sustained by reason of the breach of any provision of this Lease; less

(D) the net proceeds of any re-letting actually received by Landlord and (ii) the amount of damages which Tenant proves could have been avoided had Landlord taken reasonable steps to mitigate its damages.

(ii) Nothing herein contained shall limit or prejudice the right of Landlord, in any bankruptcy or insolvency proceeding, to prove for and obtain as liquidated damages by reason of such termination an amount equal to the maximum allowed by any bankruptcy or insolvency proceedings, or to prove for and obtain as liquidated damages by reason of such termination, an amount equal to the maximum allowed by any statute or rule of law whether such amount shall be greater or less than the excess referred to above.

(iii) Nothing in this Section 17 shall be deemed to affect the right of either party to indemnifications pursuant to this Lease.

(iv) If Landlord terminates this Lease upon the occurrence of a Default, Tenant will quit and surrender the Premises to Landlord or its agents, and Landlord may, without further notice, enter upon, re-enter and repossess the Premises by summary proceedings, ejectment or otherwise. The words "enter", "re-enter", and "re-entry" are not restricted to their technical legal meanings.

(v) If either party shall be in default in the observance or performance of any provision of this Lease, and an action shall be brought for the enforcement thereof in which it shall be determined that such party was in default, the party in default shall pay to the other all fees, costs and other expenses which may become payable as a result thereof or in connection therewith, including attorneys' fees and expenses.

(vi) If Tenant shall default in the keeping, observance or performance of any covenant, agreement, term, provision or condition herein contained, Landlord, without thereby waiving such default, may perform the same for the account and at the expense of Tenant (a) immediately or at any time thereafter and without notice in the case of emergency or in case such default will result in a violation of any legal or insurance requirements, or in the imposition of any lien against all or any portion of the Premises, and (b) in any other case if such default continues after any applicable cure period provided in Section 16. All reasonable costs and expenses incurred by Landlord in connection with any such performance by it for the account of Tenant and also all reasonable costs and expenses, including attorneys' fees and disbursements incurred by Landlord in any action or proceeding (including any summary dispossess proceeding) brought by Landlord to enforce any obligation of Tenant under this Lease and/or right of Landlord in or to the Premises, shall be paid by Tenant to Landlord within 10 days after demand.

(vii) Independent of the exercise of any other remedy of Landlord hereunder or under applicable law, Landlord may conduct an environmental test of the Premises subject to and as more particularly described in Section 26(c), at Tenant's expense.

(viii) In the event that Tenant is in breach or Default under this Lease, whether or not Landlord exercises its right to terminate or any other remedy, Tenant shall reimburse Landlord upon demand for any costs and expenses that Landlord may incur in connection with any such breach or Default, as provided in this Section 17(c). Such costs shall include reasonable legal fees and costs incurred for the negotiation of a settlement, enforcement of rights or otherwise. Tenant shall also indemnify Landlord against and hold Landlord harmless from all costs, expenses, demands and liability, including without limitation, reasonable legal fees and costs Landlord shall incur if Landlord shall become or be made a party to any claim or action instituted by Tenant against any third party, or by or against any person holding any interest under or using the Premises by license of or agreement with Tenant.

(d) Except as otherwise provided in this Section 17, no right or remedy herein conferred upon or reserved to Landlord is intended to be exclusive of any other right or remedy, and every right and remedy shall be cumulative and in addition to any other legal or equitable right or remedy given hereunder, or now or hereafter existing. No waiver of any provision of this Lease shall be deemed to have been made unless expressly so made in writing. Landlord shall be entitled, to the extent permitted by law, to seek injunctive relief in case of the violation, or attempted or threatened violation, of any provision of this Lease, or to seek a decree compelling observance or performance of any provision of this Lease, or to seek any other legal or equitable remedy.

#### **18. Assignment and Subletting.**

(a) **General Prohibition.** Without Landlord's prior written consent subject to and on the conditions described in this Section 18, Tenant shall not, directly or indirectly, voluntarily or by operation of law, assign this Lease or sublease the Premises or any part thereof or mortgage, pledge, or hypothecate its leasehold interest or grant any concession or license within the Premises, and any attempt to do any of the foregoing shall be void and of no effect. Except as expressly permitted in this Section 18(a), if Tenant is a corporation, partnership or limited liability company, the shares or other ownership interests thereof which are not actively traded upon a stock exchange or in the over-the-counter market, a transfer or series of transfers whereby 50% or more of the issued and outstanding shares or other ownership interests of such corporation are, or voting control is, transferred (but excepting transfers upon deaths of individual owners) from a person or persons or entity or entities which were owners thereof at time of execution of this Lease to persons or entities who were not owners of shares or other ownership interests of the corporation, partnership or limited liability company at time of execution of this Lease, shall be deemed an assignment of this Lease requiring the consent of Landlord as provided



in this Section 18. Notwithstanding the foregoing, any public offering of shares or other ownership interest in Tenant or any private equity financing by one or more investors who regularly invest in private biotechnology companies, for which Tenant has given Landlord prior (to the extent prior notice is permitted by applicable law) or concurrent written notice, shall not be deemed an assignment. Such prior written notice shall be treated by Landlord as confidential information.

(b) **Permitted Transfers.** If Tenant desires to assign, sublease (in whole or in part), hypothecate or otherwise transfer this Lease or sublet the Premises, other than pursuant to a Permitted Assignment (as defined below), then at least 15 business days, but not more than 45 business days, before the date Tenant desires the assignment or sublease to be effective (the “**Assignment Date**”), Tenant shall give Landlord a notice (the “**Assignment Notice**”) containing such information about the proposed assignee or sublessee, including the proposed use of the Premises and any Hazardous Materials proposed to be used, stored handled, treated, generated in or released or disposed of from the Premises, the Assignment Date, any relationship between Tenant and the proposed assignee or sublessee, and all material terms and conditions of the proposed assignment or sublease, including a copy of any proposed assignment or sublease in its final form, and such other information as Landlord may deem reasonably necessary or appropriate to its consideration whether to grant its consent. Landlord may, by giving written notice to Tenant within 15 business days after receipt of the Assignment Notice: (i) grant such consent, (ii) refuse such consent, in its sole and absolute discretion, to any proposed assignment, hypothecation or other transfer other than a subletting, (iii) refuse such consent, in its reasonable discretion, to a proposed subletting (provided that Landlord shall further have the right to review and approve or disapprove the proposed form of sublease prior to the effective date of any such subletting), or (iv) with respect to any proposed assignment, hypothecation or transfer, or with respect to any proposed subletting for the remainder of the Term of more than 50% of the Premises (taken together with any prior sublettings), terminate this Lease with respect to the space described in the Assignment Notice as of the Assignment Date (an “**Assignment Termination**”). If Landlord delivers notice of its election to exercise an Assignment Termination, Tenant shall have the right to withdraw such Assignment Notice by written notice to Landlord of such election within 5 business days after Tenant’s receipt of Landlord’s notice electing to exercise the Assignment Termination. If Tenant withdraws such Assignment Notice, this Lease shall continue in full force and effect. If Tenant does not withdraw such Assignment Notice, this Lease, and the term and estate herein granted, shall terminate as of the Assignment Date with respect to the space described in such Assignment Notice. No failure of Landlord to exercise any such option to terminate this Lease, or to deliver a timely notice in response to the Assignment Notice, shall be deemed to be Landlord’s consent to the proposed assignment, sublease or other transfer. Tenant shall pay to Landlord a fee equal to One Thousand Five Hundred Dollars (\$1,500) in connection with its consideration of any Assignment Notice and/or its preparation or review of any consent documents.

(c) In considering whether or not to consent to any proposed sublease under clause (iii) of Section 18(b) above, Landlord shall be deemed to have acted reasonably if consent is refused for any of the following reasons: (A) the business or financial reputation of the proposed sublessee, or the business or financial reputation of any of the respective principals or officers thereof, is objectionable in Landlord’s judgment, (B) the proposed sublessee is engaged in areas of scientific research or other business concerns that are reasonably likely in Landlord’s judgment to attract negative publicity about, or protest at, the Building, or its proposed use of the Premises will violate any applicable Legal Requirement, (C) the proposed sublessee is at that time an occupant of the Project (and Landlord has comparable available space in the Project) or negotiating with Landlord or an affiliate thereof for the lease of other space in the Project, (D) the proposed sublessee does not have a creditworthiness, as of the date of transfer, sufficient to support the financial obligations it would incur under the proposed sublease in Landlord’s judgment, (E) the proposed sublessee is a governmental agency, (F) in Landlord’s judgment the use of the Premises by the proposed sublessee would entail any alterations that would lessen the value of the leasehold improvements in the Premises, or would require increased services by Landlord, (G) Landlord has received from any other landlord to the proposed sublessee a negative report concerning such other landlord’s experience with the proposed sublessee, (H) Landlord has experienced previous defaults by or is in litigation with the proposed sublessee, (I) the proposed sublease will create a vacancy elsewhere in the Project or at any other property owned in whole or in part by Landlord or any of its affiliates and located in Massachusetts, or (J) the sublease is prohibited by Landlord’s lender, if any.

(d) Notwithstanding the foregoing, (i) Landlord's consent to an assignment of this Lease or a subletting of any portion of the Premises to any entity controlling, controlled by or under common control with Tenant shall not be required, provided that Landlord shall have the right to reasonably approve the form of any such sublease or assignment; and (ii) Tenant shall have the right to assign this Lease, upon 10 days prior written notice to Landlord but without obtaining Landlord's prior written consent, to a corporation or other entity which is a successor-in-interest to Tenant, by way of merger, consolidation or corporate reorganization, or by the purchase of all or substantially all of the assets or the ownership interests of Tenant provided that (i) such merger or consolidation, or such acquisition or assumption, as the case may be, is for a good business purpose and not principally for the purpose of transferring the Lease, and (ii) the net worth (as determined in accordance with generally accepted accounting principles ("GAAP")) of the assignee is not less than the net worth (as determined in accordance with GAAP) of Tenant as of the date of Tenant's most current quarterly or annual financial statements, and (iii) such assignee shall agree in writing to assume all of the terms, covenants and conditions of this Lease arising after the effective date of the assignment. The subletting and assignment described in clauses (i) and (ii) of this paragraph are referred to as a "**Permitted Assignment.**"

(e) **Additional Conditions.** As a condition to any such assignment or subletting, whether or not Landlord's consent is required, Landlord may require:

(i) that any assignee or subtenant agree, in writing at the time of such assignment or subletting, that if Landlord gives such party notice that Tenant is in Default under this Lease, such party shall thereafter make all payments otherwise due Tenant directly to Landlord, which payments will be received by Landlord without any liability except to credit such payment against those due under the Lease, and any such third party shall agree to attorn to Landlord or its successors and assigns should this Lease be terminated for any reason; provided, however, in no event shall Landlord or its successors or assigns be obligated to accept such attornment; and

(ii) a list of Hazardous Materials, certified by the proposed assignee or sublessee to be true and correct, which the proposed assignee or sublessee intends to use, store, handle, treat, generate in or release or dispose of from the Premises, together with copies of all documents relating to such use, storage, handling, treatment, generation, release or disposal of Hazardous Materials by the proposed assignee or subtenant in the Premises or on the Project, prior to the proposed assignment or subletting, including, without limitation: permits; approvals; reports and correspondence; storage and management plans; plans relating to the installation of any storage tanks to be installed in or under the Project (provided, said installation of tanks shall only be permitted after Landlord has given its written consent to do so, which consent may be withheld in Landlord's sole and absolute discretion); and all closure plans or any other documents required by any and all federal, state and local Governmental Authorities for any storage tanks installed in, on or under the Project for the closure of any such tanks. Neither Tenant nor any such proposed assignee or subtenant is required, however, to provide Landlord with any portion(s) of the such documents containing information of a proprietary nature which, in and of themselves, do not contain a reference to any Hazardous Materials or hazardous activities.

(f) **No Release of Tenant, Sharing of Excess Rents.** Notwithstanding any assignment or subletting, Tenant and any guarantor or surety of Tenant's obligations under this Lease shall at all times remain fully and primarily responsible and liable for the payment of Rent and for compliance with all of Tenant's other obligations under this Lease. If the Rent due and payable by a sublessee or assignee (or a combination of the rental payable under such sublease or assignment plus any bonus or other consideration therefor or incident thereto in any form) exceeds the sum of the rental payable under this Lease, which shall be prorated for a sublease of less than all of the Premises (excluding however, any Rent payable under this Section) and actual and reasonable brokerage fees, free rent included as an inducement, legal costs and any design or construction fees directly related to and required pursuant to

the terms of any such sublease or any reasonable services fees payable by subtenant to Tenant for the costs to Tenant to provide typical office services such as coffee machines, telephones and fax machines (“**Excess Rent**”), then Tenant shall be bound and obligated to pay Landlord as Additional Rent hereunder 50% of such Excess Rent within 10 days following receipt thereof by Tenant. If Tenant shall sublet the Premises or any part thereof, Tenant hereby immediately and irrevocably assigns to Landlord, as security for Tenant’s obligations under this Lease, all rent from any such subletting, and Landlord as assignee and as attorney-in-fact for Tenant, or a receiver for Tenant appointed on Landlord’s application, may collect such rent and apply it toward Tenant’s obligations under this Lease; except that, until the occurrence of a Default, Tenant shall have the right to collect such rent.

(g) **No Waiver.** The consent by Landlord to an assignment or subletting shall not relieve Tenant or any assignees of this Lease or any sublessees of the Premises from obtaining the consent of Landlord to any further assignment or subletting nor shall it release Tenant or any assignee or sublessee of Tenant from full and primary liability under the Lease. The acceptance of Rent hereunder, or the acceptance of performance of any other term, covenant, or condition thereof, from any other person or entity shall not be deemed to be a waiver of any of the provisions of this Lease or a consent to any subletting, assignment or other transfer of the Premises.

(h) **Prior Conduct of Proposed Transferee.** Notwithstanding any other provision of this Section 18, if (i) the proposed assignee or sublessee of Tenant has been required by any prior landlord, lender or Governmental Authority to take remedial action in connection with Hazardous Materials contaminating a property, where the contamination resulted from such party’s action or use of the property in question, (ii) the proposed assignee or sublessee is subject to an enforcement order issued by any Governmental Authority in connection with the use, storage, handling, treatment, generation, release or disposal of Hazardous Materials (including, without limitation, any order related to the failure to make a required reporting to any Governmental Authority), or (iii) because of the existence of a pre-existing environmental condition in the vicinity of or underlying the Project, the risk that Landlord would be targeted as a responsible party in connection with the remediation of such pre-existing environmental condition would be materially increased or exacerbated by the proposed use of Hazardous Materials by such proposed assignee or sublessee, Landlord shall have the absolute right to refuse to consent to any assignment or subletting to any such party.

19. **Estoppel Certificate.** Tenant shall, within 10 business days of written notice from Landlord, execute, acknowledge and deliver an estoppel certificate on any form reasonably requested by a proposed lender or purchaser.

20. **Quiet Enjoyment.** So long as Tenant shall perform all of the covenants and agreements herein required to be performed by Tenant, Tenant shall, subject to the terms of this Lease, at all times during the Term, have peaceful and quiet enjoyment of the Premises against any person claiming by, through or under Landlord.

21. **Prorations.** All prorations required or permitted to be made hereunder shall be made on the basis of a 360-day year and 30-day months.

22. **Rules and Regulations.** Tenant shall, at all times during the Term and any extension thereof, comply with all reasonable rules and regulations at any time or from time to time established by Landlord covering use of the Premises and the Project. The current rules and regulations are attached hereto as **Exhibit I**. If there is any conflict between said rules and regulations and other provisions of this Lease, the terms and provisions of this Lease shall control. Landlord shall not have any liability or obligation for the breach of any rules or regulations by other tenants in the Project and shall not enforce such rules and regulations in a discriminatory manner.

23. **Subordination.** This Lease and Tenant’s interest and rights hereunder are and shall be subject and subordinate at all times to the lien of any Mortgage now existing or hereafter created on or against the Project or the Premises, and all amendments, restatements, renewals, modifications,

consolidations, refinancing, assignments and extensions thereof, without the necessity of any further instrument or act on the part of Tenant. Tenant agrees, at the election of the Holder of any such Mortgage, to attorn to any such Holder. Tenant agrees within 10 business days after demand to execute, acknowledge and deliver such instruments confirming such subordination and/or attornment as shall be reasonably requested by any such Holder. Upon request of Tenant, Landlord shall use commercially reasonable efforts to obtain from any future Holder of a Mortgage on the Project, if any, an agreement of non-disturbance, which agreement may also contain provisions for subordination, attornment and other terms and conditions of Holder. The term "**Mortgage**" whenever used in this Lease shall be deemed to include deeds of trust, security assignments, ground leases or other superior leases and any other encumbrances, and any reference to the "**Holder**" of a Mortgage shall be deemed to include the beneficiary under a deed of trust. Landlord represents that the Project is currently not encumbered by a Mortgage as of the date of this Lease.

24. **Surrender.** Upon the expiration of the Term or earlier termination of Tenant's right of possession, Tenant shall surrender the Premises to Landlord in the same condition as received, subject to any Alterations or Installations permitted by Landlord to remain in the Premises, free of Hazardous Materials brought upon, kept, used, stored, handled, treated, generated in, or released or disposed of from, the Premises by any person other than a Landlord Party, broom clean, ordinary wear and tear and casualty loss and condemnation covered by Sections 15 excepted.

Tenant shall immediately return to Landlord all keys and/or access cards to parking, the Project, restrooms or all or any portion of the Premises furnished to or otherwise procured by Tenant. If any such access card or key is lost, Tenant shall pay to Landlord, at Landlord's election, either the cost of replacing such lost access card or key or the cost of reprogramming the access security system in which such access card was used or changing the lock or locks opened by such lost key. Any Tenant's Property, Alterations and property not so removed by Tenant as permitted or required herein shall be deemed abandoned and may be stored, removed, and disposed of by Landlord at Tenant's expense, and Tenant waives all claims against Landlord for any damages resulting from Landlord's retention and/or disposition of such property. All obligations of Tenant hereunder not fully performed as of the termination of the Term, including the obligations of Tenant under Section 26 hereof, shall survive the expiration or earlier termination of the Term, including, without limitation, indemnity obligations, payment obligations with respect to Rent and obligations concerning the condition and repair of the Premises.

25. **Waiver of Jury Trial.** TENANT AND LANDLORD WAIVE ANY RIGHT TO TRIAL BY JURY OR TO HAVE A JURY PARTICIPATE IN RESOLVING ANY DISPUTE, WHETHER SOUNDING IN CONTRACT, TORT, OR OTHERWISE, BETWEEN LANDLORD AND TENANT ARISING OUT OF THIS LEASE OR ANY OTHER INSTRUMENT, DOCUMENT, OR AGREEMENT EXECUTED OR DELIVERED IN CONNECTION HERewith OR THE TRANSACTIONS RELATED HERETO.

#### 26. **Environmental Requirements.**

(a) **Generally.** Except for Hazardous Material contained in products customarily used by tenants in de minimis quantities for ordinary cleaning and office purposes, Tenant shall not permit or cause any party to bring any Hazardous Material upon the Premises or the Project or use, store, handle, treat, generate, manufacture, transport, release or dispose of any Hazardous Material in, on or from the Premises or the Project without Landlord's prior written consent which may be withheld in Landlord's sole discretion. Tenant, at its sole cost and expense, shall operate its business in the Premises in strict compliance with all Environmental Requirements and shall remove or remediate in a manner satisfactory to Landlord any Hazardous Materials released on or from the Project by Tenant or any Tenant Party. Tenant shall complete and certify disclosure statements as requested by Landlord from time to time relating to Tenant's use, storage, handling, treatment, generation, manufacture, transportation, release or disposal of Hazardous Materials on or from the Premises. The term "**Environmental Requirements**" means all applicable present and future statutes, regulations, ordinances, rules, codes, judgments, orders or other similar enactments of any Governmental Authority regulating or relating to health, safety, or environmental conditions on, under, or about the Premises or the Project, or the environment, including

without limitation, the following: the Comprehensive Environmental Response, Compensation and Liability Act; the Resource Conservation and Recovery Act, and all state and local counterparts thereto, and any regulations or policies promulgated or issued thereunder. The term “**Hazardous Materials**” means and includes any substance, material, waste, pollutant, or contaminant listed or defined as hazardous or toxic, or regulated by reason of its impact or potential impact on humans, animals and/or the environment under any Environmental Requirements, asbestos and petroleum, including crude oil or any fraction thereof, natural gas liquids, liquefied natural gas, or synthetic gas usable for fuel (or mixtures of natural gas and such synthetic gas). As defined in Environmental Requirements, Tenant is and shall be deemed to be the “**operator**” of Tenant’s “**facility**” and the “**owner**” of all Hazardous Materials brought on the Premises by Tenant or any Tenant Party, and the wastes, by-products, or residues generated, resulting, or produced therefrom.

(b) **Indemnity.** Tenant hereby indemnifies and shall defend and hold Landlord and each of the Landlord Parties harmless from any and all actions (including, without limitation, remedial or enforcement actions of any kind, administrative or judicial proceedings, and orders or judgments arising out of or resulting therefrom), costs, claims, damages (including, without limitation, punitive damages and damages based upon diminution in value of the Premises or the Project, or the loss of, or restriction on, use of the Premises or any portion of the Project), expenses (including, without limitation, attorneys’, consultants’ and experts’ fees, court costs and amounts paid in settlement of any claims or actions), fines, forfeitures or other civil, administrative or criminal penalties, injunctive or other relief (whether or not based upon personal injury, property damage, or contamination of, or adverse effects upon, the environment, water tables or natural resources), liabilities or losses (collectively, “**Environmental Claims**”) which arise during or after the Term as a result of such breach by Tenant of its obligations stated in the preceding sentence or as a result of such contamination. This indemnification of Landlord by Tenant includes, without limitation, costs incurred in connection with any investigation of site conditions or any cleanup, remedial, removal, or restoration work required by any federal, state or local Governmental Authority because of Hazardous Materials present in the air, soil or ground water above, on, or under the Premises. Without limiting the foregoing, if the presence of any Hazardous Materials on the Premises, the Project or any adjacent property caused or permitted by Tenant or any Tenant Party results in any contamination of the Premises, the Project or any adjacent property. Tenant shall promptly take all actions at its sole expense and in accordance with applicable law as are necessary to return the Premises, the Project or any adjacent property to the condition existing prior to the time of such contamination, provided that Landlord’s approval of such action shall first be obtained, which approval shall not unreasonably be withheld so long as such actions would not potentially have any material adverse long-term or short-term effect on the Premises or the Project. Notwithstanding anything to the contrary contained in this Section 26(b), Tenant shall not be responsible for the clean up or remediation of, and the indemnification and hold harmless obligation set forth in this paragraph shall not apply to contamination on the Project or in the Premises that Tenant can demonstrate to Landlord’s reasonable satisfaction was present on the Project or in the Premises prior to the date of this Lease or in the case of contamination in the Shared Conference Facility was not caused by an act or omission of Tenant, except in any case to the extent Tenant and/or any of the Tenant Parties have exacerbated or contributed to such contamination, and provided that it is understood that Tenant shall have the burden of proof with respect to whether such contamination was present on the Project or in the Premises prior to the date of this Lease or whether such contamination in the Shared Conference Facility was not caused by an act or omission of Tenant.

(c) **Landlord’s Tests.** Landlord shall have access to, and a right to perform inspections and tests of the Premises to determine Tenant’s compliance with Environmental Requirements, its obligations under this Section 26, or the environmental condition of the Premises or the Project. In connection with such testing, upon the request of Landlord, Tenant shall deliver to Landlord or its consultant such nonproprietary information concerning the use of Hazardous Materials in or about the Premises by Tenant or any Tenant Party. Access to the Premises shall be granted to Landlord upon Landlord’s prior notice to Tenant and at such times so as to minimize, so far as may be reasonable under the circumstances, any disturbance to Tenant’s operations. Such inspections and tests shall be conducted at Landlord’s expense, unless such inspections or tests reveal that Tenant has not complied with any Environmental

Requirement, in which case Tenant shall reimburse Landlord for the reasonable cost of such inspection and tests. Tenant shall, at its sole cost and expense, promptly and satisfactorily remediate any environmental conditions for which Tenant is responsible pursuant to this Section 26 and that are identified by such testing in accordance with all Environmental Requirements. Landlord's receipt of or satisfaction with any environmental assessment in no way waives any rights that Landlord may have against Tenant.

(d) **Tenant's Obligations.** Tenant's obligations under this Section 26 shall survive the expiration or earlier termination of the Lease. During any period of time after the expiration or earlier termination of this Lease required by Tenant or Landlord to complete the removal from the Premises of any Hazardous Materials for which Tenant is responsible under this Lease (including, without limitation, the release and termination of any licenses or permits restricting the use of the Premises and the completion of the approved Surrender Plan), Tenant shall continue to pay the full Rent in accordance with this Lease for any portion of the Premises not relet by Landlord in Landlord's sole discretion, which Rent shall be prorated daily.

(e) **Asbestos.**

(i) **Notification of Asbestos.** Landlord hereby notifies Tenant of the presence of asbestos-containing materials ("ACMs") and/or presumed asbestos-containing materials ("PACMs") within or about the Premises in the locations identified in **Exhibit J** attached hereto.

(ii) **Tenant Acknowledgement.** Tenant hereby acknowledges receipt of the notification in paragraph (i) of this Section 26 and understand that the purpose of such notification is to make Tenant, and any agents, employees, and contractors of Tenant, aware of the presence of ACMs and/or PACMs within or about the Building in order to avoid or minimize any damage to or disturbance of such ACMs and/or PACMs.

\_\_\_\_\_  
Tenant's Initials

(iii) **Acknowledgement from Contractors/Employees.** Tenant shall give Landlord at least 14 days' prior written notice before conducting, authorizing or permitting any of the activities listed below within or about the Premises, and before soliciting bids from any person to perform such services. Such notice shall identify or describe the proposed scope, location, date and time of such activities and the name, address and telephone number of each person who may be conducting such activities. Thereafter, Tenant shall grant Landlord reasonable access to the Premises to determine whether any ACMs or PACMs will be disturbed in connection with such activities. Tenant shall not solicit bids from any person for the performance of such activities without Landlord's prior written approval (such approval not to be unreasonably withheld). Upon Landlord's request, Tenant shall deliver to Landlord a copy of a signed acknowledgement from any contractor, agent, or employee of Tenant acknowledging receipt of information describing the presence of ACMs and/or PACMs within or about the Premises in the locations identified in **Exhibit J** prior to the commencement of such activities. Nothing in this Section 26 shall be deemed to expand Tenant's rights under the Lease or otherwise to conduct, authorize or permit any such activities.

(A) Removal of thermal system insulation ("TSI") and surfacing ACMs and PACMs (i.e., sprayed-on or troweled-on material, e.g., textured ceiling paint or fireproofing material);

(B) Removal of ACMs or PACMs that are not TSI or surfacing ACMs or PACMs; or

(C) Repair and maintenance of operations that are likely to disturb ACMs or PACMs.

27. **Tenant's Remedies/Limitation of Liability.** Landlord shall not be in default hereunder unless Landlord fails to perform any of its obligations hereunder within 30 days after written notice from Tenant specifying such failure (unless such performance will, due to the nature of the obligation, require a period of time in excess of 30 days, then after such period of time as is reasonably necessary), provided, however, that if the nature of Landlord's obligation arises from an emergency condition and Tenant provides notice to Landlord (which may be telephonic if followed by written notice on the same day describing the emergency condition in reasonable detail, including without limitation the emergency nature of the condition and specifying in all capital letters and boldface type that the condition is an emergency and response is required by Landlord pursuant to the Lease), then Landlord shall respond within a reasonable period after receipt of such notice of the emergency condition. Upon any default by Landlord, Tenant shall give notice by registered, certified or overnight mail to any Holder of a Mortgage covering the Premises and to any landlord of any lease of property in or on which the Premises are located and Tenant shall offer such Holder and/or landlord a reasonable opportunity to cure the default, including time to obtain possession of the Project by power of sale or a judicial action if such should prove necessary to effect a cure; provided Landlord shall have furnished to Tenant in writing the names and addresses of all such persons who are to receive such notices. All obligations of Landlord hereunder shall be construed as covenants, not conditions; and, except as may be otherwise expressly provided in this Lease, Tenant may not terminate this Lease for breach of Landlord's obligations hereunder.

28. **Inspection and Access.** Subject to the next sentence, Landlord and its agents, representatives, and contractors may enter the Premises at any reasonable time to inspect the Premises and to make such repairs as may be required or permitted pursuant to this Lease, to perform such environmental tests as may be reasonably required to confirm Tenant's compliance with the terms hereof and for any other business purpose. Landlord and Landlord's representatives may enter the Premises during business hours on not less than 48 hours advance written notice (except in the case of emergencies in which case no such notice shall be required and such entry may be at any time) for the purpose of effecting any such repairs, inspecting the Premises, showing the Premises to prospective purchasers and, during the last year of the Term, to prospective tenants or for any other business purpose.

29. **Security.** Tenant acknowledges and agrees that security devices and services, if any, while intended to deter crime may not in given instances prevent theft or other criminal acts and that Landlord is not providing any security services with respect to the Premises, Shared Conference Facility or Common Areas. Tenant agrees that Landlord shall not be liable to Tenant for, and Tenant waives any claim against Landlord with respect to, any loss by theft or any other damage suffered or incurred by Tenant in connection with any unauthorized entry into the Premises, Shared Conference Facility or Common Areas or any other breach of security with respect to the Premises, Shared Conference Facility, Common Areas or other portion of the Project. Tenant shall be solely responsible for the personal safety of Tenant's officers, employees, agents, contractors, guests and invitees while any such person is in, on or about the Premises and/or the Project. Tenant shall at Tenant's cost obtain insurance coverage to the extent Tenant desires protection against such criminal acts.

30. **No Broker; Entire Agreement; Amendment.** Landlord and Tenant each represents and warrants that it has not dealt with any broker, agent or other person (collectively, "**Broker**") in connection with this transaction and that no Broker brought about this transaction, other than Cushman & Wakefield of Massachusetts and Richards Barry Joyce & Partners, whose commission shall be paid by Landlord pursuant to a separate agreement. Landlord and Tenant each hereby agree to indemnify and hold the other harmless from and against any claims by any Broker, other than the broker, if any named in this Section 30, claiming a commission or other form of compensation by virtue of having dealt with Tenant or Landlord, as applicable, with regard to this leasing transaction. This Lease constitutes the entire agreement between Landlord and Tenant pertaining to the lease of the Premises and supersedes all other agreements, whether oral or written, pertaining to the lease of the Premises, and no other

agreements with respect thereto shall be effective. Any amendments or modifications of this Lease shall be in writing and signed by both Landlord and Tenant, and any other attempted amendment or modification of this Lease shall be void.

31. **Limitation on Landlord's Liability.** NOTWITHSTANDING ANYTHING SET FORTH HEREIN OR IN ANY OTHER AGREEMENT BETWEEN LANDLORD AND TENANT TO THE CONTRARY: (A) LANDLORD SHALL NOT BE LIABLE TO TENANT OR ANY OTHER PERSON FOR (AND TENANT AND EACH SUCH OTHER PERSON ASSUME ALL RISK OF) LOSS, DAMAGE OR INJURY, WHETHER ACTUAL OR CONSEQUENTIAL TO: TENANT'S PERSONAL PROPERTY OF EVERY KIND AND DESCRIPTION, INCLUDING, WITHOUT LIMITATION TRADE FIXTURES EQUIPMENT, INVENTORY, SCIENTIFIC RESEARCH, SCIENTIFIC EXPERIMENTS, LABORATORY ANIMALS, PRODUCT, SPECIMENS, SAMPLES, AND/OR SCIENTIFIC, BUSINESS, ACCOUNTING AND OTHER RECORDS OF EVERY KIND AND DESCRIPTION KEPT AT THE PREMISES AND ANY AND ALL INCOME DERIVED OR DERIVABLE THEREFROM; (B) THERE SHALL BE NO PERSONAL RECOURSE TO LANDLORD FOR ANY ACT OR OCCURRENCE IN, ON OR ABOUT THE PREMISES OR ARISING IN ANY WAY UNDER THIS LEASE OR ANY OTHER AGREEMENT BETWEEN LANDLORD AND TENANT WITH RESPECT TO THE SUBJECT MATTER HEREOF AND ANY LIABILITY OF LANDLORD HEREUNDER SHALL BE STRICTLY LIMITED SOLELY TO LANDLORD'S INTEREST IN THE PROJECT OR ANY PROCEEDS FROM SALE OR CONDEMNATION THEREOF AND ANY INSURANCE PROCEEDS PAYABLE IN RESPECT OF LANDLORD'S INTEREST IN THE PROJECT OR IN CONNECTION WITH ANY SUCH LOSS; AND (C) IN NO EVENT SHALL ANY PERSONAL LIABILITY BE ASSERTED AGAINST LANDLORD OR ITS OFFICERS, DIRECTORS, EMPLOYEES, AGENTS OR CONTRACTORS IN CONNECTION WITH THIS LEASE NOR SHALL ANY RECOURSE BE HAD TO ANY OTHER PROPERTY OR ASSETS OF LANDLORD OR ANY OF LANDLORD'S OFFICERS, DIRECTORS, EMPLOYEES, AGENTS OR CONTRACTORS. UNDER NO CIRCUMSTANCES SHALL LANDLORD OR ANY OF LANDLORD'S OFFICERS, DIRECTORS, EMPLOYEES, AGENTS OR CONTRACTORS BE LIABLE FOR INJURY TO TENANT'S BUSINESS OR FOR ANY LOSS OF INCOME OR PROFIT THEREFROM.

32. **Severability.** If any clause or provision of this Lease is illegal, invalid or unenforceable under present or future laws, then and in that event, it is the intention of the parties hereto that the remainder of this Lease shall not be affected thereby.

33. **Signs; Exterior Appearance.** Tenant shall not: (i) attach anything at any time to any outside wall of the Project, (ii) use any window coverings or sunscreen other than Landlord's standard window coverings, (iii) place any articles on the window sills, (iv) place any items on any exterior balcony, or (v) paint, affix or exhibit any signs or any kind in the Premises which can be viewed from the exterior of the Premises. Interior signs on doors, signage at the entrance of the Premises and the directory tablet, in each case in Building standard form, shall be provided by Landlord at Landlord's sole cost and expense.

34. **Right to Extend Term.** Tenant shall have the right to extend the Term of the Lease upon the following terms and conditions:

(a) **Extension Right.** Tenant shall have 1 right (the "**Extension Right**") to extend the term of this Lease for 3 years (the "**Extension Term**") on the same terms and conditions as this Lease (other than Base Rent) by giving Landlord written notice of its election to exercise the Extension Right at least 9 months prior to the expiration of the original Term of the Lease. Promptly after receipt of Tenant's exercise notice, Landlord shall provide Tenant with Landlord's determination of the Market Rate for the Extension Term.

Upon the commencement of the Extension Term, Base Rent shall be payable at 95% of the Market Rate (as defined below). Base Rent shall thereafter be adjusted on each annual anniversary of the commencement of such Extension Term by a percentage as determined by Landlord and agreed to by Tenant at the time the Market Rate is determined. As used herein, "**Market Rate**" shall mean the then market rental rate for office space in East Cambridge of comparable age, quality, level of finish and



proximity to amenities and public transit. The Market Rate shall initially be determined by Landlord and submitted to Tenant for its consideration. If, on or before the date which is 120 days prior to the expiration of the original Term of this Lease, Tenant has not agreed with Landlord's determination of the Market Rate after negotiating in good faith, Tenant may by written notice to Landlord not later than 120 days prior to the expiration of the original Term of this Lease, elect arbitration as described in Section 34(b) below. If Tenant has not agreed with Landlord's determination of the Market Rate and does not elect such arbitration prior to the date that is 120 days prior to the expiration of the original Term, Tenant shall be deemed to have waived any right to extend.

(b) **Arbitration.** Within 10 days of Tenant's notice to Landlord of its election to arbitrate Market Rate and escalations, each party shall deliver to the other a proposal containing the Market Rate and escalations that the submitting party believes to be correct ("**Extension Proposal**"). If either party fails to timely submit an Extension Proposal, the other party's submitted proposal shall determine the Base Rent and escalations for the Extension Term. If both parties submit Extension Proposals, then Landlord and Tenant shall meet within 7 days after delivery of the last Extension Proposal and make a good faith attempt to mutually appoint a single Arbitrator (and defined below) to determine the Market Rate and escalations. If Landlord and Tenant are unable to agree upon a single Arbitrator, then each shall, by written notice delivered to the other within 10 days after the meeting, select an Arbitrator. If either party fails to timely give notice of its selection for an Arbitrator, the other party's submitted proposal shall determine the Base Rent for the Extension Term. The 2 Arbitrators so appointed shall, within 5 business days after their appointment, appoint a third Arbitrator. If the 2 Arbitrators so selected cannot agree on the selection of the third Arbitrator within the time above specified, then either party, on behalf of both parties, may request such appointment of such third Arbitrator by application to any state court of general jurisdiction in the jurisdiction in which the Premises are located, upon 10 days prior written notice to the other party of such intent.

The decision of the Arbitrator(s) shall be made within 30 days after the appointment of a single Arbitrator or the third Arbitrator, as applicable. The decision of the single Arbitrator shall be final and binding upon the parties. The average of the two closest Arbitrators in a three Arbitrator panel shall be final and binding upon the parties. Each party shall pay the fees and expenses of the Arbitrator appointed by or on behalf of such party and the fees and expenses of the third Arbitrator shall be borne equally by both parties. If the Market Rate and escalations not determined by the first day of the Extension Term, then Tenant shall pay Landlord Base Rent in an amount equal to the Base Rent in effect immediately prior to the Extension Term and increased by the Rent Adjustment Percentage until such determination is made. After the determination of the Market Rate and escalations, the parties shall make any necessary adjustments to such payments made by Tenant. Landlord and Tenant shall then execute an amendment recognizing the Market Rate and escalations for the Extension Term.

An "**Arbitrator**" shall be any person appointed by or on behalf of either party or appointed pursuant to the provisions hereof and: (i) shall be (A) a member of the American Institute of Real Estate Appraisers with not less than 10 years of experience in the appraisal of improved office and high tech or life sciences space in the greater Boston metropolitan area, or (B) a licensed commercial real estate broker with not less than 15 years experience representing landlords and/or tenants in the leasing of improved office and high tech or life sciences space in the greater Boston metropolitan area, (ii) devoting substantially all of their time to professional appraisal or brokerage work, as applicable, at the time of appointment and (iii) be in all respects impartial and disinterested.

(c) **Rights Personal.** The Extension Right is personal to Tenant (and successors pursuant to a Permitted Assignment) and not assignable without Landlord's consent, which may be granted or withheld in Landlord's sole discretion separate and apart from any consent by Landlord to an assignment of Tenant's interest in the Lease.

(d) **Exceptions.** Notwithstanding anything set forth above to the contrary, the Extension Right shall not be in effect and Tenant may not exercise the Extension Right:

(i) during any period of time that Tenant is in Default under any provision of this Lease; or

(ii) if Tenant has been in Default under any provision of this Lease 3 or more times, whether or not the Defaults are cured, during the 12 month period immediately prior to the date that Tenant intends to exercise the Extension Right, whether or not the Defaults are cured.

(e) **No Extensions.** The period of time within which the Extension Right may be exercised shall not be extended or enlarged by reason of Tenant's inability to exercise the Extension Right.

(f) **Termination.** The Extension Right shall terminate and be of no further force or effect even after Tenant's due and timely exercise of the Extension Right, if, after such exercise, but prior to the commencement date of the Extension Term, (i) Tenant fails to timely cure any default by Tenant under this Lease; or (ii) Tenant has Defaulted 3 or more times during the period from the date of the exercise of the Extension Right to the date of the commencement of the Extension Term, whether or not such Defaults are cured.

### 35. Right of First Refusal.

(a) **Expansion in the Building.** Subject to rights granted to other tenants of the Project prior to the date of this Lease, each time during the Base Term that Landlord intends to accept a written proposal (the "**Pending Deal**") to lease the Available Space (as hereinafter defined) to a third party, Landlord shall deliver to Tenant written notice (the "**Pending Deal Notice**") of the existence of such Pending Deal. For purposes of this Section 35(a), "**Available Space**" shall mean those certain portions of the second floor of the Project shown on **Exhibit A**, which is not occupied by a tenant or which is occupied by an existing tenant whose lease is expiring within 6 months or less and such tenant does not wish to renew (whether or not such tenant has a right to renew) its occupancy of such space. Tenant shall be entitled to exercise its right under this Section 35(a) only with respect to the entire Available Space described in such Pending Deal Notice. Within 5 business days after Tenant's receipt of the Pending Deal Notice, Tenant shall deliver to Landlord written notice (the "**Space Acceptance Notice**") if Tenant elects to lease the Available Space. Tenant's right to receive the Pending Deal Notice and election to lease or not lease the Available Space pursuant to this Section 35(a) is hereinafter referred to as the "**Right of First Refusal.**" If Tenant elects to lease the Available Space described in the Pending Deal Notice by delivering the Space Acceptance Notice within the required 5 business day period, Tenant shall be deemed to agree to lease the Available Space on the same general terms and conditions as this Lease except that the terms of this Lease shall be modified to reflect the terms of the Pending Deal. The term of the Lease with respect to the Available Space shall be the term reflected in the Pending Deal, which Tenant acknowledges and agrees may not be co-terminous with the Term of this Lease with respect to the Premises. Notwithstanding anything to the contrary contained herein, in no event shall the Work Letter apply to the Available Space. If Tenant fails to deliver a Space Acceptance Notice to Landlord within the required 5 business day period, Tenant shall be deemed to have waived its rights under this Section 35(a) with respect to the Available Space identified in the Pending Deal Notice and Landlord shall have the right to lease such Available Space to the third party subject to the Pending Deal (or an affiliate of such third party) ("**Pending Deal Party**"). Notwithstanding the foregoing, Tenant's Right of First Refusal shall be restored if Landlord fails to enter into an agreement to lease the Available Space to the Pending Deal Party within 6 months after Landlord's delivery of the Pending Deal Notice to Tenant; provided, however, that in no event shall the Right of First Refusal continue after the expiration of the Base Term. In no event shall Landlord be required to disclose the identity of any Pending Deal Party to Tenant.

(b) **Amended Lease.** If: (i) Tenant fails to timely deliver a Space Acceptance Notice, or (ii) after the expiration of a period of 10 days after Landlord's delivery to Tenant of a lease amendment or lease agreement for Tenant's lease of the Available Space, no lease amendment or lease agreement for the Available Space acceptable to both parties each in their sole and absolute discretion, has been executed, Tenant shall be deemed to have waived its right to lease such Available Space.

(c) **Exceptions.** Notwithstanding the above, the Right of First Refusal shall, at Landlord's option, not be in effect and may not be exercised by Tenant:

(i) during any period of time that Tenant is in Default under any provision of the Lease; or

(ii) if Tenant has been in Default under any provision of the Lease 3 or more times, whether or not the Defaults are cured, during the 12 month period prior to the date on which Tenant seeks to exercise the Right of First Refusal.

(d) **Termination.** The Right of First Refusal shall, at Landlord's option, terminate and be of no further force or effect even after Tenant's due and timely exercise of the Right of First Refusal, if, after such exercise, but prior to the commencement date of the lease of such Available Space, (i) Tenant fails to timely cure any Default by Tenant under the Lease; or (ii) Tenant has Defaulted 3 or more times during the period from the date of the exercise of the Right of First Refusal to the date of the commencement of the lease of the Available Space, whether or not such Defaults are cured.

(e) **Rights Personal.** The Right of First Refusal is personal to Tenant (and successors pursuant to a Permitted Assignment) and is not assignable without Landlord's consent, which may be granted or withheld in Landlord's sole discretion separate and apart from any consent by Landlord to an assignment of Tenant's interest in the Lease.

(f) **No Extensions.** The period of time within which the Right of First Refusal may be exercised shall not be extended or enlarged by reason of Tenant's inability to exercise the Right of First Refusal.

### 36. Miscellaneous.

(a) **Notices.** Except as otherwise provided herein, all notices or other communications between the parties shall be in writing and shall be deemed duly given upon delivery or refusal to accept delivery by the addressee thereof if delivered in person, confirmed receipt by facsimile, or upon delivery if delivered by reputable overnight guaranty courier or certified mail return receipt requested, addressed and sent to the parties at their addresses set forth above. Landlord and Tenant may from time to time by written notice to the other designate another address for receipt of future notices.

(b) **Recordation.** Neither this Lease nor a memorandum of lease shall be filed by or on behalf of Tenant in any public record. Landlord may prepare and file, and upon request by Landlord Tenant will execute, a memorandum of lease.

(c) **Interpretation.** The normal rule of construction to the effect that any ambiguities are to be resolved against the drafting party shall not be employed in the interpretation of this Lease or any exhibits or amendments hereto. The captions inserted in this Lease are for convenience only and in no way define, limit or otherwise describe the scope or intent of this Lease, or any provision hereof, or in any way affect the interpretation of this Lease.

(d) **Not Binding Until Executed.** The submission by Landlord to Tenant of this Lease shall have no binding force or effect, shall not constitute an option for the leasing of the Premises, nor confer any right or impose any obligations upon either party until execution of this Lease by both parties.

(e) **Limitations on Interest.** It is expressly the intent of Landlord and Tenant at all times to comply with applicable law governing the maximum rate or amount of any interest payable on or in connection with this Lease. If applicable law is ever judicially interpreted so as to render usurious any interest called for under this Lease, or contracted for, charged, taken, reserved, or received with respect to this Lease, then it is Landlord's and Tenant's express intent that all excess amounts theretofore

collected by Landlord be credited on the applicable obligation (or, if the obligation has been or would thereby be paid in full, refunded to Tenant), and the provisions of this Lease immediately shall be deemed reformed and the amounts thereafter collectible hereunder reduced, without the necessity of the execution of any new document, so as to comply with the applicable law, but so as to permit the recovery of the fullest amount otherwise called for hereunder.

(f) **Choice of Law.** Construction and interpretation of this Lease shall be governed by the internal laws of the state in which the Premises are located, excluding any principles of conflicts of laws.

(g) **Time.** Time is of the essence as to the performance of Tenant's obligations under this Lease.

(h) **Force Majeure.** Except for the payment of Rent, neither Landlord nor Tenant shall be held responsible or liable for delays in the performance of its obligations hereunder when caused by, related to, or arising out of acts of God, strikes, lockouts, or other labor disputes, embargoes, quarantines, weather, national, regional, or local disasters, calamities, or catastrophes, inability to obtain labor or materials (or reasonable substitutes therefor) at reasonable costs or failure of, or inability to obtain, utilities necessary for performance, governmental restrictions, orders, limitations, regulations, or controls, national emergencies, delay in issuance or revocation of permits, enemy or hostile governmental action, terrorism, insurrection, riots, civil disturbance or commotion, fire or other casualty, and other causes or events beyond their reasonable control (individually or collectively, "**Force Majeure**"), it being understood that Force Majeure shall not include financial difficulties of Landlord or Tenant, if any.

(i) **Financial Information.** Tenant shall furnish Landlord with true and complete copies of (i) Tenant's most recent audited annual financial statements within 90 days of the end of each of Tenant's fiscal years during the Term, (ii) Tenant's most recent unaudited quarterly financial statements within 45 days of the end of each of Tenant's first three fiscal quarters of each of Tenant's fiscal years during the Term, (iii) at Landlord's request from time to time but not more than once in any 12 month period, updated business plans, including cash flow projections and/or pro forma balance sheets and income statements, all of which shall be treated by Landlord as confidential information belonging to Tenant, (iv) corporate brochures and/or profiles prepared by Tenant for prospective investors, and (v) any other financial information or summaries that Tenant typically provides to its lenders or shareholders. Notwithstanding the foregoing, in no event shall Tenant be required to provide any financial information to Landlord which Tenant does not otherwise prepare (or cause to be prepared) for its own purposes.

(j) **OFAC.** Tenant, and all beneficial owners of Tenant, are currently (a) in compliance with, and shall at all times during the Term of this Lease remain in compliance with, the regulations of the Office of Foreign Assets Control ("**OFAC**") of the U.S. Department of Treasury and any statute, executive order, or regulation relating thereto (collectively, the "**OFAC Rules**"), (b) not listed on, and shall not during the Term of this Lease be listed on, the Specially Designated Nationals and Blocked Persons List maintained by OFAC and/or on any other similar list maintained by OFAC or other governmental authority pursuant to any authorizing statute, executive order, or regulation, and (c) not a person or entity with whom a U.S. person is prohibited from conducting business under the OFAC Rules.

(k) **Incorporation by Reference.** All exhibits and addenda attached hereto are hereby incorporated into this Lease and made a part hereof. If there is any conflict between such exhibits or addenda and the terms of this Lease, such exhibits or addenda shall control, except in the case of conflict between the Rules and Regulations in **Exhibit I**. In the event of any conflict between the Rules and Regulations in **Exhibit I** and the Lease, the Lease shall control.

(l) **No Accord and Satisfaction.** No payment by Tenant or receipt by Landlord of a lesser amount than the monthly installment of Base Rent or any Additional Rent will be other than on account of the earliest stipulated Base Rent and Additional Rent, nor will any endorsement or statement on any check or letter accompanying a check for payment of any Base Rent or Additional Rent be an accord and satisfaction. Landlord may accept such check or payment without prejudice to Landlord's right to recover the balance of such Rent or to pursue any other remedy provided in this Lease.

(m) **Hazardous Activities.** Notwithstanding any other provision of this Lease, Landlord, for itself and its employees, agents and contractors, reserves the right to refuse to perform any repairs or services in any portion of the Premises which, pursuant to Tenant's routine safety guidelines, practices or custom or prudent industry practices, require any form of protective clothing or equipment other than safety glasses. In any such case, Tenant shall contract with parties who are acceptable to Landlord, in Landlord's reasonable discretion, for all such repairs and services, and Landlord shall, to the extent required, equitably adjust Tenant's Share of Operating Expenses in respect of such repairs or services to reflect that Landlord is not providing such repairs or services to Tenant.

[ Signatures on next page ]

IN WITNESS WHEREOF, Landlord and Tenant have executed this Lease as of the day and year first above written.

**TENANT:**

**SAGE THERAPEUTICS, INC.,**  
a Delaware corporation

By: /s/ KEVIN STARR

Its: KEVIN STARR, PRESIDENT

**LANDLORD:**

**ARE-MA REGION NO. 38, LLC,** a Delaware limited liability corporation

By: Alexandria Real Estate Equities, L.P.,  
a Delaware limited partnership,  
managing member

By: ARE-QRS Corp., a Maryland corporation, general partner

By: /s/ Eric S. Johnson

Its: \_\_\_\_\_

Eric S. Johnson  
Vice President  
Real Estate Legal Affairs

EXHIBIT A TO LEASE

DESCRIPTION OR PLAN OF PREMISES



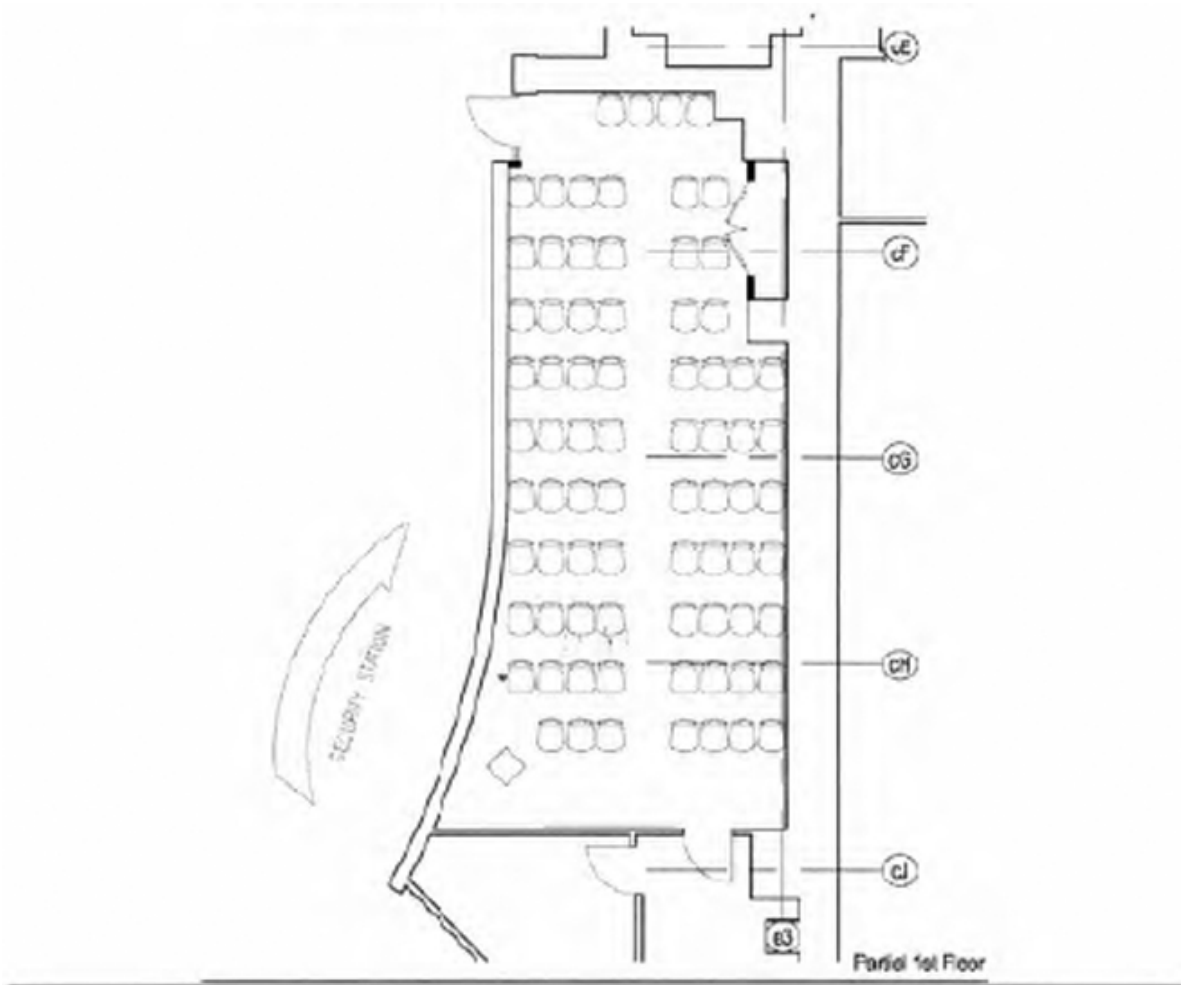
**EXHIBIT B TO LEASE**

**INTENTIONALLY OMITTED**



EXHIBIT C TO LEASE

DESCRIPTION OR PLAN OF SHARED CONFERENCE FACILITY



**EXHIBIT D TO LEASE****DESCRIPTION OF PROJECT**

A certain parcel of land with the buildings thereon, in Cambridge, Middlesex County, Massachusetts, known as and numbered 215 First Street, and bounded and described as follows:

Beginning at the northwest corner of Athenaeum Street and First Street, said point being the southeasterly corner of the parcel;

Thence running N 80 degrees 12'27" W, a distance of 399.30 feet along the northerly line of said Athenaeum Street;

Thence turning and running N 09 degrees 43'10" E, a distance of 200.00 feet along the easterly line of Second Street;

Thence turning and running S 80 degrees 12'27" E, a distance of 399.41 feet along the southerly line of Munroe Street;

Thence turning and running S 09 degrees 45'06" W, a distance of 200.00 feet along the westerly line of First Street to the point of beginning.

The above described parcel contains 79,871 square feet, more or less.

**EXHIBIT E TO LEASE****LICENSE AGREEMENT**

THIS LICENSE AGREEMENT (this “**Agreement**”), dated as of \_\_\_\_\_, 2011, is made and entered into by and between **ARE-MA REGION NO. 38, LLC**, a Delaware limited liability company (“**Licensor**”), and **SAGE THERAPEUTICS, INC.**, a Delaware corporation (“**Licensee**”), with reference to the following Recitals:

**RECITALS**

**A.** Licensor is the owner of that certain property commonly known as 215 First Street, Cambridge, Massachusetts (the “**Property**”).

**B.** Concurrently herewith, Licensee and Licensor are entering into that certain Lease Agreement (the “**Lease**”) for certain space located at the Property and more particularly described therein (the “**Premises**”). All initially capitalized terms used herein but not otherwise defined shall have the respective meanings ascribed thereto in the Lease.

**C.** Licensee desires to have, and Licensor desires to grant to Licensee, certain rights to access and use a certain area of the Property described as the “**Shared Conference Facility**” on **Exhibit 1** attached hereto, all in accordance with the terms and provisions set forth below.

**AGREEMENT**

For and in consideration of the covenants and premises herein contained and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereby agree as follows:

**1. License; Scheduling and Fees for Shared Conference Facility.**

(a) **License.** Licensor hereby grants Licensee, and Licensee hereby accepts, a non-exclusive license to use the Shared Conference Facility subject to the terms and provisions of this Agreement.

(b) **Scheduling and Fees for Shared Conference Facility.** Use by Licensee of the Shared Conference Facility shall be in common with others entitled to use the Shared Conference Facility in accordance with scheduling procedures reasonably determined by Licensor. Licensor shall use commercially reasonable efforts to schedule users on a first-come, first-served basis, but Licensor reserves the right to exercise its discretion in the event of conflicting scheduling requests among users. The first two occasions in a calendar month that Licensee uses the Shared Conference Facility shall be at no charge for such use, and thereafter Licensee shall pay the hourly charges established by Licensor from time to time for use of the Shared Conference Facility. The current hourly charge for the use of the Shared Conference Facility as of the date of this Lease is \$200 per hour and is subject to change as determined by Licensor from time to time. Payment of such hourly charges shall be made within 10 days of invoice therefor, and Licensor reserves the right to require an advance deposit from time to time.

**2. Use.** Licensee shall exercise its limited rights hereunder in compliance with all laws, orders, judgments, ordinances, regulations, codes, directives, permits, licenses, covenants and restrictions now or hereafter applicable to the Property or Shared Conference Facility and the use and occupancy thereof, including the rules and regulations attached as **Exhibit 3** hereto, as the same may be revised by Licensor from time to time.

3. **Term.** The term of this Agreement shall commence on the Commencement Date set forth in the Lease (the “**Commencement Date**”) and continue until the earlier to occur of (a) the last day on which Licensee is entitled to occupy the Premises pursuant to the terms of the Lease, (b) the date this Agreement is sooner terminated pursuant to its terms, and (c) the date the Lease is sooner terminated pursuant to its terms. The period between the Commencement Date and the date of termination of this Agreement shall be the “**Term.**”

4. **Relocation and Modification of Shared Conference Facility.** Licensor shall have the right at any time to reconfigure, relocate or modify the Shared Conference Facility from time to time and to revise or expand any of the services (if any) provided therein; provided, however, that such reconfiguration, relocation or modification of the respective facility or any revision or expansion of services shall not materially adversely affect Tenant’s use of such facility or service as permitted pursuant to this Agreement.

5. **Interference.** Licensee shall use the Shared Conference Facility in a manner that will not interfere with the rights of any tenants, other licensees or Licensor’s service providers. Licensor assumes no responsibility for enforcing Licensee’s rights or for protecting the Shared Conference Facility from interference or use from any person, including, without limitation, tenants or other licensees of the Property.

6. **Default by Licensee.**

(a) It is mutually agreed that Licensee shall be in default hereunder (“**Default**”),

(i) if Licensee fails to comply with any of the terms or provisions of this Agreement, and fails to cure such default within 30 days after the date of delivery of written notice of default from Licensor, provided that if the nature of such default is such that it cannot be cured by the payment of money and reasonably requires more than 30 days to cure, then Licensee shall not be deemed to be in Default under this License if Licensee commences such cure within 30 days of the aforesaid notice from Licensor and thereafter diligently prosecutes such cure to completion within 90 days of the aforesaid notice from Licensor; or

(ii) with respect to the Shared Conference Facility, if Licensee fails to pay any fees or charges for use of the Shared Conference Facility or other amounts required hereunder when due pursuant to this Agreement; provided, however, that Licensor will give Licensee notice and an opportunity to cure any failure to pay such fees or charges within 3 business days of any such notice not more than once in any 12 month period and Licensee agrees that such notice shall be in lieu of and not in addition to, or shall be deemed to be, any notice required by law or

(iii) during the occurrence and continuation of any Default (as defined in the Lease) under the Lease.

(b) In the event of any Default by Licensee hereunder, Licensor shall be entitled to all rights and remedies provided for Landlord under the Lease, and all other rights and remedies provided at law or in equity, including without limitation, termination of this Agreement and the license granted hereunder.

7. **Indemnification and Limitation of Liability.**

(a) Licensor’s sole obligation for providing standby generators or any other standby power equipment, other equipment, systems, furnishings or personal property to the Shared Conference Facility, whether or not affixed to the Building (collectively, “**Equipment**”) shall be (i) to provide such Equipment as is determined by Licensor in its sole and absolute discretion, and (ii) to contract with a third party (determined by Licensor to be qualified) to maintain the Equipment that is deemed by Licensor (in its reasonable professional discretion) to need periodic maintenance per the manufacturer’s standard

maintenance guidelines. Licensor shall have no obligation to provide Licensee with operational Equipment, back-up Equipment or back-up utilities or to supervise, oversee or confirm that the third party maintaining the Equipment is maintaining the Equipment as per the manufacturer's standard guidelines or otherwise. During any period of replacement, repair or maintenance of the Equipment when such Equipment is not operational, including any delays thereto due to the inability to obtain parts or replacements, Licensor shall have no obligation to provide Licensee with alternative or back-up Equipment or alternative sources of utilities. Licensee expressly acknowledges and agrees that Licensor does not guaranty that the Equipment will be operational at all times, will function or perform adequately, or that emergency power will be available to the Premises when needed, and Licensor shall not be liable for any damages resulting from the failure of such Equipment. Licensee hereby releases Licensor from and against any and all claims arising directly or indirectly out of or relating to the Equipment, or the existence, use of failure thereof, unless caused solely by the willful misconduct or gross negligence of Licensor. The terms and provisions of this Section 7(a) shall survive the expiration or earlier termination of this Agreement.

(b) NOTWITHSTANDING ANYTHING SET FORTH HEREIN OR IN ANY OTHER AGREEMENT BETWEEN LICENSOR AND LICENSEE TO THE CONTRARY: (i) LICENSOR SHALL NOT BE LIABLE TO LICENSEE OR ANY OTHER PERSON FOR (AND LICENSEE AND EACH SUCH OTHER PERSON ASSUME ALL RISK OF) LOSS, DAMAGE OR INJURY, WHETHER ACTUAL OR CONSEQUENTIAL TO PERSONAL PROPERTY OF EVERY KIND AND DESCRIPTION, INCLUDING, WITHOUT LIMITATION, TRADE FIXTURES, EQUIPMENT, INVENTORY, SCIENTIFIC RESEARCH, SCIENTIFIC EXPERIMENTS, LABORATORY ANIMALS, PRODUCT, SPECIMENS, SAMPLES, AND/OR SCIENTIFIC, BUSINESS, ACCOUNTING AND OTHER RECORDS OF EVERY KIND AND DESCRIPTION AND ANY AND ALL INCOME DERIVED OR DERIVABLE THEREFROM; and (ii) THERE SHALL BE NO PERSONAL RECOURSE TO LICENSOR FOR ANY ACT OR OCCURRENCE IN, ON OR ABOUT THE PREMISES, SHARED CONFERENCE FACILITY OR PROJECT OR ARISING IN ANY WAY UNDER THIS LICENSE AGREEMENT OR ANY OTHER AGREEMENT BETWEEN LICENSOR AND LICENSEE WITH RESPECT TO THE SUBJECT MATTER HEREOF AND ANY LIABILITY OF LICENSOR HEREUNDER SHALL BE STRICTLY LIMITED SOLELY TO LICENSOR'S INTEREST IN THE PROJECT OR ANY PROCEEDS FROM SALE OR CONDEMNATION THEREOF AND ANY INSURANCE PROCEEDS PAYABLE IN RESPECT OF LICENSOR'S INTEREST IN THE PROJECT OR IN CONNECTION WITH ANY SUCH LOSS; AND (iii) IN NO EVENT SHALL ANY PERSONAL LIABILITY BE ASSERTED AGAINST LICENSOR OR ANY OF ITS OFFICERS, DIRECTORS, EMPLOYEES, AGENTS OR CONTRACTORS IN CONNECTION WITH THIS LICENSE AGREEMENT NOR SHALL ANY RECOURSE BE HAD TO ANY OTHER PROPERTY OR ASSETS OF LICENSOR OR ANY OF LICENSOR'S OFFICERS, DIRECTORS, EMPLOYEES, AGENTS OR CONTRACTORS.

(c) Licensee acknowledges and agrees that there are no warranties of any kind, whether express or implied, made by Licensor or otherwise with respect to the Shared Conference Facility or any services (if any) provided in the Shared Conference Facility, and Licensee disclaims any and all such warranties.

(d) Licensor shall not be in default hereunder unless Licensor fails to perform any of its obligations hereunder within thirty (30) days after written notice from Licensee specifying such failure, with such extension of time by reason of Force Majeure as may be reasonably necessary; provided, however, that if the nature of Licensor's obligation arises from an emergency condition and Licensee provides notice to Licensor (which may be telephonic if followed by written notice on the same day describing the emergency condition in reasonable detail, including without limitation the emergency nature of the condition and specifying in all capital letters and boldface type that the condition is an emergency and response is required by Licensor pursuant to this Agreement), then Licensor shall respond within a reasonable period after receipt of such notice of the emergency condition.. Licensee's sole remedy for any breach or default by Licensor hereunder shall be to terminate this Agreement and Licensee hereby, to the maximum extent possible, knowingly waives the provisions of any law or regulation, now or hereafter in effect which provides additional or other remedies to Licensee as a result of any breach by Licensor hereunder or under any such law or regulation.

## 8. Miscellaneous.

(a) This Agreement, together with the Lease, constitutes the entire agreement and understanding between the parties, and supersedes all offers, negotiations and other agreements concerning the subject matter contained herein. Any amendments to this Agreement must be in writing and executed by both parties.

(b) If any clause or provision of this Agreement is illegal, invalid or unenforceable under present or future laws, then and in that event, it is the intention of the parties hereto that the remainder of this Agreement shall not be affected thereby.

(c) This Agreement shall be binding on and inure to the benefit of the successors and permitted assigns of the respective parties.

(d) All notices or other communications between the parties shall be in writing and shall be deemed duly given upon delivery or refusal to accept delivery by the addressee thereof if delivered in person, or upon actual receipt if delivered by reputable overnight guaranty courier, addressed and sent to the parties at their addresses set forth in the Lease (as the same may be revised from time to time in accordance with the terms of the Lease).

(e) The license granted hereunder is appurtenant to Licensee's leasehold interest in the Premises and may not be assigned or otherwise pledged or transferred, directly or indirectly, except in connection with any assignment of the Lease or sublease of the Premises to which Landlord consents or is otherwise permitted under the Lease. In the event of a permitted assignment of the Lease, this Agreement shall automatically be assigned thereby, and thereupon the assigning Licensee shall have no further rights to use or access the Shared Conference Facility. No assignment or other transfer of the Lease or of this License shall release Licensee of its obligations hereunder.

(f) This Agreement shall be construed, interpreted, governed and enforced pursuant to the laws of the state in which the Property is located.

(g) This Agreement may be executed in multiple counterparts but all counterparts taken together shall constitute a single document.

(h) Time is of the essence of each and every provision of this Agreement.

(i) The parties to this Agreement hereby acknowledge that each such party and its counsel have participated in the negotiation and preparation of this Agreement, and this Agreement shall be construed and interpreted without regard to any presumption or other rule requiring construction against the party causing the Agreement to be drafted.

(j) Licensee acknowledges that its use of the Shared Conference Facility are non-exclusive and will be subject to the use of other tenants and licensees of the Property. Licensee acknowledges that it will be important for all such users to cooperate with each other to maintain the confidentiality of each party's documents and operations as well as information a party may hold under confidential arrangements with third parties. Licensee shall maintain and treat as confidential and secret all information and materials which may intentionally or unintentionally be disclosed to it in connection with such shared occupancy (the "**Confidential Information**"). Licensee shall not disclose Confidential Information to any third party and will take appropriate action by instruction, agreement or otherwise with its employees, agents, affiliates, associates, representatives, contractors and invitees to ensure that security of the Confidential Information is maintained. Notwithstanding the foregoing, Licensee may disclose Confidential Information to the extent that (a) disclosure is compelled by judicial or administrative process or other requirements of law, or (b) Licensee can show that such Confidential Information (i) was publicly available prior to the date of this Agreement or thereafter became publicly available without

violation of this Agreement by Licensee or its employees, agents, affiliates, associates, representatives, contractors or invitees, or (ii) became available to Licensee by means other than its use of or access to the Shared Conference Facility. The provisions of this Section 8(i) shall survive the expiration or earlier termination of this Agreement.

**[Signatures On Next Page]**

**IN WITNESS WHEREOF**, Licensor and Licensee have caused this Agreement to be executed by their duly authorized representatives as of the date first above written.

**LICENSEE:**

**SAGE THERAPEUTICS, INC.**,  
a Delaware corporation

By: \_\_\_\_\_  
Its: \_\_\_\_\_

**LICENSOR:**

**ARE-MA REGION NO. 38, LLC**, a Delaware limited liability corporation

By: Alexandria Real Estate Equities, L P.,  
a Delaware limited partnership,  
managing member

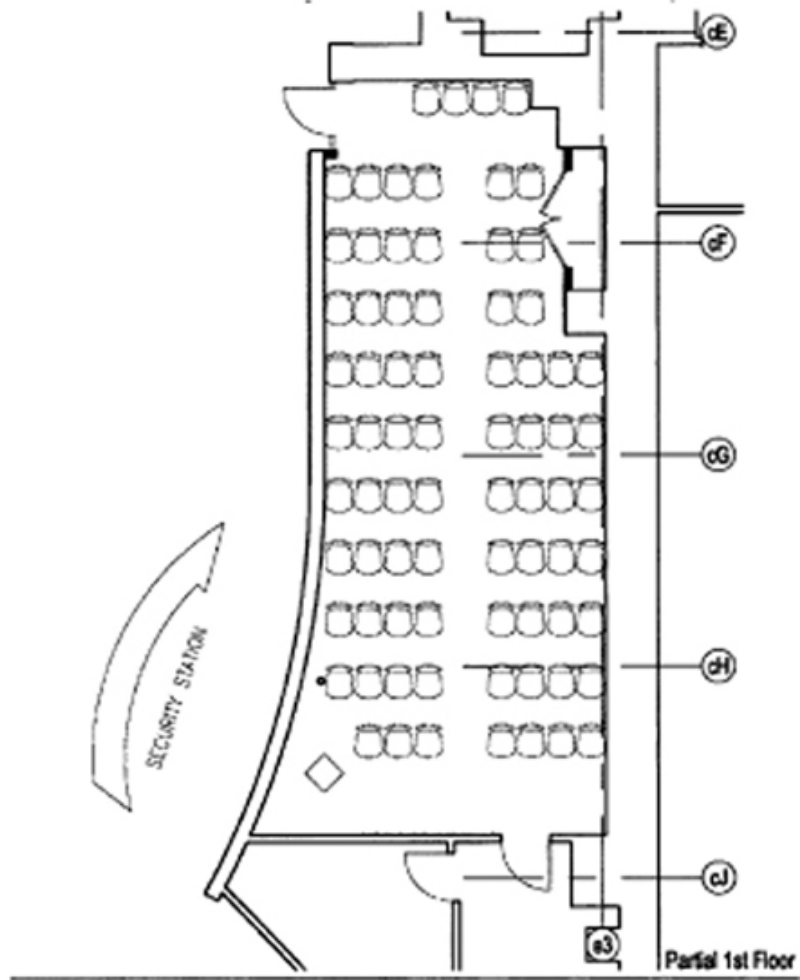
By: ARE-QRS Corp., a Maryland corporation, general partner

By: \_\_\_\_\_  
Its: \_\_\_\_\_



EXHIBIT 1 TO LICENSE AGREEMENT

DESCRIPTION OR PLAN OF SHARED CONFERENCE FACILITY



**EXHIBIT 2 TO LICENSE AGREEMENT**

**RULES AND REGULATIONS**

Rules and regulations (if any) will be established and implemented by Licensor during the Term.

## EXHIBIT F TO LEASE

WORK LETTER

THIS WORK LETTER dated December 21, 2011 (this "**Work Letter**") is made and entered into by and between **ARE-MA REGION NO. 38, LLC**, a Delaware limited liability company ("**Landlord**"), and **SAGE THERAPEUTICS, INC.**, a Delaware corporation ("**Tenant**"), and is attached to and made a part of the Lease Agreement dated December 21, 2011 (the "**Lease**"), by and between Landlord and Tenant. Any initially capitalized terms used but not defined herein shall have the meanings given them in the Lease.

**1. General Requirements.**

(a) **Tenant's Authorized Representative.** Tenant designates Kimi Iguchi and Kiran Reddy (either such individual acting alone, "**Tenant's Representative**") as the only persons authorized to act for Tenant pursuant to this Work Letter. Landlord shall not be obligated to respond to or act upon any request, approval, inquiry or other communication ("**Communication**") from or on behalf of Tenant in connection with this Work Letter unless such Communication is in writing from Tenant's Representative. Tenant may change either Tenant's Representative at any time upon not less than 5 business days advance written notice to Landlord. Neither Tenant nor Tenant's Representative shall be authorized to direct Landlord's contractors in the performance of Landlord's Work (as hereinafter defined).

(b) **Landlord's Authorized Representative.** Landlord designates Jeff McComish and Joe Maguire (either such individual acting alone, "**Landlord's Representative**") as the only persons authorized to act for Landlord pursuant to this Work Letter. Tenant shall not be obligated to respond to or act upon any request, approval, inquiry or other Communication from or on behalf of Landlord in connection with this Work Letter unless such Communication is in writing from Landlord's Representative. Landlord may change either Landlord's Representative at any time upon not less than 5 business days advance written notice to Tenant. Landlord's Representative shall be the sole persons authorized to direct Landlord's contractors in the performance of Landlord's Work.

(c) **Architects, Consultants and Contractors.** Landlord and Tenant hereby acknowledge and agree that: (i) the general contractor and any subcontractors for the Tenant Improvements shall be selected by Landlord, subject to Tenant's approval, which approval shall not be unreasonably withheld, conditioned or delayed, and (ii) R.E. Dineen shall be the architect (the "**TI Architect**") for the Tenant Improvements.

**2. Tenant Improvements.**

(a) **Tenant Improvements Defined.** As used herein, "**Tenant Improvements**" shall mean all improvements to the Project of a fixed and permanent nature as shown on the TI Construction Drawings, as defined in Section 2(c) below. Other than Landlord's Work (as defined in Section 3(a) below, Landlord shall not have any obligation whatsoever with respect to the finishing of the Premises for Tenant's use and occupancy.

(b) **Tenant's Space Plans.** Landlord and Tenant acknowledge and agree that that certain plan PL-4A dated October 27, 2011, prepared by the TI Architect attached hereto as **Exhibit K** (the "**Space Plan**"), the Basis of Design attached to this Work Letter as **Schedule 1** and the general contractor's proposal attached to this Work Letter as **Schedule 2** have been approved by both Landlord and Tenant ("**General Contractor Proposal**"). Landlord and Tenant further acknowledge and agree that any changes to the Space Plan constitute a Change Request the cost of which changes shall be paid for by Tenant. Tenant shall be solely responsible for all costs incurred by Landlord to alter the Building (or Landlord's plans for the Building) as a result of Tenant's requested changes.

(c) **Working Drawings.** Landlord shall cause the TI Architect to prepare and deliver to Tenant for review and comment construction plans, specifications and drawings for the Tenant Improvements (“**TI Construction Drawings**”), which TI Construction Drawings shall be prepared substantially in accordance with the Space Plan. Tenant shall be solely responsible for ensuring that the TI Construction Drawings reflect Tenant’s requirements for the Tenant Improvements. Tenant shall deliver its written comments on the TI Construction Drawings to Landlord not later than 10 business days after Tenant’s receipt of the same; provided, however, that Tenant may not disapprove any matter that is consistent with the Space Plan without submitting a Change Request. Landlord and the TI Architect shall consider all such comments in good faith and shall, within 10 business days after receipt, notify Tenant how Landlord proposes to respond to such comments, but Tenant’s review rights pursuant to the foregoing sentence shall not delay the design or construction schedule for the Tenant Improvements. Any disputes in connection with such comments shall be resolved in accordance with Section 2(d) hereof. Provided that the design reflected in the TI Construction Drawings is consistent with the Space Plan, Tenant shall approve the TI Construction Drawings submitted by Landlord, unless Tenant submits a Change Request. Once approved by Tenant, subject to the provisions of Section 4 below, Landlord shall not materially modify the TI Construction Drawings except as may be reasonably required in connection with the issuance of the TI Permit (as defined in Section 3(b) below).

(d) **Approval and Completion.** It is hereby acknowledged by Landlord and Tenant that the TI Construction Drawings must be completed and approved no later than December 21, 2011, in order for the Landlord’s Work to be Substantially Complete by the Target Commencement Date (as defined in the Lease). Upon any dispute regarding the design of the Tenant Improvements, which is not settled within 10 business days after notice of such dispute is delivered by one party to the other. Tenant may make the final decision regarding the design of the Tenant Improvements, provided (i) Tenant acts reasonably and such final decision is either consistent with or a compromise between Landlord’s and Tenant’s positions with respect to such dispute, (ii) that all increases in costs and expenses resulting from any such decision by Tenant shall be payable by Tenant, and (iii) Tenant’s decision will not affect the base Building, structural components of the Building or any Building systems. Any changes to the TI Construction Drawings following Landlord’s and Tenant’s approval of same requested by Tenant shall be processed as provided in Section 4 hereof.

### 3. Performance of Landlord’s Work.

(a) **Definition of Landlord’s Work.** As used herein, “**Landlord’s Work**” shall mean the work of constructing the Tenant Improvements.

(b) **Commencement and Permitting.** Landlord shall commence construction of the Tenant Improvements upon obtaining a building permit (the “**TI Permit**”) authorizing the construction of the Tenant Improvements consistent with the TI Construction Drawings approved by Tenant. The cost of obtaining the TI Permit shall be payable by Landlord. Tenant shall assist Landlord in obtaining the TI Permit. If any Governmental Authority having jurisdiction over the construction of Landlord’s Work or any portion thereof shall impose terms or conditions upon the construction thereof that: (i) are inconsistent with Landlord’s obligations hereunder, (ii) increase the cost of constructing Landlord’s Work, or (iii) will materially delay the construction of Landlord’s Work, Landlord and Tenant shall reasonably and in good faith seek means by which to mitigate or eliminate any such adverse terms and conditions.

(c) **Completion of Landlord’s Work.** Landlord shall (i) substantially complete or cause to be substantially completed Landlord’s Work in a good and workmanlike manner, in accordance with the TI Permit subject, in each case, to Minor Variations and normal “punch list” items of a non-material nature that do not interfere with the use of the Premises, and (ii) obtain a certificate or temporary certificate of occupancy (or an equivalent approval) for the Premises permitting lawful occupancy of the Premises (but specifically excluding any permits, licenses or other governmental approvals required to be obtained in connection with Tenant’s operations in the Premises)(“**Substantial Completion**” or “**Substantially Complete**”). Upon Substantial Completion of Landlord’s Work, Landlord shall require the TI Architect and the general contractor to execute and deliver, for the benefit of Tenant and Landlord, a Certificate of

Substantial Completion in the form of the American Institute of Architects (“**AIA**”) document G704. For purposes of this Work Letter, “**Minor Variations**” shall mean any modifications reasonably required: (i) to comply with all applicable Legal Requirements and/or to obtain or to comply with any required permit (including the TI Permit); (ii) to comply with any request by Tenant for modifications to Landlord’s Work; (iii) to comport with good design, engineering, and construction practices that are not material; or (iv) to make reasonable adjustments for field deviations or conditions encountered during the construction of Landlord’s Work.

(d) **Selection of Materials.** Where more than one type of material or structure is indicated on the TI Construction Drawings approved by Landlord and Tenant, the option will be selected at Landlord’s sole and absolute subjective discretion. As to all building materials and equipment that Landlord is obligated to supply under this Work Letter, Landlord shall select the manufacturer thereof in its sole and absolute subjective discretion.

(e) **Delivery of the Premises.** When Landlord’s Work is Substantially Complete, subject to the remaining terms and provisions of this Section 3(e), Tenant shall accept the Premises. Tenant’s taking possession and acceptance of the Premises shall not constitute a waiver of: (i) any warranty with respect to workmanship (including installation of equipment) or material (exclusive of equipment provided directly by manufacturers), (ii) any non-compliance of Landlord’s Work with applicable Legal Requirements, or (iii) any claim that Landlord’s Work was not completed substantially in accordance with the TI Construction Drawings (subject to Minor Variations and such other changes as are permitted hereunder) (collectively, a “**Construction Defect**”). Tenant shall have one year after Substantial Completion within which to notify Landlord of any such Construction Defect discovered by Tenant, and Landlord shall use reasonable efforts to remedy or cause the responsible contractor to remedy any such Construction Defect within 30 days thereafter. Notwithstanding the foregoing, Landlord shall not be in default under the Lease if the applicable contractor, despite Landlord’s reasonable efforts, fails to remedy such Construction Defect within such 30-day period, in which case Landlord shall have no further obligation with respect to such Construction Defect other than to cooperate, at no cost to Landlord, with Tenant should Tenant elect to pursue a claim against such contractor.

(f) Tenant shall be entitled to receive the benefit of all construction warranties and manufacturer’s equipment warranties relating to equipment installed in the Premises. If requested by Tenant, Landlord shall attempt to obtain extended warranties from manufacturers and suppliers of such equipment, but the cost of any such extended warranties shall be borne solely by Tenant. Landlord shall promptly undertake and complete, or cause to be completed, all punch list items.

(g) **Commencement Date Delay.** Except as otherwise provided in the Lease, Delivery of the Premises shall occur when Landlord’s Work has been Substantially Completed, except to the extent that completion of Landlord’s Work shall have been actually delayed by any one or more of the following causes (“**Tenant Delay**”):

- (i) Tenant’s Representative was not available within 1 business day to give or receive any Communication or to take any other action required to be taken by Tenant hereunder;
- (ii) Tenant’s request for Change Requests (as defined in Section 4(a) below) whether or not any such Change Requests are actually performed;
- (iii) Construction of any Change Requests;
- (iv) Tenant’s request for materials, finishes or installations requiring unusually long lead times;
- (v) Tenant’s delay in reviewing, revising or approving plans and specifications beyond the periods set forth herein;

- (vi) Tenant's delay in providing information critical to the normal progression of the Project. Tenant shall provide such information as soon as reasonably possible, but in no event longer than one week after receipt of any request for such information from Landlord;
- (vii) Tenant's delay in making payments to Landlord for Excess TI Costs (as defined in Section 5(b) below); or
- (viii) Any other act or omission by Tenant or any Tenant Party (as defined in the Lease), or persons employed by any of such persons.

If Delivery is delayed for any of the foregoing reasons, then Landlord shall cause the TI Architect to certify the date on which the Tenant Improvements would have been completed but for such Tenant Delay and such certified date shall be the date of Delivery.

**4. Changes.** Any changes requested by Tenant to the Tenant Improvements after the delivery and approval by Landlord of the Space Plan shall be requested and instituted in accordance with the provisions of this Section 4 and shall be subject to the written approval of Landlord and the TI Architect, such approval not to be unreasonably withheld, conditioned or delayed.

(a) **Tenant's Request For Changes.** If Tenant shall request changes to the Tenant Improvements ("**Changes**"), Tenant shall request such Changes by notifying Landlord in writing in substantially the same form as the AIA standard change order form (a "**Change Request**"), which Change Request shall detail the nature and extent of any such Change. Such Change Request must be signed by Tenant's Representative. Landlord shall, before proceeding with any Change, respond to Tenant as soon as is reasonably possible with an estimate of: (i) the time it will take, and (ii) the architectural and engineering fees and costs that will be incurred, to analyze such Change Request (which costs shall be paid by Tenant to the extent actually incurred, whether or not such change is implemented). Landlord shall thereafter submit to Tenant in writing, within 5 business days of receipt of the Change Request (or such longer period of time as is reasonably required depending on the extent of the Change Request), an analysis of the additional cost or savings involved, including, without limitation, architectural and engineering costs and the period of time, if any, that the Change will extend the date on which Landlord's Work will be Substantially Complete. Any such delay in the completion of Landlord's Work caused by a Change, including any suspension of Landlord's Work while any such Change is being evaluated and/or designed, shall be Tenant Delay.

(b) **Implementation of Changes.** If Tenant: (i) approves in writing the cost or savings and the estimated extension in the time for completion of Landlord's Work, if any, and (ii) deposits with Landlord any Excess TI Costs required pursuant to Section 5(b) below in connection with such Change, Landlord shall cause the approved Change to be instituted. Notwithstanding any approval or disapproval by Tenant of any estimate of the delay caused by such proposed Change, the TI Architect's determination of the amount of Tenant Delay in connection with such Change shall be final and binding on Landlord and Tenant.

#### **5. Costs.**

(a) **TI Costs.** Landlord shall be responsible for all hard and soft costs and expenses for the design and performance of Landlord's Work including, without limitation, design, permits and construction costs in connection with the construction of the Tenant Improvements, including, without limitation, the cost of preparing the TI Construction Drawings and the Space Plan, the cost of rotating one of the exposed HVAC systems to a mutually agreed upon location within the Premises, the cost of constructing the demising corridor shown on the Space Plan and Landlord's out-of-pocket expenses (collectively, "**TI Costs**"). Notwithstanding anything to the contrary contained herein, in no event shall Landlord be required to pay for any furniture, personal property or other non-Building system materials or equipment, including, but not limited to, Tenant's voice or data cabling, not incorporated into the Tenant Improvements.

(b) **Excess TI Costs.** Notwithstanding anything to the contrary contained herein, Tenant acknowledges and agrees that Landlord shall have no responsibility for any costs arising from or related to Tenant's changes to the Space Plan or TI Construction Drawings, Tenant Delays, the cost of Changes and Change Requests or the cost of all of the items listed on page 3 of the General Contractor Proposal selected by Tenant (collectively, "**Excess TI Costs**"). Tenant shall deposit with Landlord 50% of the Excess TI Costs as a condition precedent to Landlord's obligation to complete the Tenant Improvements and the remaining 50% of the Excess TI Costs upon Substantial Completion of the Tenant Improvements. If Tenant fails to deposit any Excess TI Costs with Landlord, Landlord shall have all of the rights and remedies set forth in the Lease for nonpayment of Rent (including, but not limited to, the right to interest at the Default Rate and the right to assess a late charge). For purposes of any litigation instituted with regard to such amounts, those amounts will be deemed Rent under the Lease.

#### 6. **Tenant Access.**

(a) **Tenant's Access Rights.** Landlord hereby agrees to permit Tenant access, at Tenant's sole risk and expense, to the Building (i) 30 days prior to the Commencement Date to perform any work ("**Tenant's Work**") required by Tenant other than Landlord's Work, provided that such Tenant's Work is coordinated with the TI Architect and the general contractor, and complies with the Lease and all other reasonable restrictions and conditions Landlord may impose, and (ii) prior to the completion of Landlord's Work, to inspect and observe work in process; all such access shall be during normal business hours or at such other times as are reasonably designated by Landlord. Notwithstanding the foregoing, Tenant shall have no right to enter onto the Premises or the Project unless and until Tenant shall deliver to Landlord evidence reasonably satisfactory to Landlord demonstrating that any insurance reasonably required by Landlord in connection with such pre-commencement access (including, but not limited to, any insurance that Landlord may require pursuant to the Lease) is in full force and effect. Any entry by Tenant shall comply with all established safety practices of Landlord's contractor and Landlord until completion of Landlord's Work and acceptance thereof by Tenant.

(b) **No Interference.** Neither Tenant nor any Tenant Party (as defined in the Lease) shall interfere with the performance of Landlord's Work, nor with any inspections or issuance of final approvals by applicable Governmental Authorities, and upon any such interference, Landlord shall have the right to exclude Tenant and any Tenant Party from the Premises and the Project until Substantial Completion of Landlord's Work.

(c) **No Acceptance of Premises.** The fact that Tenant may, with Landlord's consent, enter into the Project prior to the date Landlord's Work is Substantially Complete for the purpose of performing Tenant's Work shall not be deemed an acceptance by Tenant of possession of the Premises, but in such event Tenant shall defend with counsel reasonably acceptable by Landlord, indemnify and hold Landlord harmless from and against any loss of or damage to Tenant's property, completed work, fixtures, equipment, materials or merchandise, and from liability for death of, or injury to, any person, caused by the act or omission of Tenant or any Tenant Party.

#### 7. **Miscellaneous.**

(a) **Consents.** Whenever consent or approval of either party is required under this Work Letter, that party shall not unreasonably withhold, condition or delay such consent or approval, unless expressly set forth herein to the contrary.

(b) **Modification.** No modification, waiver or amendment of this Work Letter or of any of its conditions or provisions shall be binding upon Landlord or Tenant unless in writing signed by Landlord and Tenant.

**Schedule 1**

**Basis of Design**



**R.E. DINNEEN  
ARCHITECTS &  
PLANNERS, INC.**

Sage Therapeutics

215 First Street  
Cambridge, Massachusetts

*Members of:*

*American Institute  
of Architects*

10 December 2011

*Boston Society  
of Architects*

**BASIS OF DESIGN – ROOM DATA SHEETS**

Reception  
Office  
Open Office  
Telephone Room  
Closet  
Conference Room  
Large Conference Room  
Break Room  
Copy/Mail/Storage Rooms  
Server Room

*123 North Washington Street, Boston, Massachusetts 02114-2134 tel 617 227 7727 fax 617 227 1870*



**Sage Therapeutics**  
215 First Street, Floor 2  
Cambridge

## ROOM DATA SHEET

Project No. 11186.11

**ROOM NAME/NUMBER:** **Reception**  
Room No. 201

**FUNCTION:** Office support space.

**ARCHITECTURAL:**

Flooring: Existing carpet tile to remain. New Wall Base – 4” high straight vinyl.

Wall Finish: Tenant Standard eggshell finish, latex paint.

Ceiling Height/Finish: Open to structure above. No finished ceiling.

Door/Frame/Hardware: 3’-0” x 7’-0” tempered glass entrance door and hardware.

Glazing: 7’-0” high x 8’-8” long clear, tempered glass wall panels with glazing channels top & bottom and clear silicone joints.

Casework: None

**EQUIPMENT:** None

**ENGINEERING SYSTEMS:**

Plumbing: None

HVAC: Base building system sized to adequately maintain a cooling temperature of an inside condition of 75 degrees F, dry bulb at 50% relative humidity; with outside condition of 91 degrees F and 74 degrees F wet bulb during summer and 72 degrees F dry bulb inside at zero degree dry bulb outside during the winter.

Electrical:

Lighting: Reuse existing suspended, direct/indirect fluorescent fixtures; industry standard foot-candle level for office environments.

Power: Three, duplex convenience power outlets.

Communications: Two, single-gang wall box with pull string.

*R E Dinneen Architects & Planners, Inc.*  
*123 North Washington Street, Boston, MA 02114 tel 617 227 7727 fax 617 227 1870*

*10 December 2011*

**Sage Therapeutics**  
215 First Street, Floor 2  
Cambridge

## ROOM DATA SHEET

Project No. 11186.11

<b>ROOM NAME/NUMBER:</b>	<b>Office</b> Room Nos. 206, 207, 208, 209, 210, 211, 212, 213, 214, 215 & 216.
<b>FUNCTION:</b>	Private office.
<b>ARCHITECTURAL:</b>	
Flooring:	Existing carpet tile in remain. New Wall Base – 4” high straight vinyl.
Wall Finish:	Tenant Standard eggshell finish, latex paint.
Ceiling Height/Finish:	Open to structure above. No finished ceiling.
Door/Frame/Hardware:	Tenant Standards: Door – 3’-0” x 7’-0” solid core, clear finished birch face veneers, with full vision panel. Frame – 3’-0” x 9’-0” with clerestory glazing; hollow metal, alkyd enamel paint finish. Hardware – Falcon T Series Cylindrical Lockset. A Lever Design with Rose, both in finish 626 “satin chromium plated”. Hinge – Hager full mortise BB1279 ANSI A8112, 4-1/2” x 4-1/2” steel. Silencer – 1. Floor stop – Hager 243F in finish “satin chrome”.
Glazing:	2’-0” x8’-0” frameless, clerestory glazing; clear silicone joints: top at 9’-0” AFF: all Offices except Nos. 206 & 211.
Casework:	None.
<b>EQUIPMENT:</b>	One, wall-mounted 4’x4’ dry marker board.
<b>ENGINEERING SYSTEMS:</b>	
Plumbing:	None.
HVAC:	Base building system sized to adequately maintain a cooling temperature of an inside condition of 75 degrees F, dry bulb at 50% relative humidity; with outside condition of 91 degrees F and 74 degrees F wet bulb during summer and 72 degrees F dry bulb inside at zero degree dry bulb outside during the winter.
Electrical:	
Lighting:	Reuse existing suspended, direct/indirect fluorescent fixtures; industry standard foot-candle level for office environments.
Power:	One double-duplex and one duplex convenience power outlets.
Communications:	Single-gang wall box with string.

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215 First Street, Floor 2  
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## ROOM DATA SHEET

Project No. 11186.11

**ROOM NAME/NUMBER:**

**Open Office**  
Room No. 217

**FUNCTION:**

General office work environment.

**ARCHITECTURAL:**

Flooring: Existing carpet tile to remain. New Wall Base – 4” high straight vinyl.  
Wall Finish: Tenant Standard eggshell finish, latex paint.  
Ceiling Height/Finish: Open to structure above. No finished ceiling.  
Door/Frame/Hardware: None.  
Millwork: None.

**EQUIPMENT:**

None.

**ENGINEERING SYSTEMS:**

Plumbing: None.  
HVAC: Base building system sized to adequately maintain a cooling temperature of an inside condition of 75 degrees F, dry bulb at 50% relative humidity; with outside condition of 91 degrees F and 74 degrees F wet bulb during summer and 72 degrees F dry bulb inside at zero degree dry bulb outside during the winter.  
Electrical:  
    Lighting: Reuse existing suspended, direct/indirect fluorescent fixtures; industry standard foot-candle level for office environments  
    Power: Power feeds to four systems furniture workstation clusters. Fed down columns.  
    Communications: Multiple locations: single-gang wall box with pull string. Fed down columns.

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## ROOM DATA SHEET

Project No. 11186.11

**ROOM NAME/NUMBER:**

**Telephone Room**  
Rooms Nos. 204, 205

**FUNCTION:**

Private telephone booth within the suite.

**ARCHITECTURAL:**

**Flooring:** Existing carpet tile flooring to remain. New Wall Base – 4” high straight vinyl.

**Wall Finish:** Tenant Standard eggshell finish, latex paint.

**Ceiling Height/Finish:** Open to structure above. No finished ceiling.

**Door/Frame/Hardware:** Tenant Standard: Door – 3’-0” x 7’-0” solid core with clear finished, birch face veneers and with full vision panel.  
Frame – Hollow metal, alkyd enamel paint finish  
Hardware – Falcon T Series Cylindrical Lockset, A Lever Design with Rose, both in finish 626 “satin chromium plated”; Hinge – Stanley full mortise FBB179 ANSI A8112, 4-1/2” x 4-1/2” steel; Silencers; Floor stop – Rockwood 441 in finish “satin chrome”.

**Millwork:** None.

**EQUIPMENT:**

None

**ENGINEERING SYSTEMS:**

**Plumbing:** None

**HVAC:** Conditioned air from adjacent Reception Area.

**Electrical:**

**Lighting:** Wall mounted fluorescent light fixture.

**Power:** Duplex convenience power outlet.

**Communications:** Single-gang wall box with pull string.

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10 December 2011

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215 First Street, Floor 2  
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## ROOM DATA SHEET

Project No. 11186.11

**ROOM NAME/NUMBER:** **Closet**  
Room No. 202

**FUNCTION:** Coat storage space within the suite.

**ARCHITECTURAL:**

Flooring: Existing carpet tile to remain. New Wall Base – 4” high straight vinyl.

Wall Finish: Tenant Standard eggshell finish, latex paint.

Ceiling Height/Finish: Open to structure above. No finished ceiling.

Door/Frame/Hardware: Tenant Standards: Door – Pair 3 -0” x 7’-0” solid core with birch face veneers for clear finish.  
Frame – Hollow metal, alkyd enamel paint finish  
Hardware – Falcon T Series dummy pulls, A Lever Design with Rose, both in finish 626 “satin chromium plated”; Hinge – Stanley full mortise FBB179 ANSI A8112, 4-1/2” x 4-1/2” steel; Silencers; Floor stop – Rockwood 441 in finish “satin chrome”

Millwork: Coat rod with plastic laminate finished hat shelf

**EQUIPMENT:** None

**ENGINEERING SYSTEMS:**

Plumbing: None

HVAC: Conditioned air from adjacent Reception Area.

Electrical:

    Lighting: Wall mounted fluorescent light fixture with jamb activated switching.

    Power: None.

Communications: None.

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## ROOM DATA SHEET

Project No. 11186.11

**ROOM NAME/NUMBER:** **Conference Room**  
Room No. 203

**FUNCTION:** Office support area used for meetings.

**ARCHITECTURAL:**

Flooring: Existing carpet tile flooring to remain. New Wall Base – 4” high straight vinyl.

Wall Finish: Tenant Standard eggshell finish, latex paint.

Ceiling Height/Finish: Open to structure above. No finished ceiling.

Door/Frame/Hardware: 3’-0” x 7’-0” frameless, clear tempered glass door with hardware.

Glazing: 7’-0” high x 5’-0” long clear, tempered glass wall panels with glazing channels top & bottom and with clear silicone joints.

Millwork: None.

**EQUIPMENT:** One, wall-mounted 4’x4’ dry marker board.

**ENGINEERING SYSTEMS:**

Plumbing: None.

HVAC: Base building system sized to adequately maintain a cooling temperature of an inside condition of 75 degrees F, dry bulb at 50% relative humidity; with outside condition of 91 degrees F and 74 degrees F wet bulb during summer and 72 degrees F dry bulb inside at zero degree dry bulb outside during the winter.

Electrical:

Lighting: Reuse existing suspended, direct/indirect fluorescent fixtures; industry standard foot-candle level for office environments

Power: Three duplex convenience power outlets.

Communications: One, single-gang wall box with pull string.

**Sage Therapeutics**  
215 First Street, Floor 2  
Cambridge

## ROOM DATA SHEET

Project No. 11186.11

**ROOM NAME/NUMBER:** **Large Conference Room**  
Room No. 219

**FUNCTION:** Office support area used for meetings.

**ARCHITECTURAL:**

Flooring: Existing carpet tile flooring to remain. New Wall Base – 4” high straight vinyl.

Wall Finish: Tenant Standard eggshell finish, latex paint.

Ceiling Height/Finish: Open to structure above. No finished ceiling.

Door/Frame/Hardware: Tenant Standards: Door – 3’-0” x 7”-0 solid core with clear finished, birch face veneers and with full glass lite. Frame – Hollow metal, alkyd enamel paint finish. 9’-0” high with clerestory glazing. Hardware – Falcon T Series Cylindrical Lockset, A Lever Design with Rose, both in finish 626 “satin chromium plated”; Hinge – Stanley full mortise FBB179 ANSI A8112, 4-1/2” x 4-1/2” steel; Silencers; Floor stop – Rockwood 441 in finish “satin chrome”.

Glazing: 2’-0”x14’-0” frameless, clerestory glazing; clear silicone joints; top at 9’-0” AFF.

Millwork: None.

**EQUIPMENT:** Modernfold Acousti-Seal 933 movable wall system; 9’-0” high x 20’ -0” long. One, 4’x8’ wall-mounted dry marker board.

**ENGINEERING SYSTEMS:**

Plumbing: None

HVAC: Base building system sized to adequately maintain a cooling temperature of an inside condition of 75 degrees F, dry bulb at 50% relative humidity; with outside condition of 91 degrees F and 74 degrees F wet bulb during summer and 72 degrees F dry bulb inside at zero degree dry bulb outside during the winter.

Electrical:

Lighting: Reuse existing suspended, direct/indirect fluorescent fixtures; industry standard foot-candle level for office environments.

Power: Four duplex convenience power outlets. Add Alternate; Provide floor box under table with powered data A-V capabilities Provide 1” conduit from floor box to adjacent partition; terminate conduit 12” AFF

Communications: Two, single-gang wall box with pull string.

**Sage Therapeutics**  
215 First Street, Floor 2  
Cambridge

## ROOM DATA SHEET

Project No. 11186.11

<b>ROOM NAME/NUMBER:</b>	<b>Break Room</b> Room No. 218
<b>FUNCTION:</b>	Support space providing access to beverage service, sink and consumables storage.
<b>ARCHITECTURAL:</b>	
Flooring:	Vinyl plank flooring at serving area; existing carpet tiles in eating area. New Wall Base – 4” high covered vinyl.
Wall Finish:	Tenant Standard eggshell finish, latex paint.
Ceiling Height/Finish:	Open to structure above. No finished ceiling.
Door/Frame/Hardware:	None.
Glazing:	None.
Millwork:	P. Lam. finished base cabinets, wall cabinets and countertops with full height splash. P. Lam. finished island with base cabinets and countertop.
<b>EQUIPMENT:</b>	Standard duty stainless steel refrigerator and dishwasher. Utilities provided to support Tenant furnished microwave and coffeemaker.
<b>ENGINEERING SYSTEMS:</b>	
Plumbing:	Stainless steel, ADA accessible sink with hot/cold water faucet; water for coffeemaker; dishwasher with domestic hot water heater.
HVAC:	Base building system sized to adequately maintain a cooling temperature of an inside condition of 75 degrees F. dry bulb at 50% relative humidity; with outside condition of 91 degrees F and 74 degrees F wet bulb during summer and 72 degrees F dry bulb inside at zero degree dry bulb outside during the winter
Electrical:	
Lighting:	Reuse existing suspended, direct/indirect fluorescent fixtures; industry standard foot-candle level for office environments.
Power:	Three duplex convenience power outlets, one GFI convenience power outlet.
Communications:	None.

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**Sage Therapeutics**  
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## ROOM DATA SHEET

Project No. 11186.11

**ROOM NAME/NUMBER:** **Copy/Mail/Storage Room**  
Room No. 220.221

**FUNCTION:** Mail room and copier location

**ARCHITECTURAL:**

Flooring: Existing carpet tile flooring to remain. New Wall Base – 4” high straight vinyl.

Wall Finish: Tenant Standard eggshell finish, latex paint.

Ceiling Height/Finish: Open to structure above. No finished ceiling.

Door/Frame/Hardware: None.

Millwork: P. Lam. finished base cabinets with countertop; Two high, P. Lam. finished, adjustable shelving oil standards and brackets.

**EQUIPMENT:** Postage scale, postage meter, copier, all by Tenant.

**ENGINEERING SYSTEMS:**

Plumbing: None.

HVAC: Base building system sized to adequately maintain a cooling temperature of an inside condition of 75 degrees F, dry bulb at 50% relative humidity; with outside condition of 91 degrees F and 74 degrees F wet bulb during summer and 72 degrees F dry bulb inside at zero degree dry bulb outside during the winter.

Electrical:

Lighting: Reuse existing suspended, direct/indirect fluorescent fixtures; industry standard foot-candle level for office environments.

Power: Six, duplex convenience power outlets.

Communications: Three, single-gang wall box with pull string.

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**Sage Therapeutics**  
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Cambridge

## ROOM DATA SHEET

Project No. 11186.11

<b>ROOM NAME/NUMBER:</b>	<b>Server Room</b> Room No. 222
<b>FUNCTION:</b>	Data communications support environment.
<b>ARCHITECTURAL:</b>	
Flooring:	12"x12"x1/8" vinyl composition tile. Base – 4" high vinyl.
Wall Finish:	Eggshell finish latex paint. Provide painted, plywood backboard. 4'-0" high by full width of room.
Ceiling Height/Finish:	Open to structure above. No finished ceiling.
Door/Frame/Hardware:	Door – 3'-0" x 7'-0" solid core with natural finished birch face veneers and with air transfer grille. Frame – Hollow metal, alkyd enamel paint finish. Hardware – Uni-Cam push-button lockset; finish 626 "satin chromium plated". Hinge – Hager full mortise BB1279 ANSI A8112, 4-1/2" x 4-1/2" steel. Closer; silencers. Floor stop – Hager 243F in finish "satin chrome".
Casework:	None.
<b>EQUIPMENT:</b>	Two 24"x42" Data Racks and One 24"x24" Telco Rack, furnished and installed by Tenant.
<b>ENGINEERING SYSTEMS:</b>	
Plumbing:	None.
HVAC:	1.5 ton, ductless, split air conditioning system. Add Alternate Exhaust fan (500 CFM) powered thru Tenant's UPS.
Electrical:	
Lighting:	1'-0" x 4'-0" suspended, direct/indirect fluorescent fixtures.
Power:	1 – 120v 20 amp. dedicated outlet, NEMA 5-20R. Add Alternate, add to above – 2 – 208v 30 amp outlets. NEMA 1.6-30R
Communications:	Fire alarm module for release of access system

*R E Dinneen Architects & Planners, Inc.*  
123 North Washington Street, Boston, MA 02114 tel 617 227 7727 fax 617 227 1870

10 December 2010

## Schedule 2

## General Contractor Proposal



180 Main Street, North Easton, MA 02356  
 T 508.230.2600 F 508.238.0557  
 www.verteccorp.com

PROPOSAL

DATE: 12/13/2011

**PROJECT:** Sage Therapeutics  
 Interior fit-up

<u>TRADE</u>	<u>SCOPE</u>	<u>Price</u>
<b>GENERAL CONDITIONS</b>		
	On site management	
	Office management	
	Temporary protection	
	Permits	
	Disposal & cleanup	
<i>Costs based on Sage Therapeutics, LEI and back area being done simultaneously</i>		
<b>DEMOLITION</b>		
	Interior demolition	
<b>FINISH CARPENTRY WORK</b>		
	Counter tops and high table/bar island	
	Base cabinets	
	Wall cabinets	
	Marker boards	
	Install doors	
	Install and trim out transom window	
<b>ROOFING</b>		
	Patch roof as required for a/c lines to computer room	
<b>DOORS/FRAMES/HARDWARE</b>		
	Wood full-lite doors with sidelights in HM frames	
	Wood solid core doors	
<b>GLASS &amp; GLAZING</b>		
	Interior aluminum glazing system and door at entrance	
	Glazing at doors and borrowed lite office windows	
<b>DRYWALL</b>		
	New metal stud partitions and insulation - level 4 finish	
<b>FLOORING</b>		
	Vinyl plank at serving area in lunch room	
	Remove, alter and reinstall existing carpet tiles	
	Resilient base at GWB walls	

**PAINING***Includes painting of new partitions, doors frames.***SPECIALTIES***White boards (16) and accordian wall***APPLIANCES***Standard duty stainless steel refrigerator and dishwasher***FIRE PROTECTION***Tie into existing system and add heads as required.***PLUMBING***Sink in lunch area**Includes supply and waste to closest stack***HVAC***Reconfigure existing system to accommodate new spaces**Relocate and rotate one existing AHU***ELECTRICAL***Relocation and modifications to existing lighting**Controls for new lighting**Power distribution for alterations**Conduits and pull strings for tel/data**New code lighting for egress**All circuits to be tied in and originate from the existg elec panel***SUBTOTAL****DESIGN & ENGINEERING COSTS****OVERHEAD & PROFIT****PROJECT CONTINGENCY****TOTAL**



## Sage Therapeutics

12/13/11

### Alternates

Alt #	Location/room	Description	Type	Amount
1	All areas	Furnish and install Tel/Data wiring	Add	\$16,913
2	Conf rm 220	Add electric operated projection screen to conference room	Add	\$ 4,400
3	All areas	Furnish clear glass marker boards in lieu of white standard-inc offices - 16ea	Add	\$24,024
4	Existing	Relocate existing air handling unit Cost for each (1 in base once)	Add	\$ 6,750
5	Conf rm 220	Add 3'x9' butt glazed area in front of kitchen	Add	\$ 4,811
6	Offices & conf 220	Add full glass doors to offices, kitchen and conference rooms - 13ea	Add	\$33,605
7	Per unit	Add for individually controlled electric baseboard heat in offices Per 4' unit	Add/ea	\$ 1,161
8	Reception 201	Add for card access system to Sage space entrance	Add	\$ 5,000
9	Conf rm 220	Add for marker board at both sides of accordian wall	Add	\$ 3,500
10	Conf rm 220	Add floor box w/power/data/AV w/1" conduit	Add	\$ 3,210
11	Break rm 218	Add 12' of under cabinet fluorescent lights.	Add	\$ 660
12	Closet 202	Add wall mounted fluorescent light fixture w/ jamb switch	Add	\$ 605
13	Copy 219	Add 6 duplex receptacles fed from 3-20 amp circuits	Add	\$ 1,485
14	Server 222	Add exhaust fan	Add	\$ 1,320
15	Server 222	Add 1-120V, 20 amp 2-208V, 20 amp circuits w/outlets	Add	\$ 968
16	Server 222	Add fire alarm module for release of access system	Add	\$ 1,375
17	All areas	Add turnclocks to automatically shut down baseboard heaters	Add	\$ 1,615

EXHIBIT G TO LEASE

ACKNOWLEDGMENT OF COMMENCEMENT DATE

This **ACKNOWLEDGMENT OF COMMENCEMENT DATE** is made this     day of     ,     , between **ARE-MA REGION NO. 38, LLC**, a Delaware limited liability company ("**Landlord**"), and **SAGE THERAPEUTICS, INC.**, a Delaware corporation ("**Tenant**"), and is attached to and made a part of the Lease dated     ,     (the "**Lease**"), by and between Landlord and Tenant. Any initially capitalized terms used but not defined herein shall have the meanings given them in the Lease.

Landlord and Tenant hereby acknowledge and agree, for all purposes of the Lease, that the Commencement Date of the Base Term of the Lease is     ,     and the termination date of the Base Term of the Lease shall be midnight on     ,     . In case of a conflict between this Acknowledgment of Commencement Date and the Lease, this Acknowledgment of Commencement Date shall control for all purposes.

IN WITNESS WHEREOF, Landlord and Tenant have executed this **ACKNOWLEDGMENT OF COMMENCEMENT DATE** to be effective on the date first above written.

**TENANT:**

**SAGE THERAPEUTICS, INC.**,  
a Delaware corporation

By: \_\_\_\_\_  
Its: \_\_\_\_\_

**LANDLORD:**

**ARE-MA REGION NO. 38, LLC**, a Delaware limited liability corporation

By: Alexandria Real Estate Equities, L.P.,  
a Delaware limited partnership, managing member

By: ARE-QRS Corp., a Maryland corporation, general partner

By: \_\_\_\_\_  
Its: \_\_\_\_\_

**EXHIBIT H TO LEASE**

**TENANT'S PERSONAL PROPERTY**

None.

**EXHIBIT I TO LEASE****Rules and Regulations**

1. The sidewalk, entries, and driveways of the Project shall not be obstructed by Tenant, or any Tenant Party, or used by them for any purpose other than ingress and egress to and from the Premises.
2. Tenant shall not place any objects, including antennas, outdoor furniture, etc., in the parking areas, landscaped areas or other areas outside of its Premises, or on the roof of the Project.
3. Except for animals assisting the disabled, no animals shall be allowed in the offices, halls, or corridors in the Project.
4. Tenant shall not disturb the occupants of the Project or adjoining buildings by the use of any radio or musical instrument or by the making of loud or improper noises.
5. If Tenant desires telegraphic, telephonic or other electric connections in the Premises, Landlord or its agent will direct the electrician as to where and how the wires may be introduced; and, without such direction, no boring or cutting of wires will be permitted. Any such installation or connection shall be made at Tenant's expense.
6. Tenant shall not install or operate any steam or gas engine or boiler, or other mechanical apparatus in the Premises, except as specifically approved in the Lease. The use of oil, gas or inflammable liquids for heating, lighting or any other purpose is expressly prohibited. Explosives or other articles deemed extra hazardous shall not be brought into the Project.
7. Parking any type of recreational vehicles is specifically prohibited on or about the Project. Except for the overnight parking of operative vehicles, no vehicle of any type shall be stored in the parking areas at any time. In the event that a vehicle is disabled, it shall be removed within 48 hours. There shall be no "For Sale" or other advertising signs on or about any parked vehicle. All vehicles shall be parked in the designated parking areas in conformity with all signs and other markings. All parking will be open parking, and no reserved parking, numbering or lettering of individual spaces will be permitted except as specified by Landlord.
8. Tenant shall maintain the Premises free from rodents, insects and other pests.
9. Landlord reserves the right to exclude or expel from the Project any person who, in the judgment of Landlord, is intoxicated or under the influence of liquor or drugs or who shall in any manner do any act in violation of the Rules and Regulations of the Project.
10. Tenant shall not cause any unnecessary labor by reason of Tenant's carelessness or indifference in the preservation of good order and cleanliness. Landlord shall not be responsible to Tenant for any loss of property on the Premises, however occurring, or for any damage done to the effects of Tenant by the janitors or any other employee or person.
11. Tenant shall give Landlord prompt notice of any defects in the water, lawn sprinkler, sewage, gas pipes, electrical lights and fixtures, heating apparatus, or any other service equipment affecting the Premises.
12. Tenant shall not permit storage outside the Premises, including without limitation, outside storage of trucks and other vehicles, or dumping of waste or refuse or permit any harmful materials to be placed in any drainage system or sanitary system in or about the Premises.



13. All moveable trash receptacles provided by the trash disposal firm for the Premises must be kept in the trash enclosure areas, if any, provided for that purpose.

14. No auction, public or private, will be permitted on the Premises or the Project.

15. No awnings shall be placed over the windows in the Premises except with the prior written consent of Landlord.

16. The Premises shall not be used for lodging, sleeping or cooking (except that Tenant may use microwave ovens, toasters and coffee makers in the Premises for the benefit of Tenant's employees and contractors in an area designated for such items, but only if the use thereof is at all times supervised by the individual using the same) or for any immoral or illegal purposes or for any purpose other than that specified in the Lease. No gaming devices shall be operated in the Premises.

17. Tenant shall ascertain from Landlord the maximum amount of electrical current which can safely be used in the Premises, taking into account the capacity of the electrical wiring in the Project and the Premises and the needs of other tenants, and shall not use more than such safe capacity. Landlord's consent to the installation of electric equipment shall not relieve Tenant from the obligation not to use more electricity than such safe capacity.

18. Tenant assumes full responsibility for protecting the Premises from theft, robbery and pilferage.

19. Tenant shall not install or operate on the Premises any machinery or mechanical devices of a nature not directly related to Tenant's ordinary use of the Premises and shall keep all such machinery free of vibration, noise and air waves which may be transmitted beyond the Premises.

**EXHIBIT J TO LEASE****NOTIFICATION OF THE PRESENCE OF ASBESTOS CONTAINING MATERIALS**

This notification provides certain information about asbestos within or about the Premises at 215 First Street, Cambridge, MA (“**Building**”).

Historically, asbestos was commonly used in building products used in the construction of buildings across the country. Asbestos-containing building products were used because they are fire-resistant and provide good noise and temperature insulation. Because of their prevalence, asbestos-containing materials, or ACMs, are still sometimes found in buildings today.

No ACMs were identified in an asbestos survey of the building conducted in 2007. However, to avoid damage, several materials were not sampled and are presumed asbestos-containing materials or PACMs as listed in the following table:

<u>Material Description</u>	<u>Material Location</u>
Ceramic tile adhesive and grout	Throughout restrooms; ground floor hallways; first floor lobby and hallways
Built-up roofing beneath rubber	Throughout roof
Flashing cement	Roof
Flex connectors on HVAC units	Roof

The PACMs described above were observed to be in good condition and may be managed in place. Because ACMs may be present within or about the Building, we have hired an independent environmental consulting firm to prepare an operations and maintenance program (“**O&M Program**”). The O&M Program is designed to minimize the potential of any harmful asbestos exposure to any person within or about the Building. The O&M Program includes a description of work methods to be taken in order to maintain any ACMs or PACMs within or about the Building in good condition and to prevent any significant disturbance of such ACMs or PACMs. Appropriate personnel receive regular periodic training on how to properly administer the O&M Program.

The O&M Program describes the risks associated with asbestos exposure and how to prevent such exposure through appropriate work practices. ACMs and PACMs generally are not thought to be a threat to human health unless asbestos fibers are released into the air and inhaled. This does not typically occur unless (1) the ACMs are in a deteriorating condition, or (2) the ACMs have been significantly disturbed (such as through abrasive cleaning, or maintenance or renovation activities). If inhaled, asbestos fibers can accumulate in the lungs and, as exposure increases, the risk of disease (such as asbestosis or cancer) increases. However, measures to minimize exposure, and consequently minimize the accumulation of asbestos fibers, reduce the risks of adverse health effects.

The O&M Program describes a number of activities that should be avoided in order to prevent a release of asbestos fibers. In particular, you should be aware that some of the activities which may present a health risk include moving, drilling, boring, or otherwise disturbing ACMs. Consequently, such activities should not be attempted by any person not qualified to handle ACMs.

The O&M Program is available for review during regular business hours at Landlord’s office located at 700 Technology Square, Suite 302, Cambridge, MA 02139.



## FIRST AMENDMENT TO LEASE

THIS FIRST AMENDMENT TO LEASE (this “**First Amendment**”) is made as of October 26, 2012, by and between **ARE-MA REGION NO. 38, LLC**, a Delaware limited liability company (“**Landlord**”), and **SAGE THERAPEUTICS, INC.**, a Delaware corporation (“**Tenant**”).

### RECITALS

**A.** Landlord and Tenant are now parties to that certain Lease Agreement dated as of December 21, 2011 (the “**Lease**”). Pursuant to the Lease, Tenant leases certain premises consisting of approximately 5,900 rentable square feet of space (“**Original Premises**”) in a building located at 215 First Street, Cambridge, Massachusetts (“**Building**”). The Original Premises are more particularly described in the Lease. Capitalized terms used herein without definition shall have the meanings defined for such terms in the Lease.

**B.** Landlord and Tenant desire, subject to the terms and conditions set forth below, to amend the Lease to, among other things, expand the size of the Original Premises by adding approximately 600 rentable square feet of space on the second floor of the Building.

**NOW, THEREFORE**, in consideration of the foregoing Recitals, which are incorporated herein by this reference, the mutual promises and conditions contained herein, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Landlord and Tenant hereby agree as follows:

- 1. Expansion Premises.** In addition to the Original Premises, commencing on the Expansion Premises Commencement Date (as defined below), Landlord leases to Tenant, and Tenant leases from Landlord, that certain portion of the second floor of the Building, containing approximately 600 rentable square feet, as shown on **Exhibit A** attached hereto (the “**Expansion Premises**”).
- 2. Delivery.** Landlord shall use reasonable efforts to deliver the Expansion Premises to Tenant on or before the Target Expansion Premises Commencement Date with Landlord’s Work Substantially Completed (“**Delivery**” or “**Deliver**”). If Landlord fails to timely Deliver the Expansion Premises, Landlord shall not be liable to Tenant for any loss or damage resulting therefrom, and the Lease with respect to the Expansion Premises shall not be void or voidable. As used herein, the terms “**Landlord’s Work**” and “**Substantially Completed**” shall have the meanings set forth for such terms in the work letter attached to this First Amendment as **Exhibit B** (“**Expansion Premises Work Letter**”).

The “**Expansion Premises Commencement Date**” shall be the date that Landlord delivers the Expansion Premises to Tenant. The “**Target Expansion Premises Commencement Date**” shall be January 1, 2013. Upon request of Landlord, Tenant shall execute and deliver a written acknowledgment of the Expansion Premises Commencement Date and the expiration date of the Lease in a form substantially similar to the form of the “**Acknowledgement of Commencement Date**” attached to the Lease as **Exhibit G**; provided, however, Tenant’s failure to execute and deliver such acknowledgment shall not affect Landlord’s rights hereunder.

Except as set forth in the Expansion Premises Work Letter: (i) Tenant shall accept the Expansion Premises in their condition as of the Expansion Premises Commencement Date, subject to all applicable Legal Requirements; (ii) Landlord shall have no obligation for any defects in the Expansion Premises; and (iii) Tenant’s taking possession of the Expansion Premises shall be conclusive evidence that Tenant accepts the Expansion Premises and that the Expansion Premises were in good condition at the time possession was taken. The Expansion Premises shall be delivered to Tenant without any furniture.

Tenant agrees and acknowledges that neither Landlord nor any agent of Landlord has made any representation or warranty with respect to the condition of all or any portion of the Expansion Premises, and/or the suitability of the Expansion Premises for the conduct of Tenant's business, and Tenant waives any implied warranty that the Expansion Premises are suitable for the Permitted Use.

3. **Definition of Premises.** Commencing on the Expansion Premises Commencement Date, the defined term "**Premises**" on Page 1 of the Lease is deleted in its entirety and replaced with the following:

"**Premises:** That portion of the second floor of the Building (as defined below) containing approximately 6,500 rentable square feet, consisting of (i) approximately 5,900 rentable square feet ("**Original Premises**"), and (ii) approximately 600 rentable square feet ("**Expansion Premises**"), all as determined by Landlord, as shown on **Exhibit A.**"

**Exhibit A** attached to the Lease is hereby amended to include **Exhibit A** attached to this First Amendment.
4. **Base Rent.** Tenant shall continue to pay Base Rent for the Original Premises as provided for in the Lease through the Expiration Date (as defined in Section 6 below). Commencing on the Expansion Premises Commencement Date and continuing through the Expiration Date, Tenant shall pay Base Rent per square foot of the Expansion Premises in an amount equal to the per square foot amount of Base Rent payable for the Original Premises, as adjusted pursuant to the schedule set forth on the first page of the Lease.
5. **Tenant's Share.** Commencing on the Expansion Premises Commencement Date, the defined term "**Tenant's Share**" on page 1 of the Lease is deleted in its entirety and replaced with the following:

"**Tenant's Share:** 1.77%"
6. **Base Term.** Commencing on the Expansion Premises Commencement Date, the defined term "**Base Term**" on page 1 of the Lease is deleted in its entirety and replaced with the following:

"**Base Term:** Beginning (i) with respect to the Original Premises, on the Commencement Date, and (ii) with respect to the Expansion Premises, on the Expansion Premises Commencement Date and, with respect to the entire Premises ending on February 28, 2017 ("**Expiration Date**")."
7. **Rentable Area of Premises.** Commencing on the Expansion Premises Commencement Date, the defined term "**Rentable Area of Premises**" on page 1 of the Lease is deleted in its entirety and replaced with the following:

"**Rentable Area:** Approximately 6,500 square feet"
8. **Parking.** Commencing on the Expansion Premises Commencement Date, Tenant's license for parking at the surface parking lots at the Project or at the "Brown Lot" at 100 Binney Street, Cambridge, Massachusetts, pursuant to Section 8 of the Lease, shall be increased by 1 parking space so that Tenant shall have a license to use a total of 7 parking spaces. Commencing on the Expansion Premises Commencement Date, Tenant shall pay, as Additional Rent, \$220 per month for such additional parking space.

9. **Tenant's Notice Address.** Commencing on the date of this First Amendment, the defined term "**Tenant's Notice Address**" on page 2 of the Lease is deleted in its entirety and replaced with the following:

**"Tenant's Notice Address:**

215 First, Suite 230  
Cambridge, MA 02142  
Attn: Lease Administrator"

10. **Brokers.** Landlord and Tenant each represents and warrants that it has not dealt with any broker, agent or other person (collectively, "**Broker**") in connection with the transaction reflected in this First Amendment and that no Broker brought about this transaction, other than Richards, Barry Joyce & Partners and Cushman & Wakefield. Landlord and Tenant each hereby agrees to indemnify and hold the other harmless from and against any claims by any Broker claiming a commission or other form of compensation by virtue of having dealt with Tenant or Landlord, as applicable, with regard to this leasing transaction.

11. **Miscellaneous.**

a. This First Amendment is the entire agreement between the parties with respect to the subject matter hereof and supersedes all prior and contemporaneous oral and written agreements and discussions. This First Amendment may be amended only by an agreement in writing, signed by the parties hereto.

b. This First Amendment is binding upon and shall inure to the benefit of the parties hereto, their respective agents, employees, representatives, officers, directors, divisions, subsidiaries, affiliates, assigns, heirs, successors in interest and shareholders.

c. This First Amendment may be executed in any number of counterparts, each of which shall be deemed an original, but all of which when taken together shall constitute one and the same instrument. The signature page of any counterpart may be detached therefrom without impairing the legal effect of the signature(s) thereon provided such signature page is attached to any other counterpart identical thereto except having additional signature pages executed by other parties to this First Amendment attached thereto.

d. Except as amended and/or modified by this First Amendment, the Lease is hereby ratified and confirmed and all other terms of the Lease shall remain in full force and effect, unaltered and unchanged by this First Amendment. In the event of any conflict between the provisions of this First Amendment and the provisions of the Lease, the provisions of this First Amendment shall prevail. Whether or not specifically amended by this First Amendment, all of the terms and provisions of the Lease are hereby amended to the extent necessary to give effect to the purpose and intent of this First Amendment.

IN WITNESS WHEREOF, the parties hereto have executed this First Amendment as of the day and year first above written.

**TENANT:**

**SAGE THERAPEUTICS, INC.,**  
a Delaware corporation



By: \_\_\_\_\_  
Its: \_\_\_\_\_

**LANDLORD:**

**ARE-MA REGION NO. 38, LLC,**  
a Delaware limited liability corporation

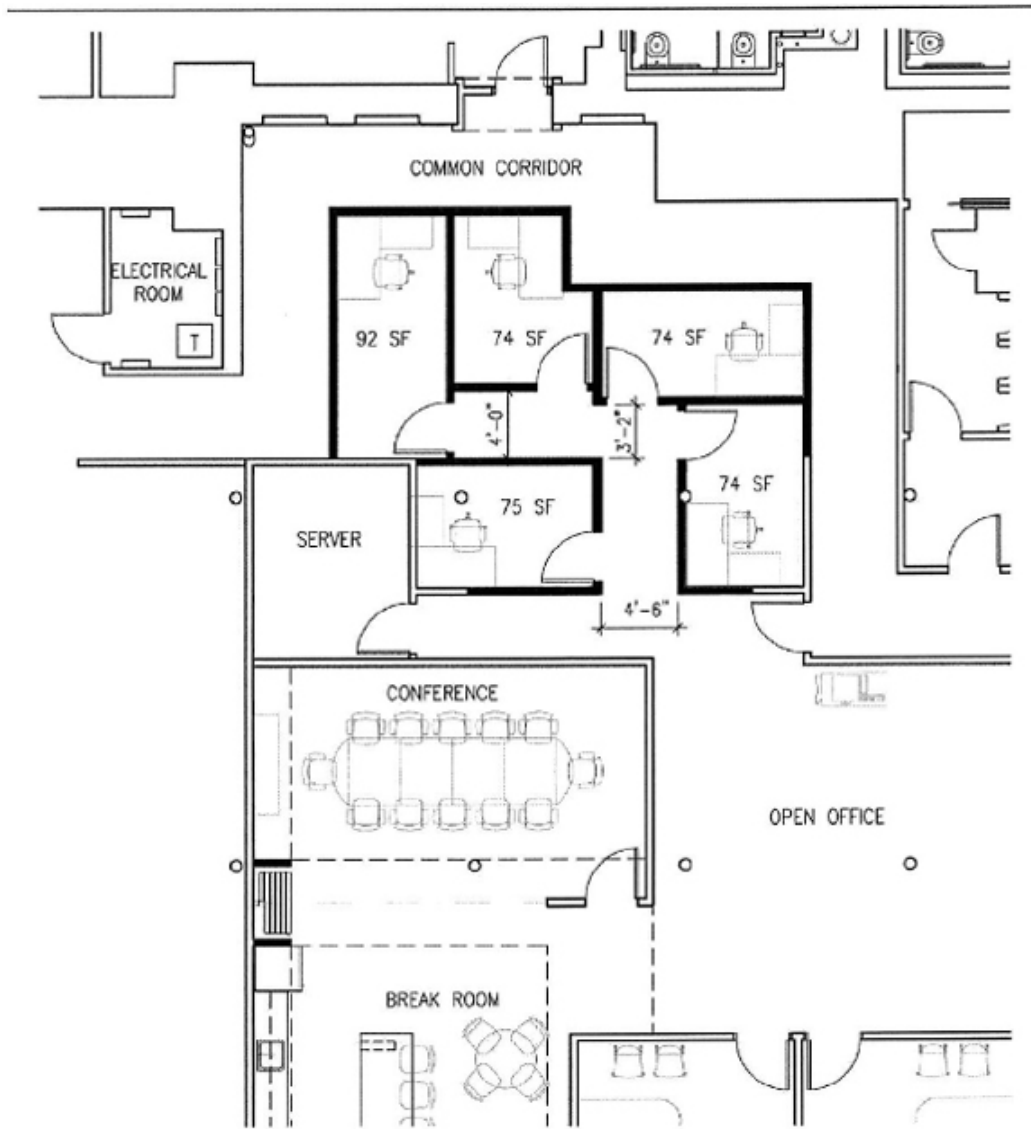
By: ALEXANDRIA REAL ESTATE EQUITIES, L.P.,  
a Delaware limited partnership, managing member

By: ARE-QRS CORP.,  
a Maryland corporation,  
general partner

By: /s/ Eric S. Johnson \_\_\_\_\_  
Its: \_\_\_\_\_  
Eric S. Johnson  
Vice President  
Real Estate Legal Affairs

EXHIBIT A

The Expansion Premises



PROJECT NAME  
SAGE THERAPEUTICS  
215 FIRST STREET - 2ND FLOOR  
CAMBRIDGE, MA

TITLE:  
PRELIMINARY LAYOUT

R.E. DINNEEN ARCHITECTS & PLANNERS, INC.  
123 North Washington Street Boston, Massachusetts 02114-2143 tel 617 227 9727 fax 617 227 1870

PROJECT NO. : 12131  
ISSUE DATE : 4/20/12  
SCALE : 1/8" = 1'-0"  
DRAWN BY : JP

PL-2



EXHIBIT B

**Expansion Premises Work Letter**

THIS EXPANSION PREMISES WORK LETTER dated October 26, 2012 (this "**Expansion Premises Work Letter**") is made and entered into by and between **ARE-MA REGION NO. 38, LLC**, a Delaware limited liability company ("**Landlord**"), and **SAGE THERAPEUTICS, INC.**, a Delaware corporation ("**Tenant**"), and is attached to and made a part of that certain Lease Agreement dated as of December 21, 2011, as amended by that certain First Amendment to Lease of even date herewith (as amended, the "**Lease**"), by and between Landlord and Tenant. Any initially capitalized terms used but not defined herein shall have the meanings given them in the Lease.

**1. General Requirements.**

(a) **Tenant's Authorized Representative.** Tenant designates Kimi Iguchi and Kiran Reddy (either such individual acting alone, "**Tenant's Representative**") as the only persons authorized to act for Tenant pursuant to this **Expansion Premises Work Letter**. Landlord shall not be obligated to respond to or act upon any request, approval, inquiry or other communication ("**Communication**") from or on behalf of Tenant in connection with this Expansion Premises Work Letter unless such Communication is in writing from Tenant's Representative. Tenant may change either Tenant's Representative at any time upon not less than 5 business days advance written notice to Landlord. Neither Tenant nor Tenant's Representative shall be authorized to direct Landlord's contractors in the performance of Landlord's Work (as hereinafter defined).

(b) **Landlord's Authorized Representative.** Landlord designates Jeff McComish and Joe Maguire (either such individual acting alone, "**Landlord's Representative**") as the only persons authorized to act for Landlord pursuant to this Expansion Premises Work Letter. Tenant shall not be obligated to respond to or act upon any request, approval, inquiry or other Communication from or on behalf of Landlord in connection with this Expansion Premises Work Letter unless such Communication is in writing from Landlord's Representative. Landlord may change either Landlord's Representative at any time upon not less than 5 business days advance written notice to Tenant. Landlord's Representative shall be the sole persons authorized to direct Landlord's contractors in the performance of Landlord's Work.

(c) **Architects, Consultants and Contractors.** Landlord and Tenant hereby acknowledge and agree that: (i) the general contractor and any subcontractors for the Tenant Improvements shall be selected by Landlord, subject to Tenant's approval, which approval shall not be unreasonably withheld, conditioned or delayed, and (ii) R.E. Dineen shall be the architect (the "**TI Architect**") for the Tenant Improvements.

**2. Tenant Improvements.**

(a) **Tenant Improvements Defined.** As used herein, "**Tenant Improvements**" shall mean all improvements to the Expansion Premises of a fixed and permanent nature as shown on the TI Construction Drawings, as defined in Section 2(c) below. Other than Landlord's Work (as defined in Section 3(a) below, Landlord shall not have any obligation whatsoever with respect to the finishing of the Expansion Premises for Tenant's use and occupancy.

(b) **Tenant's Space Plans.** Landlord and Tenant acknowledge and agree that that certain plan PL-2 dated April 20, 2012, prepared by the TI Architect attached hereto as **Schedule 1** (the "**Space Plan**"), the Basis of Design attached hereto as **Schedule 2** and the Scope of Work attached hereto as **Schedule 3** have been approved by both Landlord and Tenant. Landlord and Tenant further acknowledge and agree that any changes to the Space Plan constitute a Change Request the cost of which changes shall be paid for by Tenant. Tenant shall be solely responsible for all costs incurred by Landlord to alter the Building (or Landlord's plans for the Building) as a result of Tenant's requested changes.

(c) **Working Drawings.** Landlord shall cause the TI Architect to prepare and deliver to Tenant for review and comment construction plans, specifications and drawings for the Tenant Improvements (“**TI Construction Drawings**”), which TI Construction Drawings shall be prepared substantially in accordance with the Space Plan. Tenant shall be solely responsible for ensuring that the TI Construction Drawings reflect Tenant’s requirements for the Tenant Improvements. Tenant shall deliver its written comments on the TI Construction Drawings to Landlord not later than 10 business days after Tenant’s receipt of the same; provided, however, that Tenant may not disapprove any matter that is consistent with the Space Plan without submitting a Change Request. Landlord and the TI Architect shall consider all such comments in good faith and shall, within 10 business days after receipt, notify Tenant how Landlord proposes to respond to such comments, but Tenant’s review rights pursuant to the foregoing sentence shall not delay the design or construction schedule for the Tenant Improvements. Any disputes in connection with such comments shall be resolved in accordance with Section 2(d) hereof. Provided that the design reflected in the TI Construction Drawings is consistent with the Space Plan, Tenant shall approve the TI Construction Drawings submitted by Landlord, unless Tenant submits a Change Request. Once approved by Tenant, subject to the provisions of Section 4 below, Landlord shall not materially modify the TI Construction Drawings except as may be reasonably required in connection with the issuance of the TI Permit (as defined in Section 3(b) below).

(d) **Approval and Completion.** It is hereby acknowledged by Landlord and Tenant that the TI Construction Drawings must be completed and approved no later than October 15, 2012, in order for the Landlord’s Work to be Substantially Complete by the Target Commencement Date (as defined in the Lease). Upon any dispute regarding the design of the Tenant Improvements, which is not settled within 10 business days after notice of such dispute is delivered by one party to the other, Tenant may make the final decision regarding the design of the Tenant Improvements, provided (i) Tenant acts reasonably and such final decision is either consistent with or a compromise between Landlord’s and Tenant’s positions with respect to such dispute, (ii) that all increases in costs and expenses resulting from any such decision by Tenant shall be payable by Tenant, and (iii) Tenant’s decision will not affect the base Building, structural components of the Building or any Building systems. Any changes to the TI Construction Drawings following Landlord’s and Tenant’s approval of same requested by Tenant shall be processed as provided in Section 4 hereof.

### 3. Performance of Landlord’s Work.

(a) **Definition of Landlord’s Work.** As used herein, “**Landlord’s Work**” shall mean the work of constructing the Tenant Improvements.

(b) **Commencement and Permitting.** Landlord shall commence construction of the Tenant Improvements upon obtaining a building permit (the “**TI Permit**”) authorizing the construction of the Tenant Improvements consistent with the TI Construction Drawings approved by Tenant. The cost of obtaining the TI Permit shall be payable by Landlord. Tenant shall assist Landlord in obtaining the TI Permit. If any Governmental Authority having jurisdiction over the construction of Landlord’s Work or any portion thereof shall impose terms or conditions upon the construction thereof that: (i) are inconsistent with Landlord’s obligations hereunder, (ii) increase the cost of constructing Landlord’s Work, or (iii) will materially delay the construction of Landlord’s Work, Landlord and Tenant shall reasonably and in good faith seek means by which to mitigate or eliminate any such adverse terms and conditions.

(c) **Completion of Landlord’s Work.** Landlord shall (i) substantially complete or cause to be substantially completed Landlord’s Work in a good and workmanlike manner, in accordance with the TI Permit subject, in each case, to Minor Variations and normal “punch list” items of a non-material nature that do not interfere with the use of the Expansion Premises, and (ii) obtain a certificate or temporary certificate of occupancy (or an equivalent approval) for the Expansion Premises permitting lawful

occupancy of the Expansion Premises (but specifically excluding any permits, licenses or other governmental approvals required to be obtained in connection with Tenant's operations in the Expansion Premises) ("**Substantial Completion**" or "**Substantially Complete**"). Upon Substantial Completion of Landlord's Work, Landlord shall require the TI Architect and the general contractor to execute and deliver, for the benefit of Tenant and Landlord, a Certificate of Substantial Completion in the form of the American Institute of Architects ("**AIA**") document G704. For purposes of this Expansion Premises Work Letter, "**Minor Variations**" shall mean any modifications reasonably required: (i) to comply with all applicable Legal Requirements and/or to obtain or to comply with any required permit (including the TI Permit); (ii) to comply with any request by Tenant for modifications to Landlord's Work; (iii) to comport with good design, engineering, and construction practices that are not material; or (iv) to make reasonable adjustments for field deviations or conditions encountered during the construction of Landlord's Work.

(d) **Selection of Materials.** Where more than one type of material or structure is indicated on the TI Construction Drawings approved by Landlord and Tenant, the option will be selected at Landlord's sole and absolute subjective discretion. As to all building materials and equipment that Landlord is obligated to supply under this Expansion Premises Work Letter, Landlord shall select the manufacturer thereof in its sole and absolute subjective discretion.

(e) **Delivery of the Expansion Premises.** When Landlord's Work is Substantially Complete, subject to the remaining terms and provisions of this [Section 3\(e\)](#), Tenant shall accept the Expansion Premises. Tenant's taking possession and acceptance of the Expansion Premises shall not constitute a waiver of: (i) any warranty with respect to workmanship (including installation of equipment) or material (exclusive of equipment provided directly by manufacturers), (ii) any non-compliance of Landlord's Work with applicable Legal Requirements, or (iii) any claim that Landlord's Work was not completed substantially in accordance with the TI Construction Drawings (subject to Minor Variations and such other changes as are permitted hereunder) (collectively, a "**Construction Defect**"). Tenant shall have one year after Substantial Completion within which to notify Landlord of any such Construction Defect discovered by Tenant, and Landlord shall use reasonable efforts to remedy or cause the responsible contractor to remedy any such Construction Defect within 30 days thereafter. Notwithstanding the foregoing, Landlord shall not be in default under the Lease if the applicable contractor, despite Landlord's reasonable efforts, fails to remedy such Construction Defect within such 30-day period, in which case Landlord shall have no further obligation with respect to such Construction Defect other than to cooperate, at no cost to Landlord, with Tenant should Tenant elect to pursue a claim against such contractor.

(f) Tenant shall be entitled to receive the benefit of all construction warranties and manufacturer's equipment warranties relating to equipment installed in the Expansion Premises. If requested by Tenant, Landlord shall attempt to obtain extended warranties from manufacturers and suppliers of such equipment, but the cost of any such extended warranties shall be borne solely by Tenant. Landlord shall promptly undertake and complete, or cause to be completed, all punch list items.

(g) **Commencement Date Delay.** Except as otherwise provided in the Lease, Delivery of the Expansion Premises shall occur when Landlord's Work has been Substantially Completed, except to the extent that completion of Landlord's Work shall have been actually delayed by any one or more of the following causes ("**Tenant Delay**"):

- (i) Tenant's Representative was not available within 1 business day to give or receive any Communication or to take any other action required to be taken by Tenant hereunder;
- (ii) Tenant's request for Change Requests (as defined in [Section 4\(a\)](#) below) whether or not any such Change Requests are actually performed;
- (iii) Construction of any Change Requests;

- (iv) Tenant's request for materials, finishes or installations requiring unusually long lead times;
- (v) Tenant's delay in reviewing, revising or approving plans and specifications beyond the periods set forth herein;
- (vi) Tenant's delay in providing information critical to the normal progression of the Project. Tenant shall provide such information as soon as reasonably possible, but in no event longer than one week after receipt of any request for such information from Landlord;
- (vii) Tenant's delay in making payments to Landlord for Excess TI Costs (as defined in Section 5(b) below); or
- (viii) Any other act or omission by Tenant or any Tenant Party (as defined in the Lease), or persons employed by any of such persons.

If Delivery is delayed for any of the foregoing reasons, then Landlord shall cause the TI Architect to certify the date on which the Tenant Improvements would have been completed but for such Tenant Delay and such certified date shall be the date of Delivery.

**4. Changes.** Any changes requested by Tenant to the Tenant Improvements after the delivery and approval by Landlord of the Space Plan shall be requested and instituted in accordance with the provisions of this Section 4 and shall be subject to the written approval of Landlord and the TI Architect, such approval not to be unreasonably withheld, conditioned or delayed.

(a) **Tenant's Request For Changes.** If Tenant shall request changes to the Tenant Improvements ("**Changes**"), Tenant shall request such Changes by notifying Landlord in writing in substantially the same form as the AIA standard change order form (a "**Change Request**"), which Change Request shall detail the nature and extent of any such Change. Such Change Request must be signed by Tenant's Representative. Landlord shall, before proceeding with any Change, respond to Tenant as soon as is reasonably possible with an estimate of: (i) the time it will take, and (ii) the architectural and engineering fees and costs that will be incurred, to analyze such Change Request (which costs shall be paid by Tenant to the extent actually incurred, whether or not such change is implemented). Landlord shall thereafter submit to Tenant in writing, within 5 business days of receipt of the Change Request (or such longer period of time as is reasonably required depending on the extent of the Change Request), an analysis of the additional cost or savings involved, including, without limitation, architectural and engineering costs and the period of time, if any, that the Change will extend the date on which Landlord's Work will be Substantially Complete. Any such delay in the completion of Landlord's Work caused by a Change, including any suspension of Landlord's Work while any such Change is being evaluated and/or designed, shall be Tenant Delay.

(b) **Implementation of Changes.** If Tenant: (i) approves in writing the cost or savings and the estimated extension in the time for completion of Landlord's Work, if any, and (ii) deposits with Landlord any Excess TI Costs required pursuant to Section 5(b) below in connection with such Change, Landlord shall cause the approved Change to be instituted. Notwithstanding any approval or disapproval by Tenant of any estimate of the delay caused by such proposed Change, the TI Architect's determination of the amount of Tenant Delay in connection with such Change shall be final and binding on Landlord and Tenant.

#### **5. Costs.**

(a) **TI Costs.** Landlord shall be responsible for all hard and soft costs and expenses for the design and performance of Landlord's Work including, without limitation, design, permits and construction costs in connection with the construction of the Tenant Improvements, including, without limitation, the

cost of preparing the TI Construction Drawings and the Space Plan and Landlord's out-of-pocket expenses (collectively, "**TI Costs**"). Notwithstanding anything to the contrary contained herein, in no event shall Landlord be required to pay for any furniture, personal property or other non-Building system materials or equipment, including, but not limited to, Tenant's voice or data cabling, not incorporated into the Tenant Improvements.

(b) **Excess TI Costs.** Notwithstanding anything to the contrary contained herein, Tenant acknowledges and agrees that Landlord shall have no responsibility for any costs arising from or related to Tenant's changes to the Space Plan or TI Construction Drawings, Tenant Delays, the cost of Changes and Change Requests (collectively, "**Excess TI Costs**"). Tenant shall deposit with Landlord 50% of the Excess TI Costs as a condition precedent to Landlord's obligation to complete the Tenant Improvements and the remaining 50% of the Excess TI Costs upon Substantial Completion of the Tenant Improvements. If Tenant fails to deposit any Excess TI Costs with Landlord, Landlord shall have all of the rights and remedies set forth in the Lease for nonpayment of Rent (including, but not limited to, the right to interest at the Default Rate and the right to assess a late charge). For purposes of any litigation instituted with regard to such amounts, those amounts will be deemed Rent under the Lease.

## 6. Tenant Access.

(a) **Tenant's Access Rights.** Landlord hereby agrees to permit Tenant access, at Tenant's sole risk and expense, to the Expansion Premises (i) 14 days prior to the Commencement Date to perform any work ("**Tenant's Work**") required by Tenant other than Landlord's Work, provided that such Tenant's Work is coordinated with the TI Architect and the general contractor, and complies with the Lease and all other reasonable restrictions and conditions Landlord may impose, and (ii) prior to the completion of Landlord's Work, to inspect and observe work in process; all such access shall be during normal business hours or at such other times as are reasonably designated by Landlord. Any entry by Tenant shall comply with all established safety practices of Landlord's contractor and Landlord until completion of Landlord's Work and acceptance thereof by Tenant.

(b) **No Interference.** Neither Tenant nor any Tenant Party (as defined in the Lease) shall interfere with the performance of Landlord's Work, nor with any inspections or issuance of final approvals by applicable Governmental Authorities, and upon any such interference, Landlord shall have the right to exclude Tenant and any Tenant Party from the Expansion Premises and the Project until Substantial Completion of Landlord's Work.

(c) **No Acceptance of Expansion Premises.** The fact that Tenant may, with Landlord's consent, enter into the Expansion Premises prior to the date Landlord's Work is Substantially Complete for the purpose of performing Tenant's Work shall not be deemed an acceptance by Tenant of possession of the Expansion Premises, but in such event Tenant shall defend with counsel reasonably acceptable by Landlord, indemnify and hold Landlord harmless from and against any loss of or damage to Tenant's property, completed work, fixtures, equipment, materials or merchandise, and from liability for death of, or injury to, any person, caused by the act or omission of Tenant or any Tenant Party.

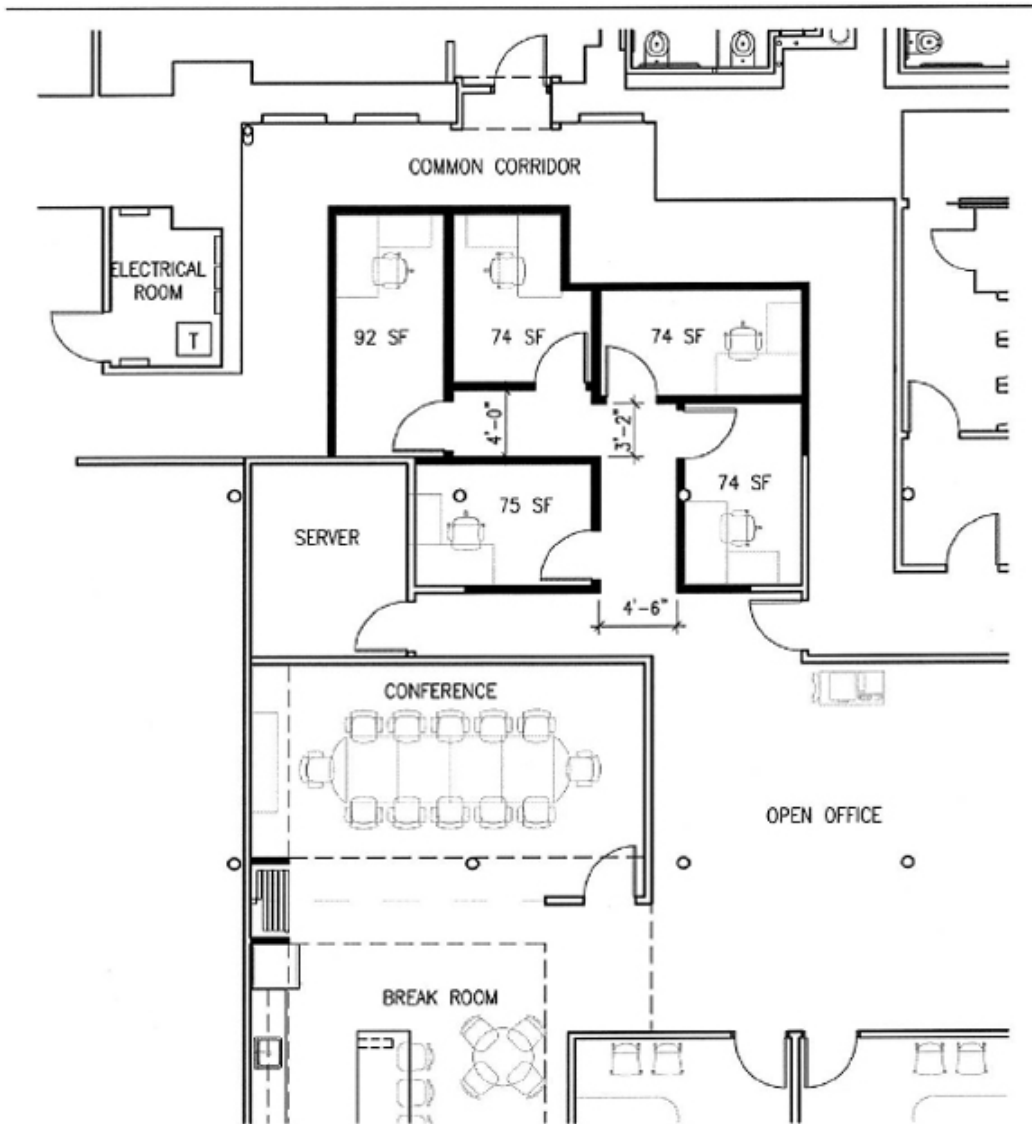
## 7. Miscellaneous.

(a) **Consents.** Whenever consent or approval of either party is required under this Expansion Premises Work Letter, that party shall not unreasonably withhold, condition or delay such consent or approval, unless expressly set forth herein to the contrary.

(b) **Modification.** No modification, waiver or amendment of this Expansion Premises Work Letter or of any of its conditions or provisions shall be binding upon Landlord or Tenant unless in writing signed by Landlord and Tenant.

Schedule 1

Space Plan



PROJECT NAME  
SAGE THERAPEUTICS  
215 FIRST STREET - 2ND FLOOR  
CAMBRIDGE, MA

TITLE:  
PRELIMINARY LAYOUT

R.E. DINNEEN ARCHITECTS & PLANNERS, INC.  
123 North Washington Street Boston, Massachusetts 02114-2143 tel 617 227 7727 fax 617 227 1870

PROJECT NO. : 12131  
ISSUE DATE : 4/20/12  
SCALE : 1/8" = 1'-0"  
DRAWN BY : JP

PL-2

Schedule 2

**Basis of Design**

Sage Therapeutics Expansion  
215 First Street, Floor 2  
Cambridge, Massachusetts

ARCHITECTURAL – BASIS OF DESIGN

PART I – GENERAL

The scope of this improvement project is predicated on the following: to provide new tenant improvements to meet the specific demands of Sage Therapeutics and State and local codes; and to provide new construction systems and materials in match the existing design and finish standards in place.

1.0 ARCHITECTURAL – BASIS OF DESIGN

A. Codes and Standard

1. Codes and standards pertaining to this section will include, but not be limited to the following:
  - a. International Building Code 2009
  - b. International Existing Building Code 2009
  - c. Massachusetts Architectural Access Board Regs. CMR 521.
  - d. Americans With Disabilities Act and Architectural Barriers Act – Accessibility Guidelines 2004
  - e. National Fire Protection Association (NFPA).

B. Interior Finishes include the following:

1. Flooring and Base
  - a. Carpeting, installed in the direct glue-down method, with 4” high vinyl wall base.
2. Walls
  - a. Latex painted gypsum wall board.
3. Ceilings
  - a. No finished ceilings in Office Areas: open to structure above.

C. Interior Partitions

- a. Full height, metal stud and gypsum wall board with unfaced acoustic batt insulation.

D. Doors and Hardware to include the following:

1. Doors and Frames
  - a. Solid core wood doors with natural finished maple veneer.
  - b. Hollow metal frame with painted finish.
2. Door Hardware
  - a. Lever handle, cylindrical locksets.
  - b. Heavy duty ball bearing hinges.
  - c. Door stops.

- 3. Interior glazing
  - a. Full size, clear safety glass vision panels for office doors.

E. Lighting

Office

- a. Pendant mounted fluorescent light fixtures.

END OF SECTION



Schedule 3

Scope of Work



Alexandria Real Estate  
215 First Street, Cambridge, MA  
Sage Therapeutics Expansion

**Bid Estimate**

<u>Division/Description</u>	<u>Qty</u>	<u>UM</u>
<b>Demolition</b>		
Existing flooring		to remain
Remove existing partitions & millwork per plan		
Temp protection & isolation		
Laborer for temp protection		
Dumpsters for demolition		
<hr/>		
<b>Rough and Finish Carpentry</b>		
Miscellaneous rough carpentry.		
Install doors & hardware	5 ea	
<hr/>		
<b>Thermal and Moisture Protection</b>		
<hr/>		
<b>Doors, Frames and Hardware</b>		
3 x 6'-8" wood doors, frames & hardware	5 ea	
Specialty hardware / Card access systems	<b>EXCLUDED</b>	
<hr/>		
<b>Glass and Glazing</b>		
Full door glazing		
Borrowed lites / transom glass		<b>EXCLUDED</b>
<hr/>		
<b>Gypsum Drywall</b>		
Full ht. GWB partitions		
GWB soffits & ceilings		<b>EXCLUDED</b>
Install door frames		
Delivery / loading & distribution		
<hr/>		
<b>Acoustic Ceilings</b>		
		<b>No work</b>

<u>Division/Description</u>	<u>Qty</u>	<u>UM</u>
<b>Flooring Systems</b>		
Carpet		<b>Existing to remain</b>
Allowance to patch at demo as required (labor only)		1 alw
Patch carpet materials (from ARE stock)		
Vinylbase		275 lf
<b>Painting</b>		
Paint new & existing walls as required		1 ls
Paint door frames		5 ea
Paint exposed mechanical (duct, etc.)		
<b>Specialties</b>		
Cubicles & office furniture		<b>By others</b>
Telephone & AV systems		<b>By others</b>
<b>Fire Protection</b>		
Rework sprinkler heads for new layout		1 ls
<b>Plumbing</b>		
<b>HVAC</b>		
New 1.5 split heat pump system		1 ls
New duct distribution per new layout		1 ls
Local t-stat		1ea
Locate ACCU in existing mezz		1 ea
<b>Electrical, Fire Alarm</b>		
New & relocated lighting to match existing		1 ls
General power wiring to match existing		1 ls
Emerg. Exit lighting per code		1 ls
Fire alarm		not req'd
Tele / data & security wiring		<b>EXCLUDED</b>
<b>General</b>		
Premium time/Second Shift allowance		<b>EXCLUDED</b>

<u>Division/Description</u>	<u>Qty</u>	<u>UM</u>
<b>Supervision &amp; management</b>		
Project Superintendent.	3 wks	
Second Shift Superintendent	<b>EXCLUDED</b>	
Preconstruction		
Project Manager	1 ls	
Project Admin Assistant.	1 ls	
Project Accountant.	1 ls	
<b>General Conditions</b>		
<b>Engineering</b>		
Architectural services (RE Dinneen)	1 qt	
MEPFP Engineering (AHA)	1 qt	
Structural engineering (TBD)	<b>EXCLUDED</b>	
<b>Insurance and Permits</b>		
General Liability Insurance	0.70%	
Building Permits	1.50%	
<b>Contingency</b>		
	1 ls	
<b>FEE</b>		
	1 ls	
<b>Total budget</b>		

## SECOND AMENDMENT TO LEASE

THIS SECOND AMENDMENT TO LEASE (this “**Second Amendment**”) is made as of May 9, 2013, by and between **ARE-MA REGION NO. 38, LLC**, a Delaware limited liability company (“**Landlord**”), and **SAGE THERAPEUTICS, INC.**, a Delaware corporation (“**Tenant**”).

### RECITALS

**A.** Landlord and Tenant are now parties to that certain Lease Agreement dated as of December 21, 2011, as amended by that certain First Amendment to Lease dated as of October 26, 2012 (as amended, the “**Lease**”). Pursuant to the Lease, Tenant leases certain premises consisting of approximately 6,500 rentable square feet of space (“**Existing Premises**”) in a building located at 215 First Street, Cambridge, Massachusetts (“**Building**”). The Existing Premises are more particularly described in the Lease. Capitalized terms used herein without definition shall have the meanings defined for such terms in the Lease.

**B.** Landlord and Tenant desire, subject to the terms and conditions set forth below, to amend the Lease to, among other things, expand the size of the Existing Premises by adding approximately 4,100 rentable square feet of space on the second floor of the Building.

**NOW, THEREFORE**, in consideration of the foregoing Recitals, which are incorporated herein by this reference, the mutual promises and conditions contained herein, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Landlord and Tenant hereby agree as follows:

- 1. Second Expansion Premises.** In addition to the Existing Premises, commencing on the Second Expansion Premises Commencement Date (as defined below), Landlord leases to Tenant, and Tenant leases from Landlord, that certain portion of the second floor of the Building, containing approximately 4,100 rentable square feet, as shown on **Exhibit A** attached hereto (the “**Second Expansion Premises**”).
- 2. Delivery.** Landlord shall use reasonable efforts to deliver the Second Expansion Premises to Tenant on or before the Target Second Expansion Premises Commencement Date with Landlord’s Work Substantially Completed (“**Delivery**” or “**Deliver**”). If Landlord fails to timely Deliver the Second Expansion Premises, Landlord shall not be liable to Tenant for any loss or damage resulting therefrom, and the Lease with respect to the Second Expansion Premises shall not be void or voidable. As used herein, the terms “**Landlord’s Work**” and “**Substantially Completed**” shall have the meanings set forth for such terms in the work letter attached to this Second Amendment as **Exhibit B** (“**Second Expansion Premises Work Letter**”).

The “**Second Expansion Premises Commencement Date**” shall be the date that Landlord delivers the Second Expansion Premises to Tenant. The “**Target Expansion Premises Commencement Date**” shall be July 19, 2013. Upon request of Landlord, Tenant shall execute and deliver a written acknowledgment of the Second Expansion Premises Commencement Date in a form substantially similar to the form of the “**Acknowledgement of Commencement Date**” attached to the Lease as **Exhibit G**; provided, however, Tenant’s failure to execute and deliver such acknowledgment shall not affect Landlord’s rights hereunder.

Except as set forth in the Second Expansion Premises Work Letter: (i) Tenant shall accept the Second Expansion Premises in their condition as of the Second Expansion Premises Commencement Date, subject to all applicable Legal Requirements; (ii) Landlord shall have no obligation for any defects in the Second Expansion Premises; and (iii) Tenant’s taking possession of the Second Expansion Premises shall be conclusive evidence that Tenant accepts the Second Expansion Premises and that the Second Expansion Premises were in good condition at the time possession was taken. The Second Expansion Premises shall be delivered to Tenant without any furniture.

Tenant agrees and acknowledges that neither Landlord nor any agent of Landlord has made any representation or warranty with respect to the condition of all or any portion of the Second Expansion Premises, and/or the suitability of the Second Expansion Premises for the conduct of Tenant's business, and Tenant waives any implied warranty that the Second Expansion Premises are suitable for the Permitted Use.

3. **Definition of Premises.** Commencing on the Second Expansion Premises Commencement Date, the defined term "**Premises**" on Page 1 of the Lease is deleted in its entirety and replaced with the following:

"**Premises:** That portion of the second floor of the Building (as defined below) containing approximately 10,600 rentable square feet, consisting of (i) approximately 5,900 rentable square feet ("**Original Premises**"), (ii) approximately 600 rentable square feet ("**Expansion Premises**"), and approximately 4,100 rentable square feet ("**Second Expansion Premises**"), all as determined by Landlord, as shown on **Exhibit A.**"

**Exhibit A** attached to the Lease is amended as of the Second Expansion Premises Commencement Date to include **Exhibit A** attached to this Second Amendment.

4. **Base Rent.** Tenant shall continue to pay Base Rent for the Existing Premises as provided for in the Lease through the Expiration Date (as defined in Section 6 below). Commencing on the Second Expansion Premises Commencement Date, Tenant shall pay Base Rent for the Second Expansion Premises in the amount of \$25.00 per rentable square foot of the Second Expansion Premises per year. Base Rent for the Second Expansion Premises shall be increased on each annual anniversary of Second Expansion Premises Commencement Date (each an "**Adjustment Date**") by multiplying the Base Rent payable for the Second Expansion Premises immediately before such Adjustment Date by 3% and adding the resulting amount to the Base Rent payable for the Second Expansion Premises immediately before such Adjustment Date. Base Rent for the Second Expansion Premises, as so adjusted, shall thereafter be due as provided herein. Base Rent adjustments for any fractional calendar month shall be prorated.

5. **Tenant's Share.** Commencing on the Second Expansion Premises Commencement Date, the defined term "**Tenant's Share**" on page 1 of the Lease is deleted in its entirety and replaced with the following:

"**Tenant's Share for Original Premises and Expansion Premises:** 1.77%

**Tenant's Share for Second Expansion Premises:** 1.12%"

Notwithstanding anything to the contrary contained in the Lease, (i) the Base Year for Operating Expenses with respect to the Second Expansion Premises only shall be 2013, (ii) the Base Year for Taxes with respect to the Second Expansion Premises only shall be July 1, 2013 – June 30, 2014, and (iii) Operating Expenses for the Second Expansion Premises shall include the costs of Landlord's third party manager (which shall not exceed 5% of Base Rent) or, if there is no third party property manager, administration rent in the amount of 5.0% of Base Rent.

6. **Base Term.** Commencing on the Second Expansion Premises Commencement Date, the defined term "**Base Term**" on page 1 of the Lease is deleted in its entirety and replaced with the following:

"**Base Term:** Beginning (i) with respect to the Original Premises, on the Commencement Date, (ii) with respect to the Expansion Premises, on the Expansion Premises Commencement

Date, and (iii) with respect to the Second Expansion Premises, on the Second Expansion Premises Commencement Date and, with respect to the entire Premises ending on February 28, 2017 (“**Expiration Date**”).”

7. **Rentable Area of Premises.** Commencing on the Second Expansion Premises Commencement Date, the defined term “**Rentable Area of Premises**” on page 1 of the Lease is deleted in its entirety and replaced with the following:

“**Rentable Area:** Approximately 10,600 square feet”
8. **Parking.** Commencing on the Second Expansion Premises Commencement Date, Tenant’s license for parking at the surface parking lots at the Project or at the “Brown Lot” at 100 Binney Street, Cambridge, Massachusetts, pursuant to Section 8 of the Lease, shall be increased by 4 parking space so that Tenant shall have a license to use a total of 11 parking spaces. Commencing on the Second Expansion Premises Commencement Date, Tenant shall pay, as Additional Rent, \$220 per month for such additional parking space.
9. **Right of First Refusal.** Section 35 of the Lease is hereby deleted in its entirety and of no further force or effect and Tenant shall have no further rights of first refusal under the Lease.
10. **Brokers.** Landlord and Tenant each represents and warrants that it has not dealt with any broker, agent or other person (collectively, “**Broker**”) in connection with the transaction reflected in this Second Amendment and that no Broker brought about this transaction, other than Richards, Barry Joyce & Partners and Cushman & Wakefield. Landlord and Tenant each hereby agrees to indemnify and hold the other harmless from and against any claims by any Broker claiming a commission or other form of compensation by virtue of having dealt with Tenant or Landlord, as applicable, with regard to this leasing transaction.
11. **Miscellaneous.**
  - a. This Second Amendment is the entire agreement between the parties with respect to the subject matter hereof and supersedes all prior and contemporaneous oral and written agreements and discussions. This Second Amendment may be amended only by an agreement in writing, signed by the parties hereto.
  - b. This Second Amendment is binding upon and shall inure to the benefit of the parties hereto, their respective successors and assigns.
  - c. This Second Amendment may be executed in any number of counterparts, each of which shall be deemed an original, but all of which when taken together shall constitute one and the same instrument. The signature page of any counterpart may be detached therefrom without impairing the legal effect of the signature(s) thereon provided such signature page is attached to any other counterpart identical thereto except having additional signature pages executed by other parties to this Second Amendment attached thereto.
  - d. Except as amended and/or modified by this Second Amendment, the Lease is hereby ratified and confirmed and all other terms of the Lease shall remain in full force and effect, unaltered and unchanged by this Second Amendment. In the event of any conflict between the provisions of this Second Amendment and the provisions of the Lease, the provisions of this Second Amendment shall prevail. Whether or not specifically amended by this Second Amendment, all of the terms and provisions of the Lease are hereby amended to the extent necessary to give effect to the purpose and intent of this Second Amendment.

IN WITNESS WHEREOF, the parties hereto have executed this Second Amendment as of the day and year first above written.

**TENANT:**

**SAGE THERAPEUTICS, INC.,**  
a Delaware corporation

By:   
Its: \_\_\_\_\_

**LANDLORD:**

**ARE-MA REGION NO. 38, LLC,**  
a Delaware limited liability company

By: ALEXANDRIA REAL ESTATE EQUITIES, L.P.,  
a Delaware limited partnership, managing member

By: ARE-QRS CORP.,  
a Maryland corporation,  
general partner

By: /s/ Eric S. Johnson  
Its: \_\_\_\_\_  
Eric S. Johnson  
Vice President  
Real Estate Legal Affairs

EXHIBIT A

The Second Expansion Premises

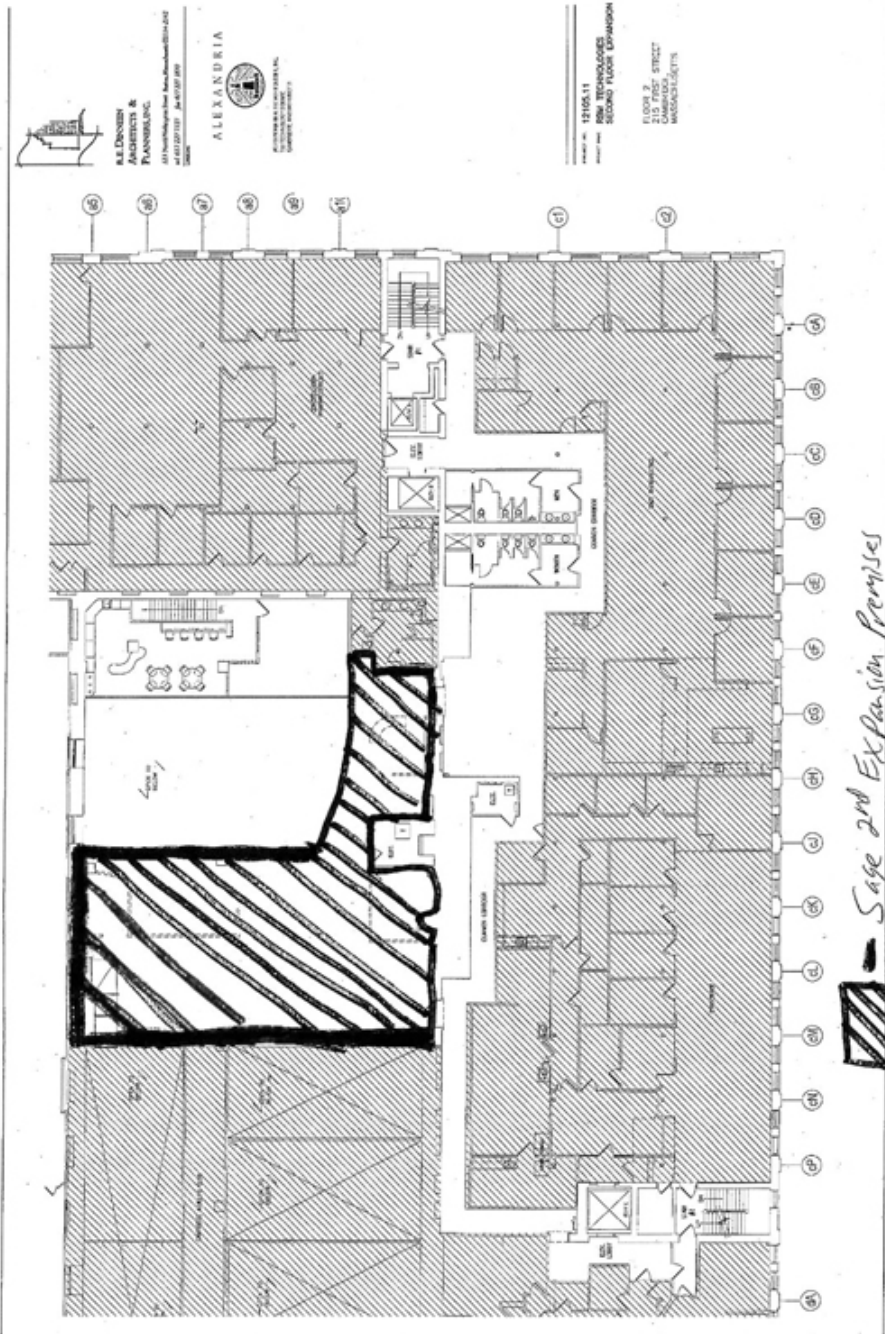




EXHIBIT B

**Second Expansion Premises Work Letter**

THIS SECOND EXPANSION PREMISES WORK LETTER dated May 9, 2013 (this “**Second Expansion Premises Work Letter**”) is made and entered into by and between **ARE-MA REGION NO. 38, LLC**, a Delaware limited liability company (“**Landlord**”), and **SAGE THERAPEUTICS, INC.**, a Delaware corporation (“**Tenant**”), and is attached to and made a part of that certain Lease Agreement dated as of December 21, 2011, as amended by that certain First Amendment to Lease dated as of October 26, 2012, and as further amended by that certain Second Amendment to Lease of even date herewith (as amended, the “**Lease**”), by and between Landlord and Tenant. Any initially capitalized terms used but not defined herein shall have the meanings given them in the Lease.

**1. General Requirements.**

(a) **Tenant’s Authorized Representative.** Tenant designates Kimi Iguchi and Kiran Reddy (either such individual acting alone, “**Tenant’s Representative**”) as the only persons authorized to act for Tenant pursuant to this Second Expansion Premises Work Letter. Landlord shall not be obligated to respond to or act upon any request, approval, inquiry or other communication (“**Communication**”) from or on behalf of Tenant in connection with this Second Expansion Premises Work Letter unless such Communication is in writing from Tenant’s Representative. Tenant may change either Tenant’s Representative at any time upon not less than 5 business days advance written notice to Landlord. Neither Tenant nor Tenant’s Representative shall be authorized to direct Landlord’s contractors in the performance of Landlord’s Work (as hereinafter defined).

(b) **Landlord’s Authorized Representative.** Landlord designates Jeff McComish and Joe Maguire (either such individual acting alone, “**Landlord’s Representative**”) as the only persons authorized to act for Landlord pursuant to this Second Expansion Premises Work Letter. Tenant shall not be obligated to respond to or act upon any request, approval, inquiry or other Communication from or on behalf of Landlord in connection with this Second Expansion Premises Work Letter unless such Communication is in writing from Landlord’s Representative. Landlord may change either Landlord’s Representative at any time upon not less than 5 business days advance written notice to Tenant. Landlord’s Representative shall be the sole persons authorized to direct Landlord’s contractors in the performance of Landlord’s Work.

(c) **Architects, Consultants and Contractors.** Landlord and Tenant hereby acknowledge and agree that: (i) the general contractor and any subcontractors for the Tenant Improvements shall be selected by Landlord, subject to Tenant’s approval, which approval shall not be unreasonably withheld, conditioned or delayed, and (ii) R.E. Dineen shall be the architect (the “**TI Architect**”) for the Tenant Improvements.

**2. Tenant Improvements.**

(a) **Tenant Improvements Defined.** As used herein, “**Tenant Improvements**” shall mean all improvements to the Second Expansion Premises of a fixed and permanent nature as shown on the TI Construction Drawings, as defined in Section 2(c) below. Other than Landlord’s Work (as defined in Section 3(a) below, Landlord shall not have any obligation whatsoever with respect to the finishing of the Second Expansion Premises for Tenant’s use and occupancy.

(b) **Tenant’s Space Plans.** Landlord and Tenant acknowledge and agree that that certain plan attached hereto as **Schedule 1** (the “**Space Plan**”) and the Basis of Design attached hereto as **Schedule 2** have been approved by both Landlord and Tenant. Landlord and Tenant further acknowledge and agree that any changes to the Space Plan constitute a Change Request the cost of which changes shall be paid for by Tenant. Tenant shall be solely responsible for all costs incurred by Landlord to alter the Building (or Landlord’s plans for the Building) as a result of Tenant’s requested changes.

(c) **Working Drawings.** Landlord shall cause the TI Architect to prepare and deliver to Tenant for review and comment construction plans, specifications and drawings for the Tenant Improvements (“**TI Construction Drawings**”), which TI Construction Drawings shall be prepared substantially in accordance with the Space Plan. Tenant shall be solely responsible for ensuring that the TI Construction Drawings reflect Tenant’s requirements for the Tenant Improvements. Tenant shall deliver its written comments on the TI Construction Drawings to Landlord not later than 10 business days after Tenant’s receipt of the same; provided, however, that Tenant may not disapprove any matter that is consistent with the Space Plan without submitting a Change Request. Landlord and the TI Architect shall consider all such comments in good faith and shall, within 10 business days after receipt, notify Tenant how Landlord proposes to respond to such comments, but Tenant’s review rights pursuant to the foregoing sentence shall not delay the design or construction schedule for the Tenant Improvements. Any disputes in connection with such comments shall be resolved in accordance with Section 2(d) hereof. Provided that the design reflected in the TI Construction Drawings is consistent with the Space Plan, Tenant shall approve the TI Construction Drawings submitted by Landlord, unless Tenant submits a Change Request. Once approved by Tenant, subject to the provisions of Section 4 below, Landlord shall not materially modify the TI Construction Drawings except as may be reasonably required in connection with the issuance of the TI Permit (as defined in Section 3(b) below).

(d) **Approval and Completion.** It is hereby acknowledged by Landlord and Tenant that the TI Construction Drawings must be completed and approved no later than May 16, 2013, in order for the Landlord’s Work to be Substantially Complete by the Target Second Expansion Premises Commencement Date (as defined in the Lease). Upon any dispute regarding the design of the Tenant Improvements, which is not settled within 10 business days after notice of such dispute is delivered by one party to the other, Tenant may make the final decision regarding the design of the Tenant Improvements, provided (i) Tenant acts reasonably and such final decision is either consistent with or a compromise between Landlord’s and Tenant’s positions with respect to such dispute, (ii) that all increases in costs and expenses resulting from any such decision by Tenant shall be payable by Tenant, and (iii) Tenant’s decision will not affect the base Building, structural components of the Building or any Building systems. Any changes to the TI Construction Drawings following Landlord’s and Tenant’s approval of same requested by Tenant shall be processed as provided in Section 4 hereof.

### 3. Performance of Landlord’s Work.

(a) **Definition of Landlord’s Work.** As used herein, “**Landlord’s Work**” shall mean the work of constructing the Tenant Improvements.

(b) **Commencement and Permitting.** Landlord shall commence construction of the Tenant Improvements upon obtaining a building permit (the “**TI Permit**”) authorizing the construction of the Tenant Improvements consistent with the TI Construction Drawings approved by Tenant. The cost of obtaining the TI Permit shall be payable by Landlord. Tenant shall assist Landlord in obtaining the TI Permit. If any Governmental Authority having jurisdiction over the construction of Landlord’s Work or any portion thereof shall impose terms or conditions upon the construction thereof that: (i) are inconsistent with Landlord’s obligations hereunder, (ii) increase the cost of constructing Landlord’s Work, or (iii) will materially delay the construction of Landlord’s Work, Landlord and Tenant shall reasonably and in good faith seek means by which to mitigate or eliminate any such adverse terms and conditions.

(c) **Completion of Landlord’s Work.** Landlord shall (i) substantially complete or cause to be substantially completed Landlord’s Work in a good and workmanlike manner, in accordance with the TI Permit subject, in each case, to Minor Variations and normal “punch list” items of a non-material nature that do not interfere with the use of the Second Expansion Premises, and (ii) obtain a certificate or temporary certificate of occupancy (or an equivalent approval) for the Second Expansion Premises

permitting lawful occupancy of the Second Expansion Premises (but specifically excluding any permits, licenses or other governmental approvals required to be obtained in connection with Tenant's operations in the Second Expansion Premises)("Substantial Completion" or "Substantially Complete"). Upon Substantial Completion of Landlord's Work, Landlord shall require the TI Architect and the general contractor to execute and deliver, for the benefit of Tenant and Landlord, a Certificate of Substantial Completion in the form of the American Institute of Architects ("AIA") document G704. For purposes of this Second Expansion Premises Work Letter, "Minor Variations" shall mean any modifications reasonably required: (i) to comply with all applicable Legal Requirements and/or to obtain or to comply with any required permit (including the TI Permit); (ii) to comply with any request by Tenant for modifications to Landlord's Work; (iii) to comport with good design, engineering, and construction practices that are not material; or (iv) to make reasonable adjustments for field deviations or conditions encountered during the construction of Landlord's Work.

(d) **Selection of Materials.** Where more than one type of material or structure is indicated on the TI Construction Drawings approved by Landlord and Tenant, the option will be selected at Landlord's sole and absolute subjective discretion. As to all building materials and equipment that Landlord is obligated to supply under this Second Expansion Premises Work Letter, Landlord shall select the manufacturer thereof in its sole and absolute subjective discretion.

(e) **Delivery of the Second Expansion Premises.** When Landlord's Work is Substantially Complete, subject to the remaining terms and provisions of this Section 3(e), Tenant shall accept the Second Expansion Premises. Tenant's taking possession and acceptance of the Second Expansion Premises shall not constitute a waiver of: (i) any warranty with respect to workmanship (including installation of equipment) or material (exclusive of equipment provided directly by manufacturers), (ii) any non-compliance of Landlord's Work with applicable Legal Requirements, or (iii) any claim that Landlord's Work was not completed substantially in accordance with the TI Construction Drawings (subject to Minor Variations and such other changes as are permitted hereunder) (collectively, a "Construction Defect"). Tenant shall have one year after Substantial Completion within which to notify Landlord of any such Construction Defect discovered by Tenant, and Landlord shall use reasonable efforts to remedy or cause the responsible contractor to remedy any such Construction Defect within 30 days thereafter. Notwithstanding the foregoing, Landlord shall not be in default under the Lease if the applicable contractor, despite Landlord's reasonable efforts, fails to remedy such Construction Defect within such 30-day period, in which case Landlord shall have no further obligation with respect to such Construction Defect other than to cooperate, at no cost to Landlord, with Tenant should Tenant elect to pursue a claim against such contractor.

(f) Tenant shall be entitled to receive the benefit of all construction warranties and manufacturer's equipment warranties relating to equipment installed in the Second Expansion Premises. If requested by Tenant, Landlord shall attempt to obtain extended warranties from manufacturers and suppliers of such equipment, but the cost of any such extended warranties shall be borne solely by Tenant. Landlord shall promptly undertake and complete, or cause to be completed, all punch list items.

(g) **Commencement Date Delay.** Except as otherwise provided in the Lease, Delivery of the Second Expansion Premises shall occur when Landlord's Work has been Substantially Completed, except to the extent that completion of Landlord's Work shall have been actually delayed by any one or more of the following causes ("Tenant Delay"):

- (i) Tenant's Representative was not available within 1 business day to give or receive any Communication or to take any other action required to be taken by Tenant hereunder;
- (ii) Tenant's request for Change Requests (as defined in Section 4(a) below) whether or not any such Change Requests are actually performed;
- (iii) Construction of any Change Requests;

- (iv) Tenant's request for materials, finishes or installations requiring unusually long lead times;
- (v) Tenant's delay in reviewing, revising or approving plans and specifications beyond the periods set forth herein;
- (vi) Tenant's delay in providing information critical to the normal progression of the Project. Tenant shall provide such information as soon as reasonably possible, but in no event longer than one week after receipt of any request for such information from Landlord;
- (vii) Tenant's delay in making payments to Landlord for Excess TI Costs (as defined in Section 5(b) below); or
- (viii) Any other act or omission by Tenant or any Tenant Party (as defined in the Lease), or persons employed by any of such persons.

If Delivery is delayed for any of the foregoing reasons, then Landlord shall cause the TI Architect to certify the date on which the Tenant Improvements would have been completed but for such Tenant Delay and such certified date shall be the date of Delivery.

**4. Changes.** Any changes requested by Tenant to the Tenant Improvements after the delivery and approval by Landlord of the Space Plan shall be requested and instituted in accordance with the provisions of this Section 4 and shall be subject to the written approval of Landlord and the TI Architect, such approval not to be unreasonably withheld, conditioned or delayed.

(a) **Tenant's Request For Changes.** If Tenant shall request changes to the Tenant Improvements ("**Changes**"), Tenant shall request such Changes by notifying Landlord in writing in substantially the same form as the AIA standard change order form (a "**Change Request**"), which Change Request shall detail the nature and extent of any such Change. Such Change Request must be signed by Tenant's Representative. Landlord shall, before proceeding with any Change, respond to Tenant as soon as is reasonably possible with an estimate of: (i) the time it will take, and (ii) the architectural and engineering fees and costs that will be incurred, to analyze such Change Request (which costs shall be paid by Tenant to the extent actually incurred, whether or not such change is implemented). Landlord shall thereafter submit to Tenant in writing, within 5 business days of receipt of the Change Request (or such longer period of time as is reasonably required depending on the extent of the Change Request), an analysis of the additional cost or savings involved, including, without limitation, architectural and engineering costs and the period of time, if any, that the Change will extend the date on which Landlord's Work will be Substantially Complete. Any such delay in the completion of Landlord's Work caused by a Change, including any suspension of Landlord's Work while any such Change is being evaluated and/or designed, shall be Tenant Delay.

(b) **Implementation of Changes.** If Tenant: (i) approves in writing the cost or savings and the estimated extension in the time for completion of Landlord's Work, if any, and (ii) deposits with Landlord any Excess TI Costs required pursuant to Section 5(b) below in connection with such Change, Landlord shall cause the approved Change to be instituted. Notwithstanding any approval or disapproval by Tenant of any estimate of the delay caused by such proposed Change, the TI Architect's determination of the amount of Tenant Delay in connection with such Change shall be final and binding on Landlord and Tenant.

#### **5. Costs.**

(a) **TI Costs.** Landlord shall be responsible for all hard and soft costs and expenses for the design and performance of Landlord's Work including, without limitation, design, permits and construction costs in connection with the construction of the Tenant Improvements, including, without limitation, the

cost of preparing the TI Construction Drawings and the Space Plan and Landlord's out-of-pocket expenses, up to \$50.00 per rentable square foot of the Second Expansion Premises, or \$205,000 in the aggregate (collectively, "**TI Costs**"). Notwithstanding anything to the contrary contained herein, in no event shall Landlord be required to pay for any furniture, personal property or other non-Building system materials or equipment, including, but not limited to, Tenant's voice or data cabling, not incorporated into the Tenant Improvements.

(b) **Excess TI Costs.** Notwithstanding anything to the contrary contained herein, Tenant acknowledges and agrees that Landlord shall have no responsibility for any costs arising from or related to Tenant's changes to the Space Plan or TI Construction Drawings, Tenant Delays, the cost of Changes and Change Requests and any TI Costs in excess of to \$50.00 per rentable square foot of the Second Expansion Premises (collectively, "**Excess TI Costs**"). Tenant shall deposit with Landlord 50% of the Excess TI Costs as a condition precedent to Landlord's obligation to complete the Tenant Improvements and the remaining 50% of the Excess TI Costs upon Substantial Completion of the Tenant Improvements. If Tenant fails to deposit any Excess TI Costs with Landlord, Landlord shall have all of the rights and remedies set forth in the Lease for nonpayment of Rent (including, but not limited to, the right to interest at the Default Rate and the right to assess a late charge). For purposes of any litigation instituted with regard to such amounts, those amounts will be deemed Rent under the Lease.

## 6. Tenant Access.

(a) **Tenant's Access Rights.** Landlord hereby agrees to permit Tenant access, at Tenant's sole risk and expense, to the Second Expansion Premises (i) 14 days prior to the Commencement Date to perform any work ("**Tenant's Work**") required by Tenant other than Landlord's Work, provided that such Tenant's Work is coordinated with the TI Architect and the general contractor, and complies with the Lease and all other reasonable restrictions and conditions Landlord may impose, and (ii) prior to the completion of Landlord's Work, to inspect and observe work in process; all such access shall be during normal business hours or at such other times as are reasonably designated by Landlord. Any entry by Tenant shall comply with all established safety practices of Landlord's contractor and Landlord until completion of Landlord's Work and acceptance thereof by Tenant.

(b) **No Interference.** Neither Tenant nor any Tenant Party (as defined in the Lease) shall interfere with the performance of Landlord's Work, nor with any inspections or issuance of final approvals by applicable Governmental Authorities, and upon any such interference, Landlord shall have the right to exclude Tenant and any Tenant Party from the Second Expansion Premises until Substantial Completion of Landlord's Work.

(c) **No Acceptance of Second Expansion Premises.** The fact that Tenant may, with Landlord's consent, enter into the Second Expansion Premises prior to the date Landlord's Work is Substantially Complete for the purpose of performing Tenant's Work shall not be deemed an acceptance by Tenant of possession of the Second Expansion Premises, but in such event Tenant shall defend with counsel reasonably acceptable by Landlord, indemnify and hold Landlord harmless from and against any loss of or damage to Tenant's property, completed work, fixtures, equipment, materials or merchandise, and from liability for death of, or injury to, any person, caused by the act or omission of Tenant or any Tenant Party.

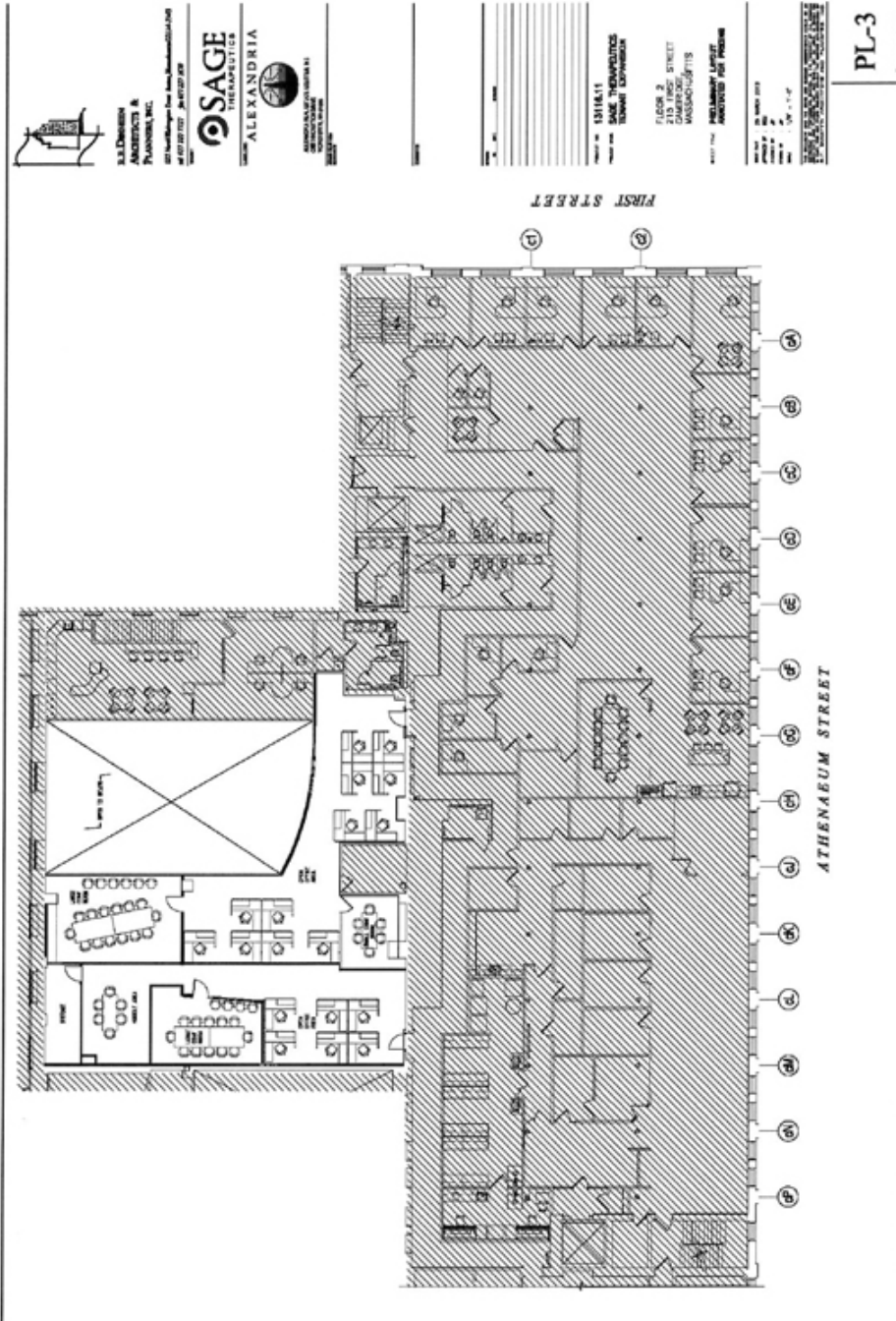
## 7. Miscellaneous.

(a) **Consents.** Whenever consent or approval of either party is required under this Second Expansion Premises Work Letter, that party shall not unreasonably withhold, condition or delay such consent or approval, unless expressly set forth herein to the contrary.

(b) **Modification.** No modification, waiver or amendment of this Second Expansion Premises Work Letter or of any of its conditions or provisions shall be binding upon Landlord or Tenant unless in writing signed by Landlord and Tenant.

Schedule 1

Space Plan



Schedule 2

**Basis of Design**



R.E. DINNEEN  
ARCHITECTS &  
PLANNERS, INC.

Sage Therapeutics  
Expansion

215 First Street  
Cambridge, Massachusetts

*Members of:*

*American Institute of Architects*

*Boston Society of Architects*

2 May 2013

BASIS OF DESIGN – ROOM DATA SHEETS

Open Office  
Conference Room 203, 205, & 207

*123 North Washington Street, Boston, Massachusetts 02114-2134 tel 617 227 7727 fax: 617 227 1870*

B-7

<b>ROOM NAME/NUMBER:</b>	<b>Open Office</b> Room Nos. 201, 206, 208 (Huddle Area)
<b>FUNCTION:</b>	General office work environment.
<b>ARCHITECTURAL:</b>	
Flooring:	New broadloom carpet. New wall base – 4” high straight vinyl.
Wall Finish:	Tenant standard eggshell finish, latex paint.
Ceiling:	Open to structure above. No finished ceiling, except at Room 201 existing acoustic tile soffit area.
Door/Frame/Hardware:	Entrance Doors: 3’-0” x 7’-0” solid core, clear finished, birch face veneers with full vision panel; tenant standard entrance lockset (Schlage).
Glazing:	(4) 2’-9” tall x 5’-0” long, clear tempered glass wall panels with glazing channels top & bottom and clear silicone joints, at 7’-8” above finished floor level.
Millwork:	None.
<b>EQUIPMENT:</b>	None.
<b>ENGINEERING SYSTEMS:</b>	
Fire Protection:	Re-work existing sprinkler layout to support new plan.
Plumbing:	None.
HVAC:	Base building system sized to adequately maintain a cooling temperature of an inside condition of 75 degrees F, dry bulb at 50% relative humidity; with outside condition of 91 degrees F and 74 degrees F wet bulb during summer and 72 degrees F dry bulb inside at zero degree dry bulb outside during the winter.
Electrical:	
Lighting:	Suspended, direct/indirect fluorescent fixtures; industry standard foot-candle level for office environments.
Power:	Power feeds to systems furniture workstation clusters.
Communications:	Multiple locations: single-gang wall box with pull string.



<b>ROOM NAME/NUMBER:</b>	<b>Conference Room</b> Room No. 203
<b>FUNCTION:</b>	Office support area used for meetings.
<b>ARCHITECTURAL:</b>	
Flooring:	New broadloom carpet. New wall base – 4” high straight vinyl.
Wall Finish:	Tenant standard eggshell finish, latex paint.
Ceiling:	Existing to remain; No finished ceiling.
Door/Frame/Hardware:	Existing to remain.
Millwork:	None.
<b>EQUIPMENT:</b>	None.
<b>ENGINEERING SYSTEMS:</b>	
Fire protection:	Existing to Remain
Plumbing:	None.
HVAC:	Base building system sized to adequately maintain a cooling temperature of an inside condition of 75 degrees F, dry bulb at 50% relative humidity; with outside condition of 91 degrees F and 74 degrees F wet bulb during summer and 72 degrees F dry bulb inside at zero degree dry bulb outside during the winter.
Electrical:	
Fire Alarm:	Update per conference room public use code requirements
Lighting:	Existing to remain: surface mounted and suspended 2x4 parabolic fixtures.
Power:	Existing to remain
Communications:	One, single-gang wall box with pull string.

<b>ROOM NAME/NUMBER:</b>	<b>Conference Room</b> Room No. 205
<b>FUNCTION:</b>	Office support area used for meetings.
<b>ARCHITECTURAL:</b>	
Flooring:	New broadloom carpet. New wall base – 4” high straight vinyl.
Wall Finish:	Tenant standard eggshell finish, latex paint.
Ceiling:	Open to structure above. No finished ceiling, except at elliptical-shaped acoustic ceiling tile “cloud”: Armstrong “Ultima” #194289, beveled, tegular edge, 24”x24”, white tile; Armstrong “Suprafine XL”, 9/16” exposed tee, white grid.
Door/Frame/Hardware:	Tenant standard door: 3’-0” x 7’-0” solid core, clear finished, birch face veneers and full vision panel; Tenant standard passage lockset (Schlage).
Glazing:	2’-9” x 3’-4” long clear, tempered glass wall panel with glazing channels top & bottom and clear silicone joints, at 7’-8” above finished floor level.
Millwork:	None.
<b>EQUIPMENT:</b>	None.
<b>ENGINEERING SYSTEMS:</b>	
Fire Protection:	Re-work existing sprinkler layout to support new plan.
Plumbing:	None.
HVAC:	Base building system sized to adequately maintain a cooling temperature of an inside condition of 75 degrees F, dry bulb at 50% relative humidity; with outside condition of 91 degrees F and 74 degrees F wet bulb during summer and 72 degrees F dry bulb inside at zero degree dry bulb outside during the winter.
Electrical:	
Fire Alarm:	Provide fire alarm per code for conference room public use status
Lighting:	Reuse existing suspended track lighting and recessed downlights; industry standard foot-candle level for office environments.
Power:	Three duplex convenience power outlets.
Communications:	Two, single-gang wall box with pull string.

<b>ROOM NAME/NUMBER:</b>	<b>Conference Room</b> Room No. 207
<b>FUNCTION:</b>	Office support area used for meetings.
<b>ARCHITECTURAL:</b>	
Flooring:	New broadloom carpet. New wall base – 4” high straight vinyl.
Wall Finish:	Tenant standard eggshell finish, latex paint.
Ceiling:	ACT system: Armstrong “Ultima” #194289, beveled, tegular edge, 24”x24”, white tile; Armstrong “Suprafine XL”, 9/16” exposed tee, white grid.
Door/Frame/Hardware:	3’-0” x 8’-0” frameless, clear tempered glass door with hardware.
Glazing:	(3) 8’-0” high x 3’-0” wide clear, tempered glass wall panels with glazing channels top & bottom and clear silicone joints; glass panels provided by tenant sub-leasee.
Millwork:	None.
<b>EQUIPMENT:</b>	None.
<b>ENGINEERING SYSTEMS:</b>	
Fire Protection:	Re-work existing sprinkler layout to support new plan.
Plumbing:	None.
HVAC:	Base building system sized to adequately maintain a cooling temperature of an inside condition of 75 degrees F, dry bulb at 50% relative humidity; with outside condition of 91 degrees F and 74 degrees F wet bulb during summer and 72 degrees F dry bulb inside at zero degree dry bulb outside during the winter.
Electrical:	
Fire Alarm:	Provide fire alarm per code for conference room public use status
Lighting:	Reuse existing recessed, direct/indirect, basket, fluorescent fixtures; industry standard foot-candle level for office environments.
Power:	Three duplex convenience power outlets.
Communications:	Two, single-gang wall box with pull string.

## Sage Therapeutics, Inc.

July 18, 2013

Jeffrey M. Jonas, M.D.

118 11th Street

Del Mar, CA 92014

Re: Employment by Sage Therapeutics, Inc.

Dear Jeff:

Sage Therapeutics, Inc. (the "Company") is pleased to confirm its revised offer to employ you as Chief Executive Officer (CEO). As CEO you will be reporting to the Sage Therapeutics Board of Directors (BOD).

In the role of CEO, you will:

- Work with the BOD and senior management to formulate and communicate a compelling vision and strategic direction for the company; evaluate alternative strategies; identify competitive issues; capitalize on platform technology and develop and implement operating plans to achieve objectives.
- Oversee all company activities to ensure SAGE meets its research, development, and financial milestones and all other objectives including clinical, regulatory, and business development.
- Develop and maintain strategic partnerships with external companies, overseeing critical activities to ensure research and development commitments and related projects are fulfilled.
- Serve as the primary spokesperson for company, establishing and communicating the company's image, and enhancing its visibility among potential partners.
- Build additional organizational experience to bear within the management team. Work with the Board and senior management team to manage uncertainty while maintaining an entrepreneurial environment.
- Ensure that qualified research and development and managerial personnel are attracted and retained; manage performance by providing feedback, teaching and development opportunities
- Represent SAGE in scientific conferences, presentations, Industry and Investment groups.
- Build and maintain solid working relationships with key opinion leaders and investors.
- Foster an internal atmosphere that supports individual accountability, transparency, open communication and respect to enable employees to focus on the Company's mission.

Your effective date of hire as a regular employee (the "Start Date") will be August 12, 2013.

Your compensation for this position will be at the rate of \$425,000 per year, payable monthly in accordance with the Company's normal pay schedule. For the first several weeks of employment you

will be working part-time, and be compensated at 50% of your normal pay rate until you are able to commence working full time, which will be no later than September 3, 2013. At that time your salary will be increased to your full time rate. You will be eligible to participate each year in the Company's annual target bonus pool plan of up to 40% of your base salary based upon achievement of both corporate and personal goals, as agreed to between you and the BOD. You must be employed on the date on which the annual bonus is paid in order to receive it.

Sage Therapeutics acknowledges that you currently reside in California and that you desire to accept this job as a full time position in Massachusetts. As a condition of your employment, you are expected to be on-site at the Company's offices in Cambridge, Massachusetts for 5 days per week. Since you are choosing not to relocate at this time but instead to commute. The Company will provide you with a sign-on bonus of \$350,000 which will be paid to you in two installments. You will receive the first payment of \$225,000 during your first month of employment and it will be subject to customary deductions and withholdings as required by law. You will receive the second payment of \$125,000 upon the first anniversary of your Start Date with Sage. In addition, the Company will provide monthly temporary housing costs of up to \$3,000 per month for the first six months of your employment with the Company. Should you voluntarily leave the Company, other than for death or disability, within 6 months of receiving either the sign on bonus payments or the temporary housing payments, you will be obligated to return the gross amount of the payments to the company within 30 Days of your departure date. As a full time employee, you may participate in any and all bonus and benefit programs that the Company establishes and makes available to its employees from time to time, provided you are eligible under (and subject to all provisions of the plan documents governing those programs). Current benefits include participation in a company sponsored health care plan, dental plan, short term disability Insurance, long term disability Insurance, 401k plan, 15 days of paid vacation and parking benefit. The Company, however, reserves the right to modify, terminate, or replace its employee benefit plans and policies.

Subject to the approval of the Board of Directors of the Company (the "Board"), in connection with the commencement of your employment, the Board will grant you an option to purchase 2,210,000 shares of the Company's common stock (the "Option"). The Option will be granted following the commencement of your employment. The exercise price of the Option will be at least equal to the fair market value of the Company's common stock on the date of grant, and the Board of Directors may elect to seek a third party valuation of such fair market value, which could delay the date that the Option is granted. The Option will be subject to the terms and conditions of the Company's then-current stock option plan and form of stock option agreement. These options will vest as follows: one quarter of the shares will vest on the first anniversary of the Start Date, and following that, 1/48th of the shares will vest on a monthly basis, in arrears. Vesting is contingent on your continued full-time employment with the Company.

We have also discussed the possibility of implementing a more formal structure around guidelines for severance, change of control and accelerated vesting in the event of a transaction or change of control. We agree that we will address in good faith and work thru new recommendations with the board as part of adopting an overall compensation philosophy for the company.

You will perform your services from the Company's offices in Cambridge, MA. It is understood that you are an "at-will" employee. You are not being offered employment for a definite period of time, and either you or the Company may terminate the employment relationship at any time and for any reason, with or without cause or prior notice and without additional compensation to you.

Enclosed for your review is a "Non-Solicitation, Confidentiality and Assignment Agreement" (the "Agreement").

This offer of employment is conditioned on your willingness to sign and abide by the terms of the Agreement. You will be expected to sign the Agreement before you report for work.

In making this offer, the Company understands, and in accepting it you represent that you are not under any obligation to any former employer or any person or entity which would prevent, limit, or impair in any way the performance by you of your duties as an employee of the Company.

The Immigration Reform and Control Act requires employers to verify the employment eligibility and identity of new employees. You will be required to complete a Form I-9 which will be provided to you before the Start Date. Please bring the appropriate documents listed on that form with you when you report for work. We will not be able to employ you if you fail to comply with this requirement. Also, this offer is subject to satisfactory reference checks if necessary.

This letter agreement and the Agreement referenced above constitute the complete agreement between you and the Company, contain all of the terms of your employment with the Company and supersede any prior agreements, representations or understandings (whether written, oral or implied) between you and the Company. This letter agreement may not be amended or modified, except by an express written agreement signed by both you and a duly authorized officer of the Company, although your job duties, title, reporting relationship, compensation and benefits may change from time to time, at the Company's option.

Please indicate your acceptance of this offer by signing and returning the enclosed copy of this letter no later than 5pm ET on July 31, 2013.

Please indicate your acceptance of this offer by signing and returning a copy to Kimi Iguchi. We look forward to your joining the Company and are pleased that you will be working with us.

Very truly yours,



Kevin Starr  
President & Chief Executive Officer  
Sage Therapeutics, inc.

Accepted and Agreed



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Jeffrey M. Jonas, M.D.

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7/31/13

Date

## Sage Therapeutics, Inc.

September 25, 2011

Albert Robichaud, PhD  
3 Riverview Court  
Ringoes, NJ 08551

Re: Employment by Sage Therapeutics, Inc.

Dear Albert:

Sage Therapeutics, Inc. (the "Company") is pleased to confirm its offer to employ you as Chief Scientific Officer. As CSO you will be reporting to Kevin Starr (interim CEO).

In the role of CSO, you will

- Formulate the strategic direction of Sage's research platform in collaboration with the senior management team with a critical review of existing and new research projects.
- Identify new technologies and assess their potential to complement Sage's assets and enhance the company's pathway to success
- Represent Sage internally and externally in scientific, financial and business communities.
- Establish and maintain collaborations with academia as well as industry partners. Actively assist in seeking project and/or technology alliances with appropriate partners to enhance/accelerate the development of the company's assets.
- Effectively identify, recruit and develop a world class scientific team, ensuring a culture that is capable of retaining and optimizing the best talent.

Your effective date of hire as a regular, full-time employee (the "Start Date") will be Nov 1, 2011. If the Company does not have a health benefits program in place by the time you join and you elect to have health insurance provided by the Company, you will be reimbursed for COBRA (amount to be determined). Once the Company has a health benefits program you will be expected to join the program if you elect to have health benefits provided by the Company.

Your compensation for this position will be at the rate of \$300,000 per year, payable monthly in accordance with the Company's normal pay schedule. All payments are subject to legally required tax withholdings. At this time the Company does not have an annual bonus program in place. It is expected

that, when an annual bonus program is approved by the Board of Directors, the target bonus that you will be eligible for as CSO will be 20% of your annual compensation, based upon achievement of both corporate and personal goals, as agreed to between you and the CEO. You will be eligible to participate each year in any annual bonus plan adopted by the Company, and the Company shall adopt and implement such a plan, if reasonable in light of financial, business and other circumstances and factors.

Sage Therapeutics acknowledges that you currently reside in New Jersey and that you desire to accept this job as essentially a full time position in Massachusetts. As a condition of your employment, you are expected to be on-site at the Company's offices in Cambridge, Massachusetts for 5 days per week. Since you are choosing not to relocate at this time but instead to commute, the Company will provide you with a one-time Commuting Assistance Payment in the form of a sign-on bonus of \$115,000 which will be paid to you in two installments. You will receive the first payment of \$65,000 during your first month of employment and it will be subject to customary deductions and withholdings as required by law. You will receive the second payment of \$50,000 upon the first anniversary of your Start Date with Sage. Should you voluntarily leave the Company, other than for death or disability, within 6 months of receiving either payment, you will be obligated to return the gross amount of the payment to the company within 30 Days of your departure date.

Subject to the approval of the Board of Directors of the Company (the "Board"), in connection with the commencement of your employment, the Board will grant you an option to purchase 700,000 shares of the Company's common stock (the "Option"). The Option will be granted following the commencement of your employment. The exercise price of the Option will be at least equal to the fair market value of the Company's common stock on the date of grant, and the Board of Directors may elect to seek a third party valuation of such fair market value, which could delay the date that the Option is granted. The Option will be subject to the terms and conditions of the Company's then-current stock option plan and form of stock option agreement. These options will vest as follows: one quarter of the shares will vest on the first anniversary of the Start Date, and following that, 1/48<sup>th</sup> of the shares will vest on a monthly basis, in arrears. Vesting is contingent on your continued full-time employment with the Company.

It is understood that you are an "at-will" employee. You are not being offered employment for a definite period of time, and either you or the Company may terminate the employment relationship at any time and for any reason, with or without cause or prior notice and without additional compensation to you.

The Company may terminate your employment at any time upon written notice to you. In the event that the Company terminates your employment for any reason (other than Cause (as defined below)), then, subject to the condition precedent of your execution and delivery of a standard form general release of the Company to be delivered to you at the time of your termination, you will be entitled to a severance payment in an aggregate amount equal to six-months of your then base salary as of the date of termination, such amount to be paid in equal installments over a six (6) month period after the date of your termination in accordance with the Company's usual payroll practices and periods, subject to applicable taxes and withholding.

For purposes of this letter agreement, "Cause" means (i) your material breach of this letter agreement or any other agreement between the Company and you (including the NDA and Non-Competition Agreement (as defined below)), (ii) your material failure to adhere to any policy of the Company generally applicable to employees of the Company, (iii) your appropriation (or attempted appropriation) of a business opportunity of the Company, including attempting to secure or securing any



personal profit in connection with any transaction entered into on behalf of the Company, (iv) your misappropriation (or attempted misappropriation) of any of the Company's funds or property, (v) your conviction of, or the entering of a guilty plea or plea of no contest with respect to, a felony, the equivalent thereof, or of a lesser crime having as its predicate element fraud, dishonesty or misappropriation, (vi) your willful misconduct or your continued and willful failure or refusal to perform any material duties reasonably requested by the executive of the Company to whom you report, the Chief Executive Officer of the Company or the board of directors, (vii) your engaging in bad faith or gross negligence in the performance of your duties for the Company, (viii) other behavior that is materially injurious to the Company (whether from a monetary perspective or otherwise), and (ix) your intentional commission of an act constituting fraud, embezzlement, breach of any fiduciary duty owed to the Company or its stockholders or other material dishonesty with respect to the Company, in each case as determined in good faith by the board of directors of the Company; provided, however, that in the case of conduct described in clauses (i) and (ii) hereof, such conduct shall not constitute "Cause" unless (a) the Company shall have given you written notice setting forth with specificity (i) the conduct deemed to constitute "Cause," (ii) reasonable action that would remedy the objectionable conduct, and (iii) a reasonable time (not less than ten (10) business days) within which you may taken such remedial action, and (b) you shall not have taken such specified remedial action within such specified reasonable time.

Your normal place of work will be Cambridge, MA (location to be determined at a later date). Enclosed for your review is a "Non-Solicitation, Confidentiality and Assignment Agreement" (the "Agreement").

This offer of employment is conditioned on your willingness to sign and abide by the terms of the Agreement. You will be expected to sign the Agreement before you report for work.

In making this offer, the Company understands, and in accepting it you represent that you are not under any obligation to any former employer or any person or entity which would prevent, limit, or impair in any way the performance by you of your duties as an employee of the Company.

The Immigration Reform and Control Act requires employers to verify the employment eligibility and identity of new employees. You will be required to complete a Form 1-9 which will be provided to you before the Start Date. Please bring the appropriate documents listed on that form with you when you report for work. We will not be able to employ you if you fail to comply with this requirement. Also, this offer is subject to satisfactory reference checks if necessary.

This letter agreement and the Agreement referenced above constitute the complete agreement between you and the Company, contain all of the terms of your employment with the Company and supersede any prior agreements, representations or understandings (whether written, oral or implied) between you and the Company. This letter agreement may not be amended or modified, except by an express written agreement signed by both you and a duly authorized officer of the Company, although your job duties, title, reporting relationship, compensation and benefits may change from time to time, at the Company's option.

Please indicate your acceptance of this offer by signing and returning the enclosed copy of this letter no later than 5pm ET on September 27rd, 2011.

You may sign, scan, and email the letter to [crobinson@thirdrockventures.com](mailto:crobinson@thirdrockventures.com). We look forward to your joining the Company and are pleased that you will be working with us.

Very truly yours,



Kevin Starr  
President & Chief Executive Officer  
Sage Therapeutics, Inc.

Accepted and Agreed:



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Albert Robichaud

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10/4/2011

Date



May 21, 2013

Stephen Kanés, M.D., Ph.D.  
125 Guernsey Rd  
Swarthmore, PA 19081

Re: Employment by Sage Therapeutics, Inc.

Dear Steve:

Sage Therapeutics, Inc. (the "Company") is pleased to confirm its offer to employ you as Chief Medical Officer (CMO). As CMO you will be reporting to the Chief Executive Officer.

In the role of CMO, you will:

- Be responsible for the overall clinical development strategy for SAGE.
- Be responsible for the full scope of clinical functions, including late stage pre-clinical activities through Phase I-IV trial design and execution, clinical research (including human PK/PD) and data analysis and management via effectively liaising with multiple contractors and internal functions.
- Represent the company with regulatory authorities and in business development activities, and develop and maintain key thought leader relationships.
- Serve as a member of the management team. Key contributor to develop, refine, and execute upon the value creation strategy for the company.
- Foster an internal atmosphere that supports individual accountability, transparency, open communication and respect to enable employees to focus on the Company's mission.

Your effective date of hire as a regular, full-time employee (the "Start Date") will be August 1, 2013.

Your compensation for this position will be at the rate of \$325,000 per year, payable monthly in accordance with the Company's normal pay schedule. You will be eligible to participate each year in the Company's annual target bonus pool plan of T.B.D. based upon achievement of both corporate and personal goals, as agreed to between you and the CEO. You must be employed on the date on which the annual bonus is paid in order to receive it.

Sage Therapeutics acknowledges that you currently reside in Pennsylvania and that you desire to accept this job as essentially a full time position in Massachusetts. As a condition of your employment, you are expected to be on-site at the Company's offices in Cambridge, Massachusetts for 5 days per week. Since you are choosing not to relocate at this time but instead to commute, the Company will provide you with a one-time Commuting Assistance Payment in the form of a sign-on bonus of \$130,000 which will be paid to you in two

installments. You will receive the first payment of \$65,000 during your first month of employment and it will be subject to customary deductions and withholdings as required by law. You will receive the second payment of \$65,000 upon the first anniversary of your Start Date with Sage. Should you voluntarily leave the Company, other than for death or disability, within 6 months of receiving either payment, you will be obligated to return the gross amount of the payment to the company within 30 Days of your departure date. All payments are subject to legally required tax withholdings. As a full time employee, you may participate in any and all bonus and benefit programs that the Company establishes and makes available to its employees from time to time, provided you are eligible under (and subject to all provisions of the plan documents governing those programs). Current benefits include participation in a company sponsored health care plan, dental plan, short term disability insurance, long term disability insurance, 401k plan, 15 days of paid vacation and parking benefit. The Company, however, reserves the right to modify, terminate, or replace its employee benefit plans and policies.

Subject to the approval of the Board of Directors of the Company (the "Board"), in connection with the commencement of your employment, the Board will grant you an option to purchase 700,000 shares of the Company's common stock (the "Option"). The Option will be granted following the commencement of your employment. The exercise price of the Option will be at least equal to the fair market value of the Company's common stock on the date of grant, and the Board of Directors may elect to seek a third party valuation of such fair market value, which could delay the date that the Option is granted. The Option will be subject to the terms and conditions of the Company's then-current stock option plan and form of stock option agreement. These options will vest as follows: one quarter of the shares will vest on the first anniversary of the Start Date, and following that, 1/48<sup>th</sup> of the shares will vest on a monthly basis, in arrears. Vesting is contingent on your continued full-time employment with the Company.

You will perform your services from the Company's offices in Cambridge, MA. It is understood that you are an "at-will" employee. You are not being offered employment for a definite period of time, and either you or the Company may terminate the employment relationship at any time and for any reason, with or without cause or prior notice and without additional compensation to you.

Enclosed for your review is a "Non-Solicitation, Confidentiality and Assignment Agreement" (the "Agreement").

This offer of employment is conditioned on your willingness to sign and abide by the terms of the Agreement. You will be expected to sign the Agreement before you report for work.

In making this offer, the Company understands, and in accepting it you represent that you are not under any obligation to any former employer or any person or entity which would prevent, limit, or impair in any way the performance by you of your duties as an employee of the Company.

The Immigration Reform and Control Act requires employers to verify the employment eligibility and identity of new employees. You will be required to complete a Form I-9 which will be provided to you before the Start Date. Please bring the appropriate documents listed on that

form with you when you report for work. We will not be able to employ you if you fail to comply with this requirement. Also, this offer is subject to satisfactory reference checks if necessary.

This letter agreement and the Agreement referenced above constitute the complete agreement between you and the Company, contain all of the terms of your employment with the Company and supersede any prior agreements, representations or understandings (whether written, oral or implied) between you and the Company. This letter agreement may not be amended or modified, except by an express written agreement signed by both you and a duly authorized officer of the Company, although your job duties, title, reporting relationship, compensation and benefits may change from time to time, at the Company's option.

Please indicate your acceptance of this offer by signing and returning the enclosed copy of this letter no later than 5pm ET on May 29, 2013.

Please indicate your acceptance of this offer by signing and returning the enclosed copy of this letter to Melinda Keegan. We look forward to your joining the Company and are pleased that you will be working with us.

Very truly yours,



Kevin Starr  
President & Chief Executive Officer  
Sage Therapeutics, Inc.

Accepted and Agreed:



Stephen Kanés, M.D., Ph.D.

5/24/2013

Date

## Sage Therapeutics, Inc.

February 7, 2013

Kimi Iguchi  
1790 Columbia Road  
South Boston, MA 02127

Re: Employment by Sage Therapeutics, Inc.

Dear Kimi:

Sage Therapeutics, Inc. (the "Company") is pleased to confirm its offer to employ you as Chief Financial Officer. As CFO you will be reporting to the CEO.

In the role of CFO, you will:

- Be responsible for managing the company's day-to-day operating and finance activities.
- Establish short and long term strategic planning, budget development and cross-disciplinary management to support Sage's goals, which include Project Management.
- Accountable for the overall day-to-day operating and financial success of Sage. Establish systems and processes that ensure efficient decision-making and accountability.
- Oversee all accounting processes, procedures, reporting and systems. Includes preparation and filing of federal, state, third-party, and other financial and management reports.
- Serve as a member of the management team. Key contributor to develop, refine, and execute upon the value creation strategy for the company.
- Foster an internal atmosphere that supports individual accountability, transparency, open communication and respect to enable employees to focus on the Company's mission.

Your effective date of hire as a regular, full-time employee (the "Start Date") will be March 1st, 2013.

Your compensation for this position will be at the rate of \$275,000 per year, payable monthly in accordance with the Company's normal pay schedule. You will be eligible to participate each year in any annual bonus plan adopted by the Company, and the Company shall adopt and implement such a plan, if reasonable in light of financial, business and other circumstances and factors. All payments are subject to legally required tax withholdings

Subject to the approval of the Board of Directors of the Company (the "Board"), in connection with the commencement of your employment, the Board will grant you an option to purchase 250,000 shares of the Company's common stock (the "Option"). The Option will be granted following the commencement of your employment. The exercise price of the Option will be at least equal to the fair market value of

the Company's common stock on the date of grant, and the Board of Directors may elect to seek a third party valuation of such fair market value, which could delay the date that the Option is granted. The Option will be subject to the terms and conditions of the Company's then-current stock option plan and form of stock option agreement. These options will vest as follows: 1/8<sup>th</sup> will vest immediately upon granting, and following that, 1/48<sup>th</sup> of the shares will vest on a monthly basis, in arrears. Vesting is contingent on your continued full-time employment with the Company.

Your normal place of work will be Cambridge, MA. It is understood that you are an "at-will" employee. You are not being offered employment for a definite period of time, and either you or the Company may terminate the employment relationship at any time and for any reason, with or without cause or prior notice and without additional compensation to you.

Enclosed for your review is a "Non-Solicitation, Confidentiality and Assignment Agreement" (the "Agreement").

This offer of employment is conditioned on your willingness to sign and abide by the terms of the Agreement. You will be expected to sign the Agreement before you report for work.

In making this offer, the Company understands, and in accepting it you represent that you are not under any obligation to any former employer or any person or entity which would prevent, limit, or impair in any way the performance by you of your duties as an employee of the Company.

The Immigration Reform and Control Act requires employers to verify the employment eligibility and identity of new employees. You will be required to complete a Form I-9 which will be provided to you before the Start Date. Please bring the appropriate documents listed on that form with you when you report for work. We will not be able to employ you if you fail to comply with this requirement. Also, this offer is subject to satisfactory reference checks if necessary.

This letter agreement and the Agreement referenced above constitute the complete agreement between you and the Company, contain all of the terms of your employment with the Company and supersede any prior agreements, representations or understandings (whether written, oral or implied) between you and the Company. This letter agreement may not be amended or modified, except by an express written agreement signed by both you and a duly authorized officer of the Company, although your job duties, title, reporting relationship, compensation and benefits may change from time to time, at the Company's option.

Please indicate your acceptance of this offer by signing and returning the enclosed copy of this letter no later than 5pm ET on February 15, 2013.

Please indicate your acceptance of this offer by signing and returning the enclosed copy of this letter to Melinda Keegan. We look forward to your joining the Company and are pleased that you will be working with us.

Very truly yours,



Kevin Starr  
President & Chief Executive Officer Sage Therapeutics, Inc.

Accepted and Agreed:



---

Kimi Iguchi

2/7/2013

---

Date



## SAGE THERAPEUTICS, INC.

**Employee Non-Competition, Non-Solicitation, Confidentiality and Assignment Agreement**

In consideration and as a condition of my employment or continued employment by Sage Therapeutics, Inc., a Delaware corporation (the "Company"), I agree as follows:

**1. Proprietary Information.** I agree that all information, whether or not in writing, concerning the Company's business, technology, business relationships or financial affairs which the Company has not released to the general public (collectively, "Proprietary Information") is and will be the exclusive property of the Company. By way of illustration, Proprietary Information may include information or material which has not been made generally available to the public, such as: (a) *corporate information*, including plans, strategies, methods, policies, resolutions, negotiations or litigation; (b) *marketing information*, including strategies, methods, customer identities or other information about customers, prospect identities or other information about prospects, or market analyses or projections; (c) *financial information*, including cost and performance data, debt arrangements, equity structure, investors and holdings, purchasing and sales data and price lists; (d) *operational and technological information*, including plans, specifications, manuals, forms, templates, software, designs, methods, procedures, formulas, discoveries, inventions, improvements, concepts and ideas; and (e) *personnel information*, including personnel lists, reporting or organizational structure, resumes, personnel data, compensation structure, performance evaluations and termination arrangements or documents. Proprietary Information also includes information received in confidence by the Company from its customers or suppliers or other third parties.

**2. Recognition of Company's Rights.** I will not, at any time, without the Company's prior written permission, either during or after my employment, disclose any Proprietary Information to anyone outside of the Company, or use or permit to be used any Proprietary Information for any purpose other than the performance of my duties as an employee of the Company. I will cooperate with the Company and use my best efforts to prevent the unauthorized disclosure of all Proprietary Information. I will deliver to the Company all copies of Proprietary Information in my possession or control upon the earlier of a request by the Company or termination of my employment. I will not under any circumstances, (A) remove any source code of the Company from the premises of the Company or (B) remotely access any source code of the Company.

**3. Rights of Others.** I understand that the Company is now and may hereafter be subject to nondisclosure or confidentiality agreements with third persons which require the Company to protect or refrain from use of Proprietary Information. I agree to be bound by the terms of such agreements in the event I have access to such Proprietary Information.

**4. Commitment to Company; Avoidance of Conflict of Interest.**

While an employee of the Company, I will devote my full-time efforts to the Company's business and I will not engage in any other business activity that conflicts with my duties to the Company. I will advise the president of the Company or his or her nominee at such time as any activity of either the Company or another business presents me with a conflict of interest or the appearance of a conflict of interest as an employee of the Company. I will take whatever action is requested of me by the Company to resolve any conflict or appearance of conflict which it finds to exist.

**5. Developments.** I will make full and prompt disclosure to the Company of all inventions, discoveries, designs, developments, methods, modifications, improvements, processes, algorithms, databases, computer programs, formulae, techniques, trade secrets, graphics or images, audio or visual works and other works of authorship (collectively "Developments"), whether or not patentable or copyrightable, that are created, made, conceived or reduced to practice by me (alone or jointly with others) or under my direction during the period of my employment. I acknowledge that all work performed by me is on a "work for hire" basis, and I hereby do assign and transfer and, to the extent any such assignment cannot be made at present, will assign and transfer, to the Company and its successors and assigns all my right, title and interest in all Developments that (a) relate to the business of the Company or any customer of or supplier to the Company or any of the products or services being researched, developed, manufactured or sold by the Company or which may be used with such products or services; or (b) result from tasks assigned to me by the Company; or (c) result from the use of premises or personal property (whether tangible or intangible) owned, leased or contracted for by the Company ("Company-Related Developments"), and all related patents, patent applications, trademarks and trademark applications, copyrights and copyright applications, and other intellectual property rights in all countries and territories worldwide and under any international conventions ("Intellectual Property Rights").

To preclude any possible uncertainty, I have set forth on Exhibit A attached hereto a complete list of Developments that I have, alone or jointly with others, conceived, developed or reduced to practice prior to the commencement of my employment with the Company that I consider to be my property or the property of third parties and that I wish to have excluded from the scope of this Agreement ("Prior Inventions"). If disclosure of any such Prior Invention would cause me to violate any prior confidentiality agreement, I understand that I am not to

list such Prior Inventions in Exhibit A but am only to disclose a cursory name for each such invention, a listing of the party(ies) to whom it belongs and the fact that full disclosure as to such inventions has not been made for that reason. I have also listed on Exhibit A all patents and patent applications in which I am named as an inventor, other than those which have been assigned to the Company ("Other Patent Rights"). If no such disclosure is attached, I represent that there are no Prior Inventions or Other Patent Rights. If, in the course of my employment with the Company, I incorporate a Prior Invention into a Company product, process or machine or other work done for the Company, I hereby grant to the Company a nonexclusive, royalty-free, paid-up, irrevocable, worldwide license (with the full right to sublicense) to make, have made, modify, use, sell, offer for sale and import such Prior Invention. Notwithstanding the foregoing, I will not incorporate, or permit to be incorporated, Prior Inventions in any Company-Related Development without the Company's prior written consent.

This Agreement does not obligate me to assign to the Company any Development which, in the sole judgment of the Company, reasonably exercised, is developed entirely on my own time and does not relate to the business efforts or research and development efforts in which, during the period of my employment, the Company actually is engaged or reasonably would be engaged, and does not result from the use of premises or equipment owned or leased by the Company. However, I will also promptly disclose to the Company any such Developments for the purpose of determining whether they qualify for such exclusion. I understand that to the extent this Agreement is required to be construed in accordance with the laws of any state which precludes a requirement in an employee agreement to assign certain classes of inventions made by an employee, this paragraph 5 will be interpreted not to apply to any invention which a court rules and/or the Company agrees falls within such classes. I also hereby waive all claims to any moral rights or other special rights which I may have or accrue in any Company-Related Developments.

**6. Documents and Other Materials.** I will keep and maintain adequate and current records of all Proprietary Information and Company-Related Developments developed by me during my employment, which records will be available to and remain the sole property of the Company at all times.

All files, letters, notes, memoranda, reports, records, data, sketches, drawings, notebooks, layouts, charts, quotations and proposals, specification sheets, program listings, blueprints, models, prototypes, or other written, photographic or other tangible material containing Proprietary Information, whether created by me or others, which come into my custody or possession, are the exclusive property of the Company to be used by me only in the performance of my duties for the Company. Any property situated on the Company's premises and owned

by the Company, including without limitation computers, disks and other storage media, filing cabinets or other work areas, is subject to inspection by the Company at any time with or without notice. In the event of the termination of my employment for any reason, I will deliver to the Company all files, letters, notes, memoranda, reports, records, data, sketches, drawings, notebooks, layouts, charts, quotations and proposals, specification sheets, program listings, blueprints, models, prototypes, or other written, photographic or other tangible material containing Proprietary Information, and other materials of any nature pertaining to the Proprietary Information of the Company and to my work, and will not take or keep in my possession any of the foregoing or any copies.

**7. Enforcement of Intellectual Property Rights.** I will cooperate fully with the Company, both during and after my employment with the Company, with respect to the procurement, maintenance and enforcement of Intellectual Property Rights in Company-Related Developments. I will sign, both during and after the term of this Agreement, all papers, including without limitation copyright applications, patent applications, declarations, oaths, assignments of priority rights, and powers of attorney, which the Company may deem necessary or desirable in order to protect its rights and interests in any Company-Related Development. If the Company is unable, after reasonable effort, to secure my signature on any such papers, I hereby irrevocably designate and appoint each officer of the Company as my agent and attorney-in-fact to execute any such papers on my behalf, and to take any and all actions as the Company may deem necessary or desirable in order to protect its rights and interests in any Company-Related Development.

**8. Non-Competition and Non-Solicitation.** In order to protect the Company's Proprietary Information and good will, during my employment and for a period of twelve (12) months following the termination of my employment for any reason (the "Restricted Period"), I will not directly or indirectly, whether as owner, partner, shareholder, director, consultant, agent, employee, coventurer or otherwise, engage, participate or invest in any business activity anywhere in the world that develops, manufactures or markets any products, or performs any services, that are otherwise competitive with or similar to the products or services of the Company, or products or services that the Company has under development or that are the subject of active planning at any time during my employment; provided that this shall not prohibit any possible investment in publicly traded stock of a company representing less than one percent of the stock of such company. In addition, during the Restricted Period, I will not, directly or indirectly, in any manner, other than for the benefit of the Company, (a) call upon, solicit, divert or take away any of the customers, business or prospective customers of the Company or any of its suppliers, and/or (b) solicit, entice or attempt to persuade any other employee or consultant of the Company to leave the services of the Company for any reason. I acknowledge

and agree that if I violate any of the provisions of this paragraph 8, the running of the Restricted Period will be extended by the time during which I engage in such violation(s).

**9. Government Contracts.** I acknowledge that the Company may have from time to time agreements with other persons or with the United States Government or its agencies which impose obligations or restrictions on the Company regarding inventions made during the course of work under such agreements or regarding the confidential nature of such work. I agree to comply with any such obligations or restrictions upon the direction of the Company. In addition to the rights assigned under paragraph 5, I also assign to the Company (or any of its nominees) all rights which I have or acquired in any Developments, full title to which is required to be in the United States under any contract between the Company and the United States or any of its agencies.

**10. Prior Agreements.** I hereby represent that, except as I have fully disclosed previously in writing to the Company, I am not bound by the terms of any agreement with any previous employer or other party to refrain from using or disclosing any trade secret or confidential or proprietary information in the course of my employment with the Company or to refrain from competing, directly or indirectly, with the business of such previous employer or any other party. I further represent that my performance of all the terms of this Agreement as an employee of the Company does not and will not breach any agreement to keep in confidence proprietary information, knowledge or data acquired by me in confidence or in trust prior to my employment with the Company. I will not disclose to the Company or induce the Company to use any confidential or proprietary information or material belonging to any previous employer or others.

**11. Remedies Upon Breach.** I understand that the restrictions contained in this Agreement are necessary for the protection of the business and goodwill of the Company and I consider them to be reasonable for such purpose. Any breach of this Agreement is likely to cause the Company substantial and irrevocable damage and therefore, in the event of such breach, the Company, in addition to such other remedies which may be available, will be entitled to specific performance and other injunctive relief.

**12. Use of Voice, Image and Likeness.** I give the Company permission to use my voice, image or likeness, with or without using my name, for the purposes of advertising and promoting the Company, or for other purposes deemed appropriate by the Company in its reasonable discretion, except to the extent expressly prohibited by law.

**13. Publications and Public Statements.** I will obtain the Company's written approval before publishing or submitting for publication any material that relates to

my work at the Company and/or incorporates any Proprietary Information. To ensure that the Company delivers a consistent message about its products, services and operations to the public, and further in recognition that even positive statements may have a detrimental effect on the Company in certain securities transactions and other contexts, any statement about the Company which I create, publish or post during my period of employment and for six (6) months thereafter, on any media accessible by the public, including but not limited to electronic bulletin boards and Internet-based chat rooms, must first be reviewed and approved by an officer of the Company before it is released in the public domain.

**14. No Employment Obligation.** I understand that this Agreement does not create an obligation on the Company or any other person to continue my employment. I acknowledge that, unless otherwise agreed in a formal written employment agreement signed on behalf of the Company by an authorized officer, my employment with the Company is at will and therefore may be terminated by the Company or me at any time and for any reason.

**15. Survival and Assignment by the Company.** I understand that my obligations under this Agreement will continue in accordance with its express terms regardless of any changes in my title, position, duties, salary, compensation or benefits or other terms and conditions of employment. I further understand that my obligations under this Agreement will continue following the termination of my employment regardless of the manner of such termination and will be binding upon my heirs, executors and administrators. The Company will have the right to assign this Agreement to its affiliates, successors and assigns. I expressly consent to be bound by the provisions of this Agreement for the benefit of the Company or any parent, subsidiary or affiliate to whose employ I may be transferred without the necessity that this Agreement be resigned at the time of such transfer.

**16. Disclosure to Future Employers.** I will provide a copy of this Agreement to any prospective employer, partner or coventurer prior to entering into an employment, partnership or other business relationship with such person or entity.

**17. Severability.** In case any provisions (or portions thereof) contained in this Agreement shall, for any reason, be held invalid, illegal or unenforceable in any respect, such invalidity, illegality or unenforceability shall not affect the other provisions of this Agreement, and this Agreement shall be construed as if such invalid, illegal or unenforceable provision had never been contained herein. If, moreover, any one or more of the provisions contained in this Agreement shall for any reason be held to be excessively broad as to duration, geographical scope, activity or subject, it shall be construed by limiting and reducing it, so as to be enforceable to the extent compatible with the applicable law as it shall then appear.

**18. Interpretation.** This Agreement will be deemed to be made and entered into in the Commonwealth of Massachusetts, and will in all respects be interpreted, enforced and governed under the laws of the Commonwealth of Massachusetts. I hereby agree to consent to personal jurisdiction of the state and federal courts situated within Suffolk County, Massachusetts for purposes of enforcing this Agreement, and waive any objection that I might have to personal jurisdiction or venue in those courts.

**19. Entire Agreement.** This Agreement constitutes the entire and only agreement between the Company and me respecting the subject matter hereof, and supersedes

all prior agreements and understandings, oral or written, between us concerning such subject matter. No modification, amendment, waiver or termination of this Agreement or of any provision hereof will be binding unless made in writing and signed by an authorized officer of the Company. Failure of the Company to insist upon strict compliance with any of the terms, covenants or conditions hereof will not be deemed a waiver of such terms, covenants or conditions. In the event of any inconsistency between this Agreement and any other contract between the Company and me, the provisions of this Agreement will prevail.

[End of Text]

**I UNDERSTAND THAT THIS AGREEMENT AFFECTS IMPORTANT RIGHTS. BY SIGNING BELOW, I CERTIFY THAT I HAVE READ IT CAREFULLY AND AM SATISFIED THAT I UNDERSTAND IT COMPLETELY.**

IN WITNESS WHEREOF, the undersigned has executed this agreement as a sealed instrument as of the date set forth below.

Signed: /s/ Jeffrey Jonas

Type or print name: Jeffrey Jonas

Social Security Number: \_\_\_\_\_

Date: 8/19/13

**EXHIBIT A**

To: Sage Therapeutics, Inc.

From: Jeffrey Jonas

Date: 8/19/13

SUBJECT: **Prior Inventions**

The following is a complete list of all inventions or improvements relevant to the subject matter of my employment by the Company that have been made or conceived or first reduced to practice by me alone or jointly with others prior to my engagement by the Company:

No inventions or improvements

See below:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Additional sheets attached

The following is a list of all patents and patent applications in which I have been named as an inventor:

None

See below:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## SAGE THERAPEUTICS, INC.

**Employee Non-Competition, Non-Solicitation, Confidentiality and Assignment Agreement**

In consideration and as a condition of my employment or continued employment by Sage Therapeutics, Inc., a Delaware corporation (the "Company"). I agree as follows:

**1. Proprietary Information.** I agree that all information, whether or not in writing, concerning the Company's business, technology, business relationships or financial affairs which the Company has not released to the general public (collectively, "Proprietary Information") is and will be the exclusive property of the Company. By way of illustration, Proprietary Information may include information or material which has not been made generally available to the public, such as: (a) *corporate information*, including plans, strategies, methods, policies, resolutions, negotiations or litigation; (b) *marketing information*, including strategies, methods, customer identities or other information about customers, prospect identities or other information about prospects, or market analyses or projections; (c) *financial information*, including cost and performance data, debt arrangements, equity structure, investors and holdings, purchasing and sales data and price lists; (d) *operational and technological information*, including plans, specifications, manuals, forms, templates, software, designs, methods, procedures, formulas, discoveries, inventions, improvements, concepts and ideas; and (e) *personnel information*, including personnel lists, reporting or organizational structure, resumes, personnel data, compensation structure, performance evaluations and termination arrangements or documents. Proprietary Information also includes information received in confidence by the Company from its customers or suppliers or other third parties.

**2. Recognition of Company's Rights.** I will not, at any time, without the Company's prior written permission, either during or after my employment, disclose any Proprietary Information to anyone outside of the Company, or use or permit to be used any Proprietary Information for any purpose other than the performance of my duties as an employee of the Company. I will cooperate with the Company and use my best efforts to prevent the unauthorized disclosure of all Proprietary Information. I will deliver to the Company all copies of Proprietary Information in my possession or control upon the earlier of a request by the Company or termination of my employment. I will not under any circumstances, (A) remove any source code of the Company from the premises of the Company or (B) remotely access any source code of the Company.

**3. Rights of Others.** I understand that the Company is now and may hereafter be subject to nondisclosure or confidentiality agreements with third persons which require the Company to protect or refrain from use of Proprietary Information. I agree to be bound by the terms of such agreements in the event I have access to such Proprietary Information.

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**5. Developments.** I will make full and prompt disclosure to the Company of all inventions, discoveries, designs, developments, methods, modifications, improvements, processes, algorithms, databases, computer programs, formulae, techniques, trade secrets, graphics or images, audio or visual works and other works of authorship (collectively "Developments"), whether or not patentable or copyrightable, that are created, made, conceived or reduced to practice by me (alone or jointly with others) or under my direction during the period of my employment. I acknowledge that all work performed by me is on a "work for hire" basis, and I hereby do assign and transfer and, to the extent any such assignment cannot be made at present, will assign and transfer, to the Company and its successors and assigns all my right, title and interest in all Developments that (a) relate to the business of the Company or any customer of or supplier to the Company or any of the products or services being researched, developed, manufactured or sold by the Company or which may be used with such products or services; or (b) result from tasks assigned to me by the Company; or (c) result from the use of premises or personal property (whether tangible or intangible) owned, leased or contracted for by the Company ("Company-Related Developments"), and all related patents, patent applications, trademarks and trademark applications, copyrights and copyright applications, and other intellectual property rights in all countries and territories worldwide and under any international conventions ("Intellectual Property Rights").

To preclude any possible uncertainty, I have set forth on Exhibit A attached hereto a complete list of Developments that I have, alone or jointly with others, conceived, developed or reduced to practice prior to the commencement of my employment with the Company that I consider to be my property or the property of third parties and that I wish to have excluded from the scope of this Agreement ("Prior Inventions"). If disclosure of any such Prior Invention would cause me to violate any prior confidentiality agreement, I understand that I am not to

list such Prior Inventions in Exhibit A but am only to disclose a cursory name for each such invention, a listing of the party(ies) to whom it belongs and the fact that full disclosure as to such inventions has not been made for that reason. I have also listed on Exhibit A all patents and patent applications in which I am named as an inventor, other than those which have been assigned to the Company ("Other Patent Rights"). If no such disclosure is attached, I represent that there are no Prior Inventions or Other Patent Rights. If, in the course of my employment with the Company, I incorporate a Prior Invention into a Company product, process or machine or other work done for the Company, I hereby grant to the Company a nonexclusive, royalty-free, paid-up, irrevocable, worldwide license (with the full right to sublicense) to make, have made, modify, use, sell, offer for sale and import such Prior Invention. Notwithstanding the foregoing, I will not incorporate, or permit to be incorporated, Prior Inventions in any Company-Related Development without the Company's prior written consent.

This Agreement does not obligate me to assign to the Company any Development which, in the sole judgment of the Company, reasonably exercised, is developed entirely on my own time and does not relate to the business efforts or research and development efforts in which, during the period of my employment, the Company actually is engaged or reasonably would be engaged, and does not result from the use of premises or equipment owned or leased by the Company. However, I will also promptly disclose to the Company any such Developments for the purpose of determining whether they qualify for such exclusion. I understand that to the extent this Agreement is required to be construed in accordance with the laws of any state which precludes a requirement in an employee agreement to assign certain classes of inventions made by an employee, this paragraph 5 will be interpreted not to apply to any invention which a court rules and/or the Company agrees falls within such classes. I also hereby waive all claims to any moral rights or other special rights which I may have or accrue in any Company-Related Developments.

**6. Documents and Other Materials.** I will keep and maintain adequate and current records of all Proprietary Information and Company-Related Developments developed by me during my employment, which records will be available to and remain the sole property of the Company at all times.

All files, letters, notes, memoranda, reports, records, data, sketches, drawings, notebooks, layouts, charts, quotations and proposals, specification sheets, program listings, blueprints, models, prototypes, or other written, photographic or other tangible material containing Proprietary Information, whether created by me or others, which come into my custody or possession, are the exclusive property of the Company to be used by me only in the performance of my duties for the Company. Any property situated on the Company's premises and owned

by the Company, including without limitation computers, disks and other storage media, filing cabinets or other work areas, is subject to inspection by the Company at any time with or without notice. In the event of the termination of my employment for any reason, I will deliver to the Company all files, letters, notes, memoranda, reports, records, data, sketches, drawings, notebooks, layouts, charts, quotations and proposals, specification sheets, program listings, blueprints, models, prototypes, or other written, photographic or other tangible material containing Proprietary Information, and other materials of any nature pertaining to the Proprietary Information of the Company and to my work, and will not take or keep in my possession any of the foregoing or any copies.

**7. Enforcement of Intellectual Property Rights.** I will cooperate fully with the Company, both during and after my employment with the Company, with respect to the procurement, maintenance and enforcement of Intellectual Property Rights in Company-Related Developments. I will sign, both during and after the term of this Agreement, all papers, including without limitation copyright applications, patent applications, declarations, oaths, assignments of priority rights, and powers of attorney, which the Company may deem necessary or desirable in order to protect its rights and interests in any Company-Related Development. If the Company is unable, after reasonable effort, to secure my signature on any such papers, I hereby irrevocably designate and appoint each officer of the Company as my agent and attorney-in-fact to execute any such papers on my behalf, and to take any and all actions as the Company may deem necessary or desirable in order to protect its rights and interests in any Company-Related Development.

**8. Non-Competition and Non-Solicitation.** In order to protect the Company's Proprietary Information and good will, during my employment and for a period of twelve (12) months following the termination of my employment for any reason (the "Restricted Period"), I will not directly or indirectly, whether as owner, partner, shareholder, director, consultant, agent, employee, coventurer or otherwise, engage, participate or invest in any business activity anywhere in the world that develops, manufactures or markets any products, or performs any services, that are otherwise competitive with or similar to the products or services of the Company, or products or services that the Company has under development or that are the subject of active planning at any time during my employment; provided that this shall not prohibit any possible investment in publicly traded stock of a company representing less than one percent of the stock of such company. In addition, during the Restricted Period, I will not, directly or indirectly, in any manner, other than for the benefit of the Company, (a) call upon, solicit, divert or take away any of the customers, business or prospective customers of the Company or any of its suppliers, and/or (b) solicit, entice or attempt to persuade any other employee or consultant of the Company to leave the services of the Company for any reason. I acknowledge



and agree that if I violate any of the provisions of this paragraph 8, the running of the Restricted Period will be extended by the time during which I engage in such violation(s).

**9. Government Contracts.** I acknowledge that the Company may have from time to time agreements with other persons or with the United States Government or its agencies which impose obligations or restrictions on the Company regarding inventions made during the course of work under such agreements or regarding the confidential nature of such work. I agree to comply with any such obligations or restrictions upon the direction of the Company. In addition to the rights assigned under paragraph 5, I also assign to the Company (or any of its nominees) all rights which I have or acquired in any Developments, full title to which is required to be in the United States under any contract between the Company and the United States or any of its agencies.

**10. Prior Agreements.** I hereby represent that, except as I have fully disclosed previously in writing to the Company, I am not bound by the terms of any agreement with any previous employer or other party to refrain from using or disclosing any trade secret or confidential or proprietary information in the course of my employment with the Company or to refrain from competing, directly or indirectly, with the business of such previous employer or any other party. I further represent that my performance of all the terms of this Agreement as an employee of the Company does not and will not breach any agreement to keep in confidence proprietary information, knowledge or data acquired by me in confidence or in trust prior to my employment with the Company. I will not disclose to the Company or induce the Company to use any confidential or proprietary information or material belonging to any previous employer or others.

**11. Remedies Upon Breach.** I understand that the restrictions contained in this Agreement are necessary for the protection of the business and goodwill of the Company and I consider them to be reasonable for such purpose. Any breach of this Agreement is likely to cause the Company substantial and irrevocable damage and therefore, in the event of such breach, the Company, in addition to such other remedies which may be available, will be entitled to specific performance and other injunctive relief.

**12. Use of Voice, Image and Likeness.** I give the Company permission to use my voice, image or likeness, with or without using my name, for the purposes of advertising and promoting the Company, or for other purposes deemed appropriate by the Company in its reasonable discretion, except to the extent expressly prohibited by law.

**13. Publications and Public Statements.** I will obtain the Company's written approval before publishing or submitting for publication any material that relates to

my work at the Company and/or incorporates any Proprietary Information. To ensure that the Company delivers a consistent message about its products, services and operations to the public, and further in recognition that even positive statements may have a detrimental effect on the Company in certain securities transactions and other contexts, any statement about the Company which I create, publish or post during my period of employment and for six (6) months thereafter, on any media accessible by the public, including but not limited to electronic bulletin boards and Internet-based chat rooms, must first be reviewed and approved by an officer of the Company before it is released in the public domain.

**14. No Employment Obligation.** I understand that this Agreement does not create an obligation on the Company or any other person to continue my employment. I acknowledge that, unless otherwise agreed in a formal written employment agreement signed on behalf of the Company by an authorized officer, my employment with the Company is at will and therefore may be terminated by the Company or me at any time and for any reason.

**15. Survival and Assignment by the Company.** I understand that my obligations under this Agreement will continue in accordance with its express terms regardless of any changes in my title, position, duties, salary, compensation or benefits or other terms and conditions of employment. I further understand that my obligations under this Agreement will continue following the termination of my employment regardless of the manner of such termination and will be binding upon my heirs, executors and administrators. The Company will have the right to assign this Agreement to its affiliates, successors and assigns. I expressly consent to be bound by the provisions of this Agreement for the benefit of the Company or any parent, subsidiary or affiliate to whose employ I may be transferred without the necessity that this Agreement be resigned at the time of such transfer.

**16. Disclosure to Future Employers.** I will provide a copy of this Agreement to any prospective employer, partner or coventurer prior to entering into an employment, partnership or other business relationship with such person or entity.

**17. Severability.** In case any provisions (or portions thereof) contained in this Agreement shall, for any reason, be held invalid, illegal or unenforceable in any respect, such invalidity, illegality or unenforceability shall not affect the other provisions of this Agreement, and this Agreement shall be construed as if such invalid, illegal or unenforceable provision had never been contained herein. If, moreover, any one or more of the provisions contained in this Agreement shall for any reason be held to be excessively broad as to duration, geographical scope, activity or subject, it shall be construed by limiting and reducing it, so as to be enforceable to the extent compatible with the applicable law as it shall then appear.

**18. Interpretation.** This Agreement will be deemed to be made and entered into in the Commonwealth of Massachusetts, and will in all respects be interpreted, enforced and governed under the laws of the Commonwealth of Massachusetts. I hereby agree to consent to personal jurisdiction of the state and federal courts situated within Suffolk County, Massachusetts for purposes of enforcing this Agreement, and waive any objection that I might have to personal jurisdiction or venue in those courts.

**19. Entire Agreement.** This Agreement constitutes the entire and only agreement between the Company and me respecting the subject matter hereof, and supersedes

all prior agreements and understandings, oral or written, between us concerning such subject matter. No modification, amendment, waiver or termination of this Agreement or of any provision hereof will be binding unless made in writing and signed by an authorized officer of the Company. Failure of the Company to insist upon strict compliance with any of the terms, covenants or conditions hereof will not be deemed a waiver of such terms, covenants or conditions. In the event of any inconsistency between this Agreement and any other contract between the Company and me, the provisions of this Agreement will prevail.

[End of Text]

**EXHIBIT A**

To: Sage Therapeutics, Inc.

From: /s/ Albert J. Robichaud  
Albert J. Robichaud

Date: 11/7/11

**SUBJECT: Prior Inventions**

The following is a complete list of all inventions or improvements relevant to the subject matter of my employment by the Company that have been made or conceived or first reduced to practice by me alone or jointly with others prior to my engagement by the Company:

No inventions or improvements

See below:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Additional sheets attached

The following is a list of all patents and patent applications in which I have been named as an inventor:

None

See below:  
See attached \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**I UNDERSTAND THAT THIS AGREEMENT AFFECTS IMPORTANT RIGHTS. BY SIGNING BELOW, I CERTIFY THAT I HAVE READ IT CAREFULLY AND AM SATISFIED THAT I UNDERSTAND IT COMPLETELY.**

IN WITNESS WHEREOF, the undersigned has executed this agreement as a sealed instrument as of the date set forth below.

Signed: /s/ Albert J. Robichaud

Type or print name: Albert J. Robichaud

Social Security Number: [Redacted]

Date: 11/7/11

Albert J. Robichaud

- 1) Haydar, Simon Nicolas; Andrae, Patrick Michael; Yun, Heedong; Robichaud, Albert Jean. **1-(Arylsulfonyl)-4-(piperazin-1-yl)-1H-benzimidazole compounds as 5-hydroxytryptamine-6 receptor ligands and their preparation and use in the treatment of diseases.** U.S. Pat. Appl. Publ. (2010), US 20100120779 A1 20100513.
- 2) Liu, Kevin Guangcheng; Robichaud, Albert Jean; Lo, Jennifer Rebecca. **Preparation of 1-substituted-3-(naphthalen-1-ylsulfonyl)-5-(piperazin-1-yl)-1H-indazole compounds as 5-HT6 modulators for the treatment of central nervous system disorders.** Int. Appl. (2009), WO 2009155399 A1 20091223.
- 3) Zhou, Dahui; Gross, Jonathan Laird; Robichaud, Albert Jean. **Preparation of isoquinolinone and isoindolinone derivatives and analogs thereof as histamine-3 antagonists.** U.S. Pat. Appl. Publ. (2009), US 2009069370 A1 20090312 CAN 150:329630 AN 2009:294148
- 4) Zhou, Dahui; Gross, Jonathan Laird; Robichaud, Albert Jean. **Preparation of isoquinolinyl and isoindolinyl derivatives as histamine-3 antagonists.** U.S. Pat. Appl. Publ. (2009), US 2009069300 A1 20090312 CAN 150:329629 AN 2009:292106
- 5) Gross, Jonathan Laird; Robichaud, Albert Jean; Mazzacani, Alessandro; Williams, Marla Jean. **Aminoalkylazole derivatives as histamine-3 antagonists.** PCT Int. Appl. (2009), WO 2009012252 A1 20090122 AN 2009:93281
- 6) Zhou, Dahui; Sze, Jean Yi-Ching; Gross, Jonathan Laird; Robichaud, Albert Jean. **Preparation of azacyclylbenzamide derivatives as histamine-3 antagonists for treating CNS disorders.** U.S. Pat. Appl. Publ. (2008), US 2008293771 A1 20081127 CAN 150:20002 AN 2008:1431063
- 7) Malamas, Michael Sotirios; Robichaud, Albert Jean; Porte, Alexander Michael; Morris, Koi Michele; Solvibile, William Ronald; Kim, Ji-In. **Preparation of amino-5-[4-(difluoromethoxy)phenyl]-5-phenylimidazolone derivatives as inhibitors of  $\beta$ -secretase.** PCT Int. Appl. (2008), WO 2008118379 A2 20081002 CAN 149:425937 AN 2008:1188199
- 8) Malamas, Michael Sotirios; Robichaud, Albert Jean; Porte, Alexander Michael; Solvibile, William Ronald; Morris, Koi Michele; Antane, Schuyler Adam; Kim, Ji-Ln; Mcdevitt, Robert Emmett. **Amino-5-[substituted-4-(difluoromethoxy)phenyl]-5-phenylimidazolone compounds as  $\beta$ -secretase inhibitors and their preparation, and use in the treatment of  $\beta$ -amyloid deposits and neurofibrillary tangles.** PCT Int. Appl. (2008), WO 2008115552 A1 20080925 CAN 149:402355 AN 2008:1157587
- 9) Solvibile, William Ronald; Kim, Ji-In; Williams, Marla Jean; Gross, Jonathan Laird; Robichaud, Albert Jean. **N-substituted-azacyclylamines as histamine-3 antagonists.** PCT Int. Appl. (2008), WO 2008045371 A2 20080417 AN 2008:473559.
- 10) Yan, Yinfa; Zhou, Ping; Fan, Yi; Robichaud, Albert Jean; Malamas, Michael Sotirios. **Preparation of indolylalkylpyridin-2-amines for the inhibition of  $\beta$ -secretase.** PCT Int. Appl. (2008), WO 2008036196 A2 20080327 CAN 148:355623 AN 2008:381465.

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- 11) Liu, Kevin; Lo, Jennifer Rebecca; Robichaud, Albert Jean; Elokdah, Hassan Mahmoud. **Preparation of 1-sulfonylindazolylamine and - amide derivatives as 5-hydroxytryptamine-6 ligands.** U.S. Pat. Appl. Publ. (2007), US 2007281922 A1 20071206 CAN 148:33727 AN 2007:1396599.

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- 14) Elokdah, Hassan Mahmoud; Greenfield, Alexander Alexei; Grosanu, Cristina; Robichaud, Albert Jean. **Substituted-dihydro[1,4]oxazino[2,3,4-hi]indazole derivatives as 5-HT6 ligands.** U.S. Pat. Appl. Publ. (2007), US 2007244106 A1 20071018 CAN 147:462302 AN 2007:1175616.
- 15) Greenfield, Alexander Alexei; Grosanu, Cristina; Elokdah, Hassan Mahmoud; Robichaud, Albert Jean. **Dihydro[1,4]oxazino[2,3,4-hi]indazole derivatives as 5-hydroxytryptamine-6 ligands.** U.S. Pat. Appl. Publ. (2007), US 2007244105 A1 20071018 CAN 147:462301 AN 2007:1175592.
- 16) Liu, Kevin; Robichaud, Albert Jean; Lo, Jennifer Rebecca; Elokdah, Hassan Mahmoud. **Preparation of 5-arylsulfonyl-3-heterocyclindazoles as 5-hydroxytryptamine-6 ligands.** U.S. Pat. Appl. Publ. (2007), US 2007238724 A1 20071011 CAN 147:448770 AN 2007:1149789.
- 17) Cole, Derek Cecil; Asselin, Magda; Stock, Joseph Raymond; Robichaud, Albert Jean; Kim, Ji-In; Solvibile, William Ronald; Gross, Jonathan Laird. **Preparation of N-substituted-azacyclamines as histamine-3 antagonists for treating CNS disorders.** U.S. Pat. Appl. Publ. (2007), US 2007219240 A1 20070920 CAN 147:365500 AN 2007:1054302.
- 18) McDevitt, Robert E.; Li, Yanfang; Robichaud, Albert J.; Heffernan, Gavin D.; Coghlan, Richard D.; Bernotas, Ronald C. **Preparation of sulfonyl substituted 1H-indoles as ligands for the 5-hydroxytryptamine receptors, particularly 5-HT6 and 5-HT2A receptors, and inhibitors of norepinephrine reuptake.** PCT Int. Appl. (2007), WO 2007084841 A2 20070726 CAN 147:211728 AN 2007:815018
- 19) Malamas, Michael Sotirios; Erdei, James Joseph; Fobare, William Floyd; Quagliato, Dominick Anthony; Antane, Schuyler Adam; Robichaud, Albert Jean. **Preparation of imidazolone derivatives as inhibitors of  $\beta$ -secretase.** U.S. Pat. Appl. Publ. (2007), US 2007072925 A1 20070329 CAN 146:379977 AN 2007:359158.
- 20) Elokdah, Hassan Mahmoud; Greenfield, Alexander Alexei; Liu, Kevin; McFarlane, Geraldine Ruth; Grosanu, Cristina; Lo, Jennifer Rebecca; Robichaud, Albert Jean. **Preparation of azinyl-3-sulfonylindazole derivatives as 5-hydroxytryptamine-6 ligands.** U.S. Pat. Appl. Publ. (2007), US 2007054896 A1 20070308 CAN 146:316910 AN 2007:258907.
- 21) Elokdah, Hassan Mahmoud; Greenfield, Alexander Alexei; Liu, Kevin; McDevitt, Robert Emmett; McFarlane, Geraldine Ruth; Grosanu, Cristina; Lo, Jennifer Rebecca; Li, Yanfang; Robichaud, Albert Jean; Bernotas, Ronald Charles. **Preparation of substituted-3-sulfonylindazole derivatives as 5-HT6 receptor modulators for treating CNS disorders.** U.S. Pat. Appl. Publ. (2007), US 2007037802 A1 20070215 CAN 146:251839 AN 2007:175473.

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- 22) Zhou, Ping; Malamas, Michael Sotirios; Li, Yanfang; Robichaud, Albert Jean; Quagliato, Dominick Anthony. **Preparation of aminoheteroarylimidazolone compds. for use as  $\beta$ -secretase modulators to treat  $\beta$ -amyloid and neurofibrillary tangle associated diseases.** U.S. Pat. Appl. Publ. (2007), US 2007004730 A1.
- 23) Malamas, Michael Sotirios; Fobare, William Floyd; Solvibile, William Ronald; Lovering, Frank Eldridge; Condon, Jeffrey Scott; Robichaud, Albert Jean. **Amino-pyridines as inhibitors of  $\beta$ -secretase and their preparation, and pharmaceutical compositions.** U.S. Pat. Appl. Publ. (2006), US 2006173049 A1.
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- 30) Lee, Taekyu; Chen, Wenting; Deng, Wei; Robichaud, Albert; Wexler, Ruth. **Preparation of substituted tricyclic gamma-carbolines as serotonin receptor agonists and antagonists.** PCT Int. Appl. (2004), WO 2004056324 A2.
- 31) Robichaud, Albert J.; Mitchell, Ian S. **Aryl and aminoaryl substituted serotonin receptor agonist and antagonist ligands.** U.S. Pat. Appl. Publ. (2003), US 2003153576 A1 20030814 CAN 139:159954 AN 2003:633282
- 32) Robichaud, Albert, J., Fevig, John M., Mitchell, Ian S., Lee, Taekyu, Chen, Wenting, Cacciola, Joseph. **Preparation of pyridoindoles as human serotonin receptor 5-HT<sub>2C</sub> agonists and 5-HT<sub>2A</sub> antagonists.** PCT Int. Appl. (2002), 409 pp. WO 0259129 A2.

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- 33) Robichaud, Albert J., Mitchell, Ian S., Lee, Taekyu, Chen, Wenting. **Preparation of pyrazinoquinoxalines as human serotonin receptor 5-HT<sub>2C</sub> agonists and 5-HT<sub>2A</sub> antagonists.** PCT Int. Appl. (2002), 198 pp. WO 0259127 A2.
- 34) Robichaud, Albert, J., Mitchell, Ian S. **Aryl and aminoaryl substituted serotonin receptor agonist and antagonist ligands.** PCT Int. Appl. (2002), WO 259082 A2.
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- 37) Robichaud, Albert J.; Lee, Taekyu; Deng, Wei; Mitchell, Ian S.; Chen, Wenting; McClung, Christopher D.; Calvello, Emilie J. B.; Zawrotny, David M. **Preparation of substituted heterocyclo gamma-carbolines as serotonin agents.** PCT Int. Appl. (2000), WO 0077001 A1
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- 43) Chiang, Yuan-Ching P., Finke, Paul. E., MacCoss, Malcolm, Meurer, Laura C., Miller, Daniel J., Mills, Sander G., Robichaud, Albert J., Shah, Shrenik K. **Preparation of arylpiperazines as neurokinin antagonists.** PCT Int Appl (1996), WO 96/10568.
- 44) S.K. Shah, M. MacCoss, S.G. Mills, A.J. Robichaud, P.T. Dunn, Y.C. Chiang, H. Koyama, P. Finke, H. Qi. **Preparation of spirocyclic compounds as neurokinin antagonists.** PCT Int Appl (1994), WO 94/29309.
- 45) G.D. Berger, R.W. Marquis, A.J. Robichaud, E.M. Scolnick. **Preparation of zaragozic acid derivatives as cholesterol lowering agents. Cholesterol Lowering Compounds.** U.S. Patent 5,258,401, September 10, 1992.

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## SAGE THERAPEUTICS, INC.

**Employee Non-Competition, Non-Solicitation, Confidentiality and Assignment Agreement**

In consideration and as a condition of my employment or continued employment by Sage Therapeutics, Inc., a Delaware corporation (the "Company"), I agree as follows:

**1. Proprietary Information.** I agree that all information, whether or not in writing, concerning the Company's business, technology, business relationships or financial affairs which the Company has not released to the general public (collectively, "Proprietary Information") is and will be the exclusive property of the Company. By way of illustration, Proprietary Information may include information or material which has not been made generally available to the public, such as: (a) *corporate information*, including plans, strategies, methods, policies, resolutions, negotiations or litigation; (b) *marketing information*, including strategies, methods, customer identities or other information about customers, prospect identities or other information about prospects, or market analyses or projections; (c) *financial information*, including cost and performance data, debt arrangements, equity structure, investors and holdings, purchasing and sales data and price lists; (d) *operational and technological information*, including plans, specifications, manuals, forms, templates, software, designs, methods, procedures, formulas, discoveries, inventions, improvements, concepts and ideas; and (e) *personnel information*, including personnel lists, reporting or organizational structure, resumes, personnel data, compensation structure, performance evaluations and termination arrangements or documents. Proprietary Information also includes information received in confidence by the Company from its customers or suppliers or other third parties.

**2. Recognition of Company's Rights.** I will not, at any time, without the Company's prior written permission, either during or after my employment, disclose any Proprietary Information to anyone outside of the Company, or use or permit to be used any Proprietary Information for any purpose other than the performance of my duties as an employee of the Company. I will cooperate with the Company and use my best efforts to prevent the unauthorized disclosure of all Proprietary Information. I will deliver to the Company all copies of Proprietary Information in my possession or control upon the earlier of a request by the Company or termination of my employment. I will not under any circumstances, (A) remove any source code of the Company from the premises of the Company or (B) remotely access any source code of the Company.

**3. Rights of Others.** I understand that the Company is now and may hereafter be subject to non-disclosure or confidentiality agreements with third persons which require the Company to protect or refrain from use of Proprietary Information. I agree to be bound by the terms of such agreements in the event I have access to such Proprietary Information.

**4. Commitment to Company; Avoidance of Conflict of Interest.**

While an employee of the Company, I will devote my full-time efforts to the Company's business and I will not engage in any other business activity that conflicts with my duties to the Company. I will advise the president of the Company or his or her nominee at such time as any activity of either the Company or another business presents me with a conflict of interest or the appearance of a conflict of interest as an employee of the Company. I will take whatever action is requested of me by the Company to resolve any conflict or appearance of conflict which it finds to exist.

**5. Developments.** I will make full and prompt disclosure to the Company of all inventions, discoveries, designs, developments, methods, modifications, improvements, processes, algorithms, databases, computer programs, formulae, techniques, trade secrets, graphics or images, audio or visual works and other works of authorship (collectively "Developments"), whether or not patentable or copyrightable, that are created, made, conceived or reduced to practice by me (alone or jointly with others) or under my direction during the period of my employment. I acknowledge that all work performed by me is on a "work for hire" basis, and I hereby do assign and transfer and, to the extent any such assignment cannot be made at present, will assign and transfer, to the Company and its successors and assigns all my right, title and interest in all Developments that (a) relate to the business of the Company or any customer of or supplier to the Company or any of the products or services being researched, developed, manufactured or sold by the Company or which may be used with such products or services; or (b) result from tasks assigned to me by the Company; or (c) result from the use of premises or personal property (whether tangible or intangible) owned, leased or contracted for by the Company ("Company-Related Developments"), and all related patents, patent applications, trademarks and trademark applications, copyrights and copyright applications, and other intellectual property rights in all countries and territories worldwide and under any international conventions ("Intellectual Property Rights").

To preclude any possible uncertainty, I have set forth on Exhibit A attached hereto a complete list of Developments that I have, alone or jointly with others, conceived, developed or reduced to practice prior to the commencement of my employment with the Company that I consider to be my property or the property of third parties and that I wish to have excluded from the scope of this Agreement ("Prior Inventions"). If disclosure of any such Prior Invention would cause me to violate any prior confidentiality agreement, I understand that I am not to

list such Prior Inventions in Exhibit A but am only to disclose a cursory name for each such invention, a listing of the party(ies) to whom it belongs and the fact that full disclosure as to such inventions has not been made for that reason. I have also listed on Exhibit A all patents and patent applications in which I am named as an inventor, other than those which have been assigned to the Company ("Other Patent Rights"). If no such disclosure is attached, I represent that there are no Prior Inventions or Other Patent Rights. If, in the course of my employment with the Company, I incorporate a Prior Invention into a Company product, process or machine or other work done for the Company, I hereby grant to the Company a nonexclusive, royalty-free, paid-up, irrevocable, worldwide license (with the full right to sublicense) to make, have made, modify, use, sell, offer for sale and import such Prior Invention. Notwithstanding the foregoing, I will not incorporate, or permit to be incorporated, Prior Inventions in any Company-Related Development without the Company's prior written consent.

This Agreement does not obligate me to assign to the Company any Development which, in the sole judgment of the Company, reasonably exercised, is developed entirely on my own time and does not relate to the business efforts or research and development efforts in which, during the period of my employment, the Company actually is engaged or reasonably would be engaged, and does not result from the use of premises or equipment owned or leased by the Company. However, I will also promptly disclose to the Company any such Developments for the purpose of determining whether they qualify for such exclusion. I understand that to the extent this Agreement is required to be construed in accordance with the laws of any state which precludes a requirement in an employee agreement to assign certain classes of inventions made by an employee, this paragraph 5 will be interpreted not to apply to any invention which a court rules and/or the Company agrees falls within such classes. I also hereby waive all claims to any moral rights or other special rights which I may have or accrue in any Company-Related Developments.

**6. Documents and Other Materials.** I will keep and maintain adequate and current records of all Proprietary Information and Company-Related Developments developed by me during my employment, which records will be available to and remain the sole property of the Company at all times.

All files, letters, notes, memoranda, reports, records, data, sketches, drawings, notebooks, layouts, charts, quotations and proposals, specification sheets, program listings, blueprints, models, prototypes, or other written, photographic or other tangible material containing Proprietary Information, whether created by me or others, which come into my custody or possession, are the exclusive property of the Company to be used by me only in the performance of my duties for the Company. Any property situated on the Company's premises and owned

by the Company, including without limitation computers, disks and other storage media, filing cabinets or other work areas, is subject to inspection by the Company at any time with or without notice. In the event of the termination of my employment for any reason, I will deliver to the Company all files, letters, notes, memoranda, reports, records, data, sketches, drawings, notebooks, layouts, charts, quotations and proposals, specification sheets, program listings, blueprints, models, prototypes, or other written, photographic or other tangible material containing Proprietary Information, and other materials of any nature pertaining to the Proprietary Information of the Company and to my work, and will not take or keep in my possession any of the foregoing or any copies.

**7. Enforcement of Intellectual Property Rights.** I will cooperate fully with the Company, both during and after my employment with the Company, with respect to the procurement, maintenance and enforcement of Intellectual Property Rights in Company-Related Developments. I will sign, both during and after the term of this Agreement, all papers, including without limitation copyright applications, patent applications, declarations, oaths, assignments of priority rights, and powers of attorney, which the Company may deem necessary or desirable in order to protect its rights and interests in any Company-Related Development. If the Company is unable, after reasonable effort, to secure my signature on any such papers, I hereby irrevocably designate and appoint each officer of the Company as my agent and attorney-in-fact to execute any such papers on my behalf, and to take any and all actions as the Company may deem necessary or desirable in order to protect its rights and interests in any Company-Related Development.

**8. Non-Competition and Non-Solicitation.** In order to protect the Company's Proprietary Information and good will, during my employment and for a period of twelve (12) months following the termination of my employment for any reason (the "Restricted Period"), I will not directly or indirectly, whether as owner, partner, shareholder, director, consultant, agent, employee, coventurer or otherwise, engage, participate or invest in any business activity anywhere in the world that develops, manufactures or markets any products, or performs any services, that are otherwise competitive with or similar to the products or services of the Company, or products or services that the Company has under development or that are the subject of active planning at any time during my employment; provided that this shall not prohibit any possible investment in publicly traded stock of a company representing less than one percent of the stock of such company. In addition, during the Restricted Period, I will not, directly or indirectly, in any manner, other than for the benefit of the Company, (a) call upon, solicit, divert or take away any of the customers, business or prospective customers of the Company or any of its suppliers, and/or (b) solicit, entice or attempt to persuade any other employee or consultant of the Company to leave the services of the Company for any reason. I acknowledge

and agree that if I violate any of the provisions of this paragraph 8, the running of the Restricted Period will be extended by the time during which I engage in such violation(s).

**9. Government Contracts.** I acknowledge that the Company may have from time to time agreements with other persons or with the United States Government or its agencies which impose obligations or restrictions on the Company regarding inventions made during the course of work under such agreements or regarding the confidential nature of such work. I agree to comply with any such obligations or restrictions upon the direction of the Company. In addition to the rights assigned under paragraph 5, I also assign to the Company (or any of its nominees) all rights which I have or acquired in any Developments, full title to which is required to be in the United States under any contract between the Company and the United States or any of its agencies.

**10. Prior Agreements.** I hereby represent that, except as I have fully disclosed previously in writing to the Company, I am not bound by the terms of any agreement with any previous employer or other party to refrain from using or disclosing any trade secret or confidential or proprietary information in the course of my employment with the Company or to refrain from competing, directly or indirectly, with the business of such previous employer or any other party. I further represent that my performance of all the terms of this Agreement as an employee of the Company does not and will not breach any agreement to keep in confidence proprietary information, knowledge or data acquired by me in confidence or in trust prior to my employment with the Company. I will not disclose to the Company or induce the Company to use any confidential or proprietary information or material belonging to any previous employer or others.

**11. Remedies Upon Breach.** I understand that the restrictions contained in this Agreement are necessary for the protection of the business and goodwill of the Company and I consider them to be reasonable for such purpose. Any breach of this Agreement is likely to cause the Company substantial and irrevocable damage and therefore, in the event of such breach, the Company, in addition to such other remedies which may be available, will be entitled to specific performance and other injunctive relief.

**12. Use of Voice, Image and Likeness.** I give the Company permission to use my voice, image or likeness, with or without using my name, for the purposes of advertising and promoting the Company, or for other purposes deemed appropriate by the Company in its reasonable discretion, except to the extent expressly prohibited by law.

**13. Publications and Public Statements.** I will obtain the Company's written approval before publishing or submitting for publication any material that relates to

my work at the Company and/or incorporates any Proprietary Information. To ensure that the Company delivers a consistent message about its products, services and operations to the public, and further in recognition that even positive statements may have a detrimental effect on the Company in certain securities transactions and other contexts, any statement about the Company which I create, publish or post during my period of employment and for six (6) months thereafter, on any media accessible by the public, including but not limited to electronic bulletin boards and Internet-based chat rooms, must first be reviewed and approved by an officer of the Company before it is released in the public domain.

**14. No Employment Obligation.** I understand that this Agreement does not create an obligation on the Company or any other person to continue my employment. I acknowledge that, unless otherwise agreed in a formal written employment agreement signed on behalf of the Company by an authorized officer, my employment with the Company is at will and therefore may be terminated by the Company or me at any time and for any reason.

**15. Survival and Assignment by the Company.** I understand that my obligations under this Agreement will continue in accordance with its express terms regardless of any changes in my title, position, duties, salary, compensation or benefits or other terms and conditions of employment. I further understand that my obligations under this Agreement will continue following the termination of my employment regardless of the manner of such termination and will be binding upon my heirs, executors and administrators. The Company will have the right to assign this Agreement to its affiliates, successors and assigns. I expressly consent to be bound by the provisions of this Agreement for the benefit of the Company or any parent, subsidiary or affiliate to whose employ I may be transferred without the necessity that this Agreement be resigned at the time of such transfer.

**16. Disclosure to Future Employers.** I will provide a copy of this Agreement to any prospective employer, partner or coventurer prior to entering into an employment, partnership or other business relationship with such person or entity.

**17. Severability.** In case any provisions (or portions thereof) contained in this Agreement shall, for any reason, be held invalid, illegal or unenforceable in any respect, such invalidity, illegality or unenforceability shall not affect the other provisions of this Agreement, and this Agreement shall be construed as if such invalid, illegal or unenforceable provision had never been contained herein. If, moreover, any one or more of the provisions contained in this Agreement shall for any reason be held to be excessively broad as to duration, geographical scope, activity or subject, it shall be construed by limiting and reducing it, so as to be enforceable to the extent compatible with the applicable law as it shall then appear.

**18. Interpretation.** This Agreement will be deemed to be made and entered into in the Commonwealth of Massachusetts, and will in all respects be interpreted, enforced and governed under the laws of the Commonwealth of Massachusetts. I hereby agree to consent to personal jurisdiction of the state and federal courts situated within Suffolk County, Massachusetts for purposes of enforcing this Agreement, and waive any objection that I might have to personal jurisdiction or venue in those courts.

**19. Entire Agreement.** This Agreement constitutes the entire and only agreement between the Company and me respecting the subject matter hereof, and supersedes

all prior agreements and understandings, oral or written, between us concerning such subject matter. No modification, amendment, waiver or termination of this Agreement or of any provision hereof will be binding unless made in writing and signed by an authorized officer of the Company. Failure of the Company to insist upon strict compliance with any of the terms, covenants or conditions hereof will not be deemed a waiver of such terms, covenants or conditions. In the event of any inconsistency between this Agreement and any other contract between the Company and me, the provisions of this Agreement will prevail.

[End of Text]

**I UNDERSTAND THAT THIS AGREEMENT AFFECTS IMPORTANT RIGHTS. BY SIGNING BELOW, I CERTIFY THAT I HAVE READ IT CAREFULLY AND AM SATISFIED THAT I UNDERSTAND IT COMPLETELY.**

IN WITNESS WHEREOF, the undersigned has executed this agreement as a sealed instrument as of the date set forth below.

Signed: /s/ STEPHEN J. KANES

Type or print name: STEPHEN J. KANES

Social Security Number: [Redacted]

Date: 17-JUL-2013

## SAGE THERAPEUTICS, INC.

**Employee Non-Competition, Non-Solicitation, Confidentiality and Assignment Agreement**

In consideration and as a condition of my employment or continued employment by Sage Therapeutics, Inc., a Delaware corporation (the "Company"), I agree as follows:

**1. Proprietary Information.** I agree that all information, whether or not in writing, concerning the Company's business, technology, business relationships or financial affairs which the Company has not released to the general public (collectively, "Proprietary Information") is and will be the exclusive property of the Company. By way of illustration, Proprietary Information may include information or material which has not been made generally available to the public, such as: (a) *corporate information*, including plans, strategies, methods, policies, resolutions, negotiations or litigation; (b) *marketing information*, including strategies, methods, customer identities or other information about customers, prospect identities or other information about prospects, or market analyses or projections; (c) *financial information*, including cost and performance data, debt arrangements, equity structure, investors and holdings, purchasing and sales data and price lists; (d) *operational and technological information*, including plans, specifications, manuals, forms, templates, software, designs, methods, procedures, formulas, discoveries, inventions, improvements, concepts and ideas; and (e) *personnel information*, including personnel lists, reporting or organizational structure, resumes, personnel data, compensation structure, performance evaluations and termination arrangements or documents. Proprietary Information also includes information received in confidence by the Company from its customers or suppliers or other third parties.

**2. Recognition of Company's Rights.** I will not, at any time, without the Company's prior written permission, either during or after my employment, disclose any Proprietary Information to anyone outside of the Company, or use or permit to be used any Proprietary Information for any purpose other than the performance of my duties as an employee of the Company. I will cooperate with the Company and use my best efforts to prevent the unauthorized disclosure of all Proprietary Information. I will deliver to the Company all copies of Proprietary Information in my possession or control upon the earlier of a request by the Company or termination of my employment. I will not under any circumstances, (A) remove any source code of the Company from the premises of the Company or (B) remotely access any source code of the Company.

**3. Rights of Others.** I understand that the Company is now and may hereafter be subject to non-disclosure or confidentiality agreements with third persons which require the Company to protect or refrain from use of Proprietary Information. I agree to be bound by the terms of such agreements in the event I have access to such Proprietary Information.

**4. Commitment to Company; Avoidance of Conflict of Interest.**

While an employee of the Company, I will devote my full-time efforts to the Company's business and I will not engage in any other business activity that conflicts with my duties to the Company. I will advise the president of the Company or his or her nominee at such time as any activity of either the Company or another business presents me with a conflict of interest or the appearance of a conflict of interest as an employee of the Company. I will take whatever action is requested of me by the Company to resolve any conflict or appearance of conflict which it finds to exist.

**5. Developments.** I will make full and prompt disclosure to the Company of all inventions, discoveries, designs, developments, methods, modifications, improvements, processes, algorithms, databases, computer programs, formulae, techniques, trade secrets, graphics or images, audio or visual works and other works of authorship (collectively "Developments"), whether or not patentable or copyrightable, that are created, made, conceived or reduced to practice by me (alone or jointly with others) or under my direction during the period of my employment. I acknowledge that all work performed by me is on a "work for hire" basis, and I hereby do assign and transfer and, to the extent any such assignment cannot be made at present, will assign and transfer, to the Company and its successors and assigns all my right, title and interest in all Developments that (a) relate to the business of the Company or any customer of or supplier to the Company or any of the products or services being researched, developed, manufactured or sold by the Company or which may be used with such products or services; or (b) result from tasks assigned to me by the Company; or (c) result from the use of premises or personal property (whether tangible or intangible) owned, leased or contracted for by the Company ("Company-Related Developments"), and all related patents, patent applications, trademarks and trademark applications, copyrights and copyright applications, and other intellectual property rights in all countries and territories worldwide and under any international conventions ("Intellectual Property Rights").

To preclude any possible uncertainty, I have set forth on Exhibit A attached hereto a complete list of Developments that I have, alone or jointly with others, conceived, developed or reduced to practice prior to the commencement of my employment with the Company that I consider to be my property or the property of third parties and that I wish to have excluded from the scope of this Agreement ("Prior Inventions"). If disclosure of any such Prior Invention would cause me to violate any prior confidentiality agreement, I understand that I am not to

list such Prior Inventions in Exhibit A but am only to disclose a cursory name for each such invention, a listing of the party(ies) to whom it belongs and the fact that full disclosure as to such inventions has not been made for that reason. I have also listed on Exhibit A all patents and patent applications in which I am named as an inventor, other than those which have been assigned to the Company (“Other Patent Rights”). If no such disclosure is attached, I represent that there are no Prior Inventions or Other Patent Rights. If, in the course of my employment with the Company, I incorporate a Prior Invention into a Company product, process or machine or other work done for the Company, I hereby grant to the Company a nonexclusive, royalty-free, paid-up, irrevocable, worldwide license (with the full right to sublicense) to make, have made, modify, use, sell, offer for sale and import such Prior Invention. Notwithstanding the foregoing, I will not incorporate, or permit to be incorporated, Prior Inventions in any Company-Related Development without the Company’s prior written consent.

This Agreement does not obligate me to assign to the Company any Development which, in the sole judgment of the Company, reasonably exercised, is developed entirely on my own time and does not relate to the business efforts or research and development efforts in which, during the period of my employment, the Company actually is engaged or reasonably would be engaged, and does not result from the use of premises or equipment owned or leased by the Company. However, I will also promptly disclose to the Company any such Developments for the purpose of determining whether they qualify for such exclusion. I understand that to the extent this Agreement is required to be construed in accordance with the laws of any state which precludes a requirement in an employee agreement to assign certain classes of inventions made by an employee, this paragraph 5 will be interpreted not to apply to any invention which a court rules and/or the Company agrees falls within such classes. I also hereby waive all claims to any moral rights or other special rights which I may have or accrue in any Company-Related Developments.

**6. Documents and Other Materials.** I will keep and maintain adequate and current records of all Proprietary Information and Company-Related Developments developed by me during my employment, which records will be available to and remain the sole property of the Company at all times.

All files, letters, notes, memoranda, reports, records, data, sketches, drawings, notebooks, layouts, charts, quotations and proposals, specification sheets, program listings, blueprints, models, prototypes, or other written, photographic or other tangible material containing Proprietary Information, whether created by me or others, which come into my custody or possession, are the exclusive property of the Company to be used by me only in the performance of my duties for the Company. Any property situated on the Company’s premises and owned

by the Company, including without limitation computers, disks and other storage media, filing cabinets or other work areas, is subject to inspection by the Company at any time with or without notice. In the event of the termination of my employment for any reason, I will deliver to the Company all files, letters, notes, memoranda, reports, records, data, sketches, drawings, notebooks, layouts, charts, quotations and proposals, specification sheets, program listings, blueprints, models, prototypes, or other written, photographic or other tangible material containing Proprietary Information, and other materials of any nature pertaining to the Proprietary Information of the Company and to my work, and will not take or keep in my possession any of the foregoing or any copies.

**7. Enforcement of Intellectual Property Rights.** I will cooperate fully with the Company, both during and after my employment with the Company, with respect to the procurement, maintenance and enforcement of Intellectual Property Rights in Company-Related Developments. I will sign, both during and after the term of this Agreement, all papers, including without limitation copyright applications, patent applications, declarations, oaths, assignments of priority rights, and powers of attorney, which the Company may deem necessary or desirable in order to protect its rights and interests in any Company-Related Development. If the Company is unable, after reasonable effort, to secure my signature on any such papers, I hereby irrevocably designate and appoint each officer of the Company as my agent and attorney-in-fact to execute any such papers on my behalf, and to take any and all actions as the Company may deem necessary or desirable in order to protect its rights and interests in any Company-Related Development.

**8. Non-Competition and Non-Solicitation.** In order to protect the Company’s Proprietary Information and good will, during my employment and for a period of twelve (12) months following the termination of my employment for any reason (the “Restricted Period”), I will not directly or indirectly, whether as owner, partner, shareholder, director, consultant, agent, employee, coventurer or otherwise, engage, participate or invest in any business activity anywhere in the world that develops, manufactures or markets any products, or performs any services, that are otherwise competitive with or similar to the products or services of the Company, or products or services that the Company has under development or that are the subject of active planning at any time during my employment; provided that this shall not prohibit any possible investment in publicly traded stock of a company representing less than one percent of the stock of such company. In addition, during the Restricted Period, I will not, directly or indirectly, in any manner, other than for the benefit of the Company, (a) call upon, solicit, divert or take away any of the customers, business or prospective customers of the Company or any of its suppliers, and/or (b) solicit, entice or attempt to persuade any other employee or consultant of the Company to leave the services of the Company for any reason. I acknowledge

and agree that if I violate any of the provisions of this paragraph 8, the running of the Restricted Period will be extended by the time during which I engage in such violation(s).

**9. Government Contracts.** I acknowledge that the Company may have from time to time agreements with other persons or with the United States Government or its agencies which impose obligations or restrictions on the Company regarding inventions made during the course of work under such agreements or regarding the confidential nature of such work. I agree to comply with any such obligations or restrictions upon the direction of the Company. In addition to the rights assigned under paragraph 5, I also assign to the Company (or any of its nominees) all rights which I have or acquired in any Developments, full title to which is required to be in the United States under any contract between the Company and the United States or any of its agencies.

**10. Prior Agreements.** I hereby represent that, except as I have fully disclosed previously in writing to the Company, I am not bound by the terms of any agreement with any previous employer or other party to refrain from using or disclosing any trade secret or confidential or proprietary information in the course of my employment with the Company or to refrain from competing, directly or indirectly, with the business of such previous employer or any other party. I further represent that my performance of all the terms of this Agreement as an employee of the Company does not and will not breach any agreement to keep in confidence proprietary information, knowledge or data acquired by me in confidence or in trust prior to my employment with the Company. I will not disclose to the Company or induce the Company to use any confidential or proprietary information or material belonging to any previous employer or others.

**11. Remedies Upon Breach.** I understand that the restrictions contained in this Agreement are necessary for the protection of the business and goodwill of the Company and I consider them to be reasonable for such purpose. Any breach of this Agreement is likely to cause the Company substantial and irrevocable damage and therefore, in the event of such breach, the Company, in addition to such other remedies which may be available, will be entitled to specific performance and other injunctive relief.

**12. Use of Voice, Image and Likeness.** I give the Company permission to use my voice, image or likeness, with or without using my name, for the purposes of advertising and promoting the Company, or for other purposes deemed appropriate by the Company in its reasonable discretion, except to the extent expressly prohibited by law.

**13. Publications and Public Statements.** I will obtain the Company's written approval before publishing or submitting for publication any material that relates to

my work at the Company and/or incorporates any Proprietary Information. To ensure that the Company delivers a consistent message about its products, services and operations to the public, and further in recognition that even positive statements may have a detrimental effect on the Company in certain securities transactions and other contexts, any statement about the Company which I create, publish or post during my period of employment and for six (6) months thereafter, on any media accessible by the public, including but not limited to electronic bulletin boards and Internet-based chat rooms, must first be reviewed and approved by an officer of the Company before it is released in the public domain.

**14. No Employment Obligation.** I understand that this Agreement does not create an obligation on the Company or any other person to continue my employment. I acknowledge that, unless otherwise agreed in a formal written employment agreement signed on behalf of the Company by an authorized officer, my employment with the Company is at will and therefore may be terminated by the Company or me at any time and for any reason.

**15. Survival and Assignment by the Company.** I understand that my obligations under this Agreement will continue in accordance with its express terms regardless of any changes in my title, position, duties, salary, compensation or benefits or other terms and conditions of employment. I further understand that my obligations under this Agreement will continue following the termination of my employment regardless of the manner of such termination and will be binding upon my heirs, executors and administrators. The Company will have the right to assign this Agreement to its affiliates, successors and assigns. I expressly consent to be bound by the provisions of this Agreement for the benefit of the Company or any parent, subsidiary or affiliate to whose employ I may be transferred without the necessity that this Agreement be resigned at the time of such transfer.

**16. Disclosure to Future Employers.** I will provide a copy of this Agreement to any prospective employer, partner or coventurer prior to entering into an employment, partnership or other business relationship with such person or entity.

**17. Severability.** In case any provisions (or portions thereof) contained in this Agreement shall, for any reason, be held invalid, illegal or unenforceable in any respect, such invalidity, illegality or unenforceability shall not affect the other provisions of this Agreement, and this Agreement shall be construed as if such invalid, illegal or unenforceable provision had never been contained herein. If, moreover, any one or more of the provisions contained in this Agreement shall for any reason be held to be excessively broad as to duration, geographical scope, activity or subject, it shall be construed by limiting and reducing it, so as to be enforceable to the extent compatible with the applicable law as it shall then appear.



**18. Interpretation.** This Agreement will be deemed to be made and entered into in the Commonwealth of Massachusetts, and will in all respects be interpreted, enforced and governed under the laws of the Commonwealth of Massachusetts. I hereby agree to consent to personal jurisdiction of the state and federal courts situated within Suffolk County, Massachusetts for purposes of enforcing this Agreement, and waive any objection that I might have to personal jurisdiction or venue in those courts.

**19. Entire Agreement.** This Agreement constitutes the entire and only agreement between the Company and me respecting the subject matter hereof, and supersedes

all prior agreements and understandings, oral or written, between us concerning such subject matter. No modification, amendment, waiver or termination of this Agreement or of any provision hereof will be binding unless made in writing and signed by an authorized officer of the Company. Failure of the Company to insist upon strict compliance with any of the terms, covenants or conditions hereof will not be deemed a waiver of such terms, covenants or conditions. In the event of any inconsistency between this Agreement and any other contract between the Company and me, the provisions of this Agreement will prevail.

[End of Text]

**EXHIBIT A**

To: Sage Therapeutics, Inc.

From: \_\_\_\_\_

Date: \_\_\_\_\_

**SUBJECT: Prior Inventions**

The following is a complete list of all inventions or improvements relevant to the subject matter of my employment by the Company that have been made or conceived or first reduced to practice by me alone or jointly with others prior to my engagement by the Company:

No inventions or improvements

See below:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Additional sheets attached

The following is a list of all patents and patent applications in which I have been named as an inventor:

None

See below:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**I UNDERSTAND THAT THIS AGREEMENT AFFECTS IMPORTANT RIGHTS. BY SIGNING BELOW, I CERTIFY THAT I HAVE READ IT CAREFULLY AND AM SATISFIED THAT I UNDERSTAND IT COMPLETELY.**

IN WITNESS WHEREOF, the undersigned has executed this agreement as a sealed instrument as of the date set forth below.

Signed: /s/ KIMI IGUCHI  
(Employee's full name)

Type or print name: KIMI IGUCHI

Social Security Number: [Redacted]

Date: 3/8/2013

**SAGE THERAPEUTICS, INC.**  
**SENIOR EXECUTIVE CASH INCENTIVE BONUS PLAN**

**1. Purpose**

This Senior Executive Cash Incentive Bonus Plan (this “Incentive Plan”) is intended to provide an incentive for superior work and to motivate eligible executives of Sage Therapeutics, Inc. (the “Company”) and its subsidiaries toward even higher achievement and business results, to tie their goals and interests to those of the Company and its stockholders and to enable the Company to attract and retain highly qualified executives. This Incentive Plan is for the benefit of Covered Executives (as defined below).

**2. Covered Executives**

From time to time, the Compensation Committee of the Board of Directors of the Company (the “Compensation Committee”) may select certain key executives (the “Covered Executives”) to be eligible to receive bonuses hereunder. Participation in this Incentive Plan does not change the “at will” nature of a Covered Executive’s employment with the Company.

**3. Administration**

The Compensation Committee shall have the sole discretion and authority to administer and interpret this Incentive Plan.

**4. Bonus Determinations**

(a) **Corporate Performance Goals**. A Covered Executive may receive a bonus payment under this Incentive Plan based upon the attainment of one or more performance objectives that are established by the Compensation Committee and relate to financial and operational metrics with respect to the Company or any of its subsidiaries (the “Corporate Performance Goals”), including the following: cash flow (including, but not limited to, operating cash flow and free cash flow); sales or revenue; corporate revenue; earnings before interest, taxes, depreciation and amortization; net income (loss) (either before or after interest, taxes, depreciation and/or amortization); changes in the market price of the Company’s common stock; economic value-added; development, clinical or regulatory milestones; acquisitions or strategic transactions; operating income (loss); return on capital, assets, equity, or investment; stockholder returns; return on sales; gross or net profit levels; productivity; expense efficiency; margins; operating efficiency; customer satisfaction; working capital; earnings (loss) per share of the Company’s common stock; bookings, new bookings or renewals; sales or market shares; number of customers, number of new customers or customer references; operating income and/or net annual recurring revenue, any of which may be (A) measured in absolute terms or compared to any incremental increase, (B) measured in terms of growth, (C) compared to another company or companies or to results of a peer group, (D) measured against the market as a whole and/or as compared to applicable market indices and/or (E) measured on a pre-tax or post-tax basis (if applicable). Further, any Corporate Performance Goals may be used to measure the performance of the Company as a whole or a business unit or other segment of the Company, or one or more product lines or specific markets. The Corporate Performance Goals may differ from Covered Executive to Covered Executive.

(b) Calculation of Corporate Performance Goals. At the beginning of each applicable performance period, the Compensation Committee will determine whether any significant element(s) will be included in or excluded from the calculation of any Corporate Performance Goal with respect to any Covered Executive. In all other respects, Corporate Performance Goals will be calculated in accordance with the Company's financial statements, generally accepted accounting principles, or under a methodology established by the Compensation Committee at the beginning of the performance period and which is consistently applied with respect to a Corporate Performance Goal in the relevant performance period.

(c) Target; Minimum; Maximum. Each Corporate Performance Goal shall have a "target" (100 percent attainment of the Corporate Performance Goal) and may also have a "minimum" hurdle and/or a "maximum" amount.

(d) Bonus Requirements; Individual Goals. Except as otherwise set forth in this Section 4(d): (i) any bonuses paid to Covered Executives under this Incentive Plan shall be based upon objectively determinable bonus formulas that tie such bonuses to one or more performance targets relating to the Corporate Performance Goals, (ii) bonus formulas for Covered Executives shall be adopted in each performance period by the Compensation Committee and communicated to each Covered Executive at the beginning of each performance period and (iii) no bonuses shall be paid to Covered Executives unless and until the Compensation Committee makes a determination with respect to the attainment of the performance targets relating to the Corporate Performance Goals. Notwithstanding the foregoing, the Compensation Committee may adjust bonuses payable under this Incentive Plan based on achievement of one or more individual performance objectives or pay bonuses (including, without limitation, discretionary bonuses) to Covered Executives under this Incentive Plan based on individual performance goals and/or upon such other terms and conditions as the Compensation Committee may in its discretion determine.

(e) Individual Target Bonuses. The Compensation Committee shall establish a target bonus opportunity for each Covered Executive for each performance period. For each Covered Executive, the Compensation Committee shall have the authority to apportion the target award so that a portion of the target award shall be tied to attainment of Corporate Performance Goals and a portion of the target award shall be tied to attainment of individual performance objectives.

(f) Employment Requirement. Subject to any additional terms contained in a written agreement between the Covered Executive and the Company, the payment of a bonus to a Covered Executive with respect to a performance period shall be conditioned upon the Covered Executive's employment by the Company on the bonus payment date. If a Covered Executive was not employed for an entire performance period, the Compensation Committee may pro rate the bonus based on the number of days employed during such period.

## 5. Timing of Payment

(a) With respect to Corporate Performance Goals established and measured on a basis more frequently than annually (e.g., quarterly or semi-annually), the Corporate Performance Goals will be measured at the end of each performance period after the Company's financial reports with respect to such period(s) have been published. If the Corporate Performance Goals and/or individual goals for such period are met, payments will be made as soon as practicable following the end of such period, but not later 74 days after the end of the fiscal year in which such performance period ends.

(b) With respect to Corporate Performance Goals established and measured on an annual or multi-year basis, Corporate Performance Goals will be measured as of the end of each such performance period (e.g., the end of each fiscal year) after the Company's financial reports with respect to such period(s) have been published. If the Corporate Performance Goals and/or individual goals for any such period are met, bonus payments will be made as soon as practicable, but not later than 74 days after the end of the relevant fiscal year.

(c) For the avoidance of doubt, bonuses earned at any time in a fiscal year must be paid no later than 74 days after the last day of such fiscal year.

## 6. Amendment and Termination

The Company reserves the right to amend or terminate this Incentive Plan at any time in its sole discretion.

ADOPTED: April 30, 2014

EFFECTIVE:           , 2014

**SAGE THERAPEUTICS, INC.**  
**FORM OF DIRECTOR INDEMNIFICATION AGREEMENT**

This Indemnification Agreement (this "Agreement") is made as of \_\_\_\_\_ by and between Sage Therapeutics, Inc., a Delaware corporation (the "Company"), and \_\_\_\_\_ ("Indemnitee").

RECITALS

WHEREAS, the Company desires to attract and retain the services of highly qualified individuals, such as Indemnitee, to serve the Company;

WHEREAS, in order to induce Indemnitee to provide or continue to provide services to the Company, the Company wishes to provide for the indemnification of, and advancement of expenses to, Indemnitee to the maximum extent permitted by law;

WHEREAS, the Amended and Restated Certificate of Incorporation (the "Charter") and the Amended and Restated Bylaws (the "Bylaws") of the Company require indemnification of the officers and directors of the Company, and Indemnitee may also be entitled to indemnification pursuant to the General Corporation Law of the State of Delaware (the "DGCL");

WHEREAS, the Charter, the Bylaws and the DGCL expressly provide that the indemnification provisions set forth therein are not exclusive, and thereby contemplate that contracts may be entered into between the Company and members of the board of directors, officers and other persons with respect to indemnification;

WHEREAS, the Board of Directors of the Company (the "Board") has determined that the increased difficulty in attracting and retaining highly qualified persons such as Indemnitee is detrimental to the best interests of the Company's stockholders;

WHEREAS, it is reasonable, prudent and necessary for the Company contractually to obligate itself to indemnify, and to advance expenses on behalf of, such persons to the fullest extent permitted by applicable law, regardless of any amendment or revocation of the Charter or the Bylaws, so that they will serve or continue to serve the Company free from undue concern that they will not be so indemnified;

WHEREAS, this Agreement is a supplement to and in furtherance of the indemnification provided in the Charter, the Bylaws and any resolutions adopted pursuant thereto, and shall not be deemed a substitute therefor, nor to diminish or abrogate any rights of Indemnitee thereunder; and

WHEREAS, Indemnitee may have certain rights to indemnification and/or insurance, including as provided by [**Name of Fund/Sponsor**], which are to be secondary to the primary obligation of the Company to indemnify Indemnitee as provided in this Agreement, with the Company's acknowledgment and agreement to the foregoing being a material condition to Indemnitee's willingness to serve or continue to serve on the Board.

NOW, THEREFORE, in consideration of the premises and the covenants contained herein, the Company and Indemnitee do hereby covenant and agree as follows:

Section 1. Services to the Company. Indemnitee agrees to serve as a director of the Company. Indemnitee may at any time and for any reason resign from such position (subject to any other contractual obligation or any obligation imposed by law), in which event the Company shall have no obligation under this Agreement to continue Indemnitee in such position. This Agreement shall not be deemed an employment contract between the Company (or any of its subsidiaries or any Enterprise (as defined below)) and Indemnitee.

Section 2. Definitions.

As used in this Agreement:

(a) "Change in Control" shall mean:

(i) the date any "person," as such term is used in Sections 13(d) and 14(d) of the Securities Exchange Act of 1934, as amended (the "Act") (other than the Company, any of its subsidiaries, or any trustee, fiduciary or other person or entity holding securities under any employee benefit plan or trust of the Company or any of its subsidiaries), together with all "affiliates" and "associates" (as such terms are defined in Rule 12b-2 under the Act) of such person, becomes the "beneficial owner" (as such term is defined in Rule 13d-3 under the Act), directly or indirectly, of securities of the Company representing fifty percent (50%) or more of the combined voting power of the Company's then outstanding securities having the right to vote in an election of the Board ("Voting Securities") (in such case other than as a result of an acquisition of securities directly from the Company); or

(ii) the date a majority of the members of the Board is replaced during any 12-month period by directors whose appointment or election is not endorsed by a majority of the members of the Board before the date of the appointment or election; or

(iii) the date of consummation of (A) any consolidation or merger of the Company where the stockholders of the Company, immediately prior to the consolidation or merger, would not, immediately after the consolidation or merger, beneficially own (as such term is defined in Rule 13d-3 under the Act), directly or indirectly, shares representing in the aggregate more than fifty percent (50%) of the voting shares of the Company issuing cash or securities in the consolidation or merger (or of its ultimate parent corporation, if any), or (B) any sale or other transfer (in one transaction or a series of transactions contemplated or arranged by any party as a single plan) of all or substantially all of the assets of the Company.

Notwithstanding the foregoing, a "Change in Control" will not be deemed to have occurred for purposes of the foregoing clause (i) solely as the result of an acquisition of securities by the Company which, by reducing the number of shares of Voting Securities



outstanding, increases the proportionate number of Voting Securities beneficially owned by any person to fifty percent (50%) or more of the combined voting power of all of the then outstanding Voting Securities; provided, however, that if any person referred to in this sentence will thereafter become the beneficial owner of any additional shares of Voting Securities (other than pursuant to a stock split, stock dividend, or similar transaction or as a result of an acquisition of securities directly from the Company) and immediately thereafter beneficially owns 50 percent or more of the combined voting power of all of the then outstanding Voting Securities, then a “Change in Control” will be deemed to have occurred for purposes of the foregoing clause (i).

(b) “Corporate Status” describes the status of a person as a current or former director of the Company or current or former director, manager, partner, officer, employee, agent or trustee of any other Enterprise which such person is or was serving at the request of the Company.

(c) “Enforcement Expenses” shall include all reasonable attorneys’ fees, court costs, transcript costs, fees of experts, travel expenses, duplicating costs, printing and binding costs, telephone charges, postage, delivery service fees, and all other out-of-pocket disbursements or expenses of the types customarily incurred in connection with an action to enforce indemnification or advancement rights, or an appeal from such action. Expenses, however, shall not include fees, salaries, wages or benefits owed to Indemnitee.

(d) “Enterprise” shall mean any corporation (other than the Company), partnership, joint venture, trust, employee benefit plan, limited liability company, or other legal entity of which Indemnitee is or was serving at the request of the Company as a director, manager, partner, officer, employee, agent or trustee.

(e) “Expenses” shall include all reasonable attorneys’ fees, court costs, transcript costs, fees of experts, travel expenses, duplicating costs, printing and binding costs, telephone charges, postage, delivery service fees, and all other out-of-pocket disbursements or expenses of the types customarily incurred in connection with prosecuting, defending, preparing to prosecute or defend, investigating, being or preparing to be a witness in, or otherwise participating in, a Proceeding or an appeal resulting from a Proceeding. Expenses, however, shall not include amounts paid in settlement by Indemnitee, the amount of judgments or fines against Indemnitee or fees, salaries, wages or benefits owed to Indemnitee.

(f) “Independent Counsel” means a law firm, or a partner (or, if applicable, member or shareholder) of such a law firm, that is experienced in matters of Delaware corporation law and neither presently is, nor in the past five (5) years has been, retained to represent: (i) the Company, any subsidiary of the Company, any Enterprise or Indemnitee in any matter material to any such party; or (ii) any other party to the Proceeding giving rise to a claim for indemnification hereunder. Notwithstanding the foregoing, the term “Independent Counsel” shall not include any person who, under the applicable standards of professional conduct then prevailing, would have a conflict of interest in representing either the Company or Indemnitee in an action to determine Indemnitee’s rights under this Agreement. The Company agrees to pay the reasonable fees and expenses of the Independent Counsel referred to above and to fully indemnify such counsel against any and all expenses, claims, liabilities and damages arising out of or relating to this Agreement or its engagement pursuant hereto.

(g) The term “Proceeding” shall include any threatened, pending or completed action, suit, arbitration, alternate dispute resolution mechanism, investigation, inquiry, administrative hearing or any other actual, threatened or completed proceeding, whether brought in the right of the Company or otherwise and whether of a civil, criminal, administrative, regulatory or investigative nature, and whether formal or informal, in which Indemnitee was, is or will be involved as a party or otherwise by reason of the fact that Indemnitee is or was a director of the Company or is or was serving at the request of the Company as a director, manager, partner, officer, employee, agent or trustee of any Enterprise or by reason of any action taken by Indemnitee or of any action taken on his or her part while acting as a director of the Company or while serving at the request of the Company as a director, manager, partner, officer, employee, agent or trustee of any Enterprise, in each case whether or not serving in such capacity at the time any liability or expense is incurred for which indemnification, reimbursement or advancement of expenses can be provided under this Agreement; provided, however, that the term “Proceeding” shall not include any action, suit or arbitration, or part thereof, initiated by Indemnitee to enforce Indemnitee’s rights under this Agreement as provided for in Section 12(a) of this Agreement.

Section 3. Indemnity in Third-Party Proceedings. The Company shall indemnify Indemnitee to the extent set forth in this Section 3 if Indemnitee is, or is threatened to be made, a party to or a participant in any Proceeding, other than a Proceeding by or in the right of the Company to procure a judgment in its favor. Pursuant to this Section 3, Indemnitee shall be indemnified against all Expenses, judgments, fines, penalties, excise taxes, and amounts paid in settlement actually and reasonably incurred by Indemnitee or on his or her behalf in connection with such Proceeding or any claim, issue or matter therein, if Indemnitee acted in good faith and in a manner he or she reasonably believed to be in or not opposed to the best interests of the Company and, in the case of a criminal proceeding, had no reasonable cause to believe that his or her conduct was unlawful.

Section 4. Indemnity in Proceedings by or in the Right of the Company. The Company shall indemnify Indemnitee to the extent set forth in this Section 4 if Indemnitee is, or is threatened to be made, a party to or a participant in any Proceeding by or in the right of the Company to procure a judgment in its favor. Pursuant to this Section 4, Indemnitee shall be indemnified against all Expenses actually and reasonably incurred by Indemnitee or on his or her behalf in connection with such Proceeding or any claim, issue or matter therein, if Indemnitee acted in good faith and in a manner he or she reasonably believed to be in or not opposed to the best interests of the Company. No indemnification for Expenses shall be made under this Section 4 in respect of any claim, issue or matter as to which Indemnitee shall have been finally adjudged by a court to be liable to the Company, unless and only to the extent that the Delaware Court of Chancery (the “Delaware Court”) shall determine upon application that, despite the adjudication of liability but in view of all the circumstances of the case, Indemnitee is fairly and reasonably entitled to indemnification for such expenses as the Delaware Court shall deem proper.

Section 5. Indemnification for Expenses of a Party Who is Wholly or Partly Successful. Notwithstanding any other provisions of this Agreement and except as provided in Section 7, to the extent that Indemnitee is a party to or a participant in any Proceeding and is successful in such Proceeding or in defense of any claim, issue or matter therein, the Company shall indemnify Indemnitee against all Expenses actually and reasonably incurred by him or her in connection therewith. If Indemnitee is not wholly successful in such Proceeding but is successful as to one or more but less than all claims, issues or matters in such Proceeding, the Company shall indemnify Indemnitee against all Expenses actually and reasonably incurred by Indemnitee or on his or her behalf in connection with each successfully resolved claim, issue or matter. For purposes of this Section and without limitation, the termination of any claim, issue or matter in such a Proceeding by dismissal, with or without prejudice, shall be deemed to be a successful result as to such claim, issue or matter.

Section 6. Reimbursement for Expenses of a Witness or in Response to a Subpoena. Notwithstanding any other provision of this Agreement, to the extent that Indemnitee, by reason of his or her Corporate Status, (i) is a witness in any Proceeding to which Indemnitee is not a party and is not threatened to be made a party or (ii) receives a subpoena with respect to any Proceeding to which Indemnitee is not a party and is not threatened to be made a party, the Company shall reimburse Indemnitee for all Expenses actually and reasonably incurred by him or her or on his or her behalf in connection therewith.

Section 7. Exclusions. Notwithstanding any provision in this Agreement to the contrary, the Company shall not be obligated under this Agreement:

(a) to indemnify for amounts otherwise indemnifiable hereunder (or for which advancement is provided hereunder) if and to the extent that Indemnitee has otherwise actually received such amounts under any insurance policy, contract, agreement or otherwise; provided that the foregoing shall not affect the rights of Indemnitee or the Secondary Indemnitors as set forth in Section 13(c);

(b) to indemnify for an accounting of profits made from the purchase and sale (or sale and purchase) by Indemnitee of securities of the Company within the meaning of Section 16(b) of the Act or similar provisions of state statutory law or common law;

(c) to indemnify with respect to any Proceeding, or part thereof, brought by Indemnitee against the Company, any legal entity which it controls, any director or officer thereof or any third party, unless (i) the Board has consented to the initiation of such Proceeding or part thereof and (ii) the Company provides the indemnification, in its sole discretion, pursuant to the powers vested in the Company under applicable law; provided, however, that this Section 7(c) shall not apply to (A) counterclaims or affirmative defenses asserted by Indemnitee in an action brought against Indemnitee or (B) any action brought by Indemnitee for indemnification or advancement from the Company under this Agreement or under any directors' and officers' liability insurance policies maintained by the Company in the suit for which indemnification or advancement is being sought as described in Section 12; or

(d) to provide any indemnification or advancement of expenses that is prohibited by applicable law (as such law exists at the time payment would otherwise be required pursuant to this Agreement).

Section 8. Advancement of Expenses. Subject to Section 9(b), the Company shall advance, to the extent not prohibited by law, the Expenses incurred by Indemnitee in connection with any Proceeding, and such advancement shall be made within thirty (30) days after the receipt by the Company of a statement or statements requesting such advances (which shall include invoices received by Indemnitee in connection with such Expenses but, in the case of invoices in connection with legal services, any references to legal work performed or to expenditures made that would cause Indemnitee to waive any privilege accorded by applicable law need not be included with the invoice) from time to time, whether prior to or after final disposition of any Proceeding. Advances shall be unsecured and interest free. Advances shall be made without regard to Indemnitee's ability to repay the expenses and without regard to Indemnitee's ultimate entitlement to indemnification under the other provisions of this Agreement. Indemnitee shall qualify for advances upon the execution and delivery to the Company of this Agreement which shall constitute an undertaking providing that Indemnitee undertakes to the fullest extent required by law to repay the advance if and to the extent that it is ultimately determined by a court of competent jurisdiction in a final judgment, not subject to appeal, that Indemnitee is not entitled to be indemnified by the Company. The right to advances under this paragraph shall in all events continue until final disposition of any Proceeding, including any appeal therein. Nothing in this Section 8 shall limit Indemnitee's right to advancement pursuant to Section 12(e) of this Agreement.

Section 9. Procedure for Notification and Defense of Claim.

(a) To obtain indemnification under this Agreement, Indemnitee shall submit to the Company a written request therefor specifying the basis for the claim, the amounts for which Indemnitee is seeking payment under this Agreement, and all documentation related thereto as reasonably requested by the Company.

(b) In the event that the Company shall be obligated hereunder to provide indemnification for or make any advancement of Expenses with respect to any Proceeding, the Company shall be entitled to assume the defense of such Proceeding, or any claim, issue or matter therein, with counsel approved by Indemnitee (which approval shall not be unreasonably withheld or delayed) upon the delivery to Indemnitee of written notice of the Company's election to do so. After delivery of such notice, approval of such counsel by Indemnitee and the retention of such counsel by the Company, the Company will not be liable to Indemnitee under this Agreement for any fees or expenses of separate counsel subsequently employed by or on behalf of Indemnitee with respect to the same Proceeding; provided that (i) Indemnitee shall have the right to employ separate counsel in any such Proceeding at Indemnitee's expense and (ii) if (A) the employment of separate counsel by Indemnitee has been previously authorized by the Company, (B) Indemnitee shall have reasonably concluded that there may be a conflict of interest between the Company and Indemnitee in the conduct of such defense, or (C) the Company shall not continue to retain such counsel to defend such Proceeding, then the reasonable fees and expenses actually and reasonably incurred by Indemnitee with respect to his or her separate counsel shall be Expenses hereunder.

(c) In the event that the Company does not assume the defense in a Proceeding pursuant to Section 9(b) above, then the Company will be entitled to participate in the Proceeding at its own expense.

(d) The Company shall not be liable to indemnify Indemnitee under this Agreement for any amounts paid in settlement of any Proceeding effected without its prior written consent (which consent shall not be unreasonably withheld or delayed). The Company shall not, without the prior written consent of Indemnitee (which consent shall not be unreasonably withheld or delayed), enter into any settlement which (i) includes an admission of fault of Indemnitee, any non-monetary remedy imposed on Indemnitee or any monetary damages for which Indemnitee is not wholly and actually indemnified hereunder or (ii) with respect to any Proceeding with respect to which Indemnitee may be or is made a party or may be otherwise entitled to seek indemnification hereunder, does not include the full release of Indemnitee from all liability in respect of such Proceeding.

Section 10. Procedure Upon Application for Indemnification.

(a) Upon written request by Indemnitee for indemnification pursuant to Section 9(a), a determination, if such determination is required by applicable law, with respect to Indemnitee's entitlement to indemnification hereunder shall be made in the specific case by one of the following methods: (x) if a Change in Control shall have occurred, by Independent Counsel in a written opinion to the Board; or (y) if a Change in Control shall not have occurred: (i) by a majority vote of the disinterested directors, even though less than a quorum; (ii) by a committee of disinterested directors designated by a majority vote of the disinterested directors, even though less than a quorum; (iii) if there are no disinterested directors or if the disinterested directors so direct, by Independent Counsel in a written opinion to the Board; or (iv) if so directed by the Board, by the stockholders of the Company. For purposes hereof, disinterested directors are those members of the Board who are not parties to the action, suit or proceeding in respect of which indemnification is sought. In the case that such determination is made by Independent Counsel, a copy of Independent Counsel's written opinion shall be delivered to Indemnitee and, if it is so determined that Indemnitee is entitled to indemnification, payment to Indemnitee shall be made within thirty (30) days after such determination. Indemnitee shall cooperate with the Independent Counsel or the Company, as applicable, in making such determination with respect to Indemnitee's entitlement to indemnification, including providing to such counsel or the Company, upon reasonable advance request, any documentation or information which is not privileged or otherwise protected from disclosure and which is reasonably available to Indemnitee and reasonably necessary to such determination. Any out-of-pocket costs or expenses (including reasonable attorneys' fees and disbursements) actually and reasonably incurred by Indemnitee in so cooperating with the Independent Counsel or the Company shall be borne by the Company (irrespective of the determination as to Indemnitee's entitlement to indemnification) and the Company hereby indemnifies and agrees to hold Indemnitee harmless therefrom.

(b) If the determination of entitlement to indemnification is to be made by Independent Counsel pursuant to Section 10(a), the Independent Counsel shall be selected by the Board if a Change in Control shall not have occurred or, if a Change in Control shall have occurred, by Indemnitee. Indemnitee or the Company, as the case may be, may, within ten (10) days after written notice of such selection, deliver to the Company or Indemnitee, as the case may be, a written objection to such selection; provided, however, that such objection may be asserted only on the ground that the Independent Counsel so selected does not meet the requirements of "Independent Counsel" as defined in Section 2 of this Agreement, and the objection shall set forth with particularity the factual basis of such assertion. Absent a proper and timely objection, the person so selected shall act as Independent Counsel. If such written objection is so made and substantiated, the Independent Counsel so selected may not serve as Independent Counsel unless and until such objection is withdrawn or the Delaware Court has determined that such objection is without merit. If, within twenty (20) days after the later of (i) submission by Indemnitee of a written request for indemnification pursuant to Section 9(a), and (ii) the final disposition of the Proceeding, including any appeal therein, no Independent Counsel shall have been selected without objection, either Indemnitee or the Company may petition the Delaware Court for resolution of any objection which shall have been made by Indemnitee or the Company to the selection of Independent Counsel and/or for the appointment as Independent Counsel of a person selected by the court or by such other person as the court shall designate. The person with respect to whom all objections are so resolved or the person so appointed shall act as Independent Counsel under Section 10(a) hereof. Upon the due commencement of any judicial proceeding or arbitration pursuant to Section 12(a) of this Agreement, Independent Counsel shall be discharged and relieved of any further responsibility in such capacity (subject to the applicable standards of professional conduct then prevailing).

Section 11. Presumptions and Effect of Certain Proceedings.

(a) To the extent permitted by applicable law, in making a determination with respect to entitlement to indemnification hereunder, it shall be presumed that Indemnitee is entitled to indemnification under this Agreement if Indemnitee has submitted a request for indemnification in accordance with Section 9(a) of this Agreement, and the Company shall have the burden of proof to overcome that presumption in connection with the making of any determination contrary to that presumption. Neither (i) the failure of the Company or of Independent Counsel to have made a determination prior to the commencement of any action pursuant to this Agreement that indemnification is proper in the circumstances because Indemnitee has met the applicable standard of conduct, nor (ii) an actual determination by the Company or by Independent Counsel that Indemnitee has not met such applicable standard of conduct, shall be a defense to the action or create a presumption that Indemnitee has not met the applicable standard of conduct.

(b) The termination of any Proceeding or of any claim, issue or matter therein, by judgment, order, settlement or conviction, or upon a plea of guilty, nolo contendere or its equivalent, shall not (except as otherwise expressly provided in this Agreement) of itself adversely affect the right of Indemnitee to indemnification or create a presumption that Indemnitee did not act in good faith and in a manner which he or she reasonably believed to be in or not opposed to the best interests of the Company or, with respect to any criminal Proceeding, that Indemnitee had reasonable cause to believe that his or her conduct was unlawful.

(c) The knowledge and/or actions, or failure to act, of any director, manager, partner, officer, employee, agent or trustee of the Company, any subsidiary of the Company, or any Enterprise shall not be imputed to Indemnitee for purposes of determining the right to indemnification under this Agreement.

Section 12. Remedies of Indemnitee.

(a) Subject to Section 12(f), in the event that (i) a determination is made pursuant to Section 10 of this Agreement that Indemnitee is not entitled to indemnification under this Agreement, (ii) advancement of Expenses is not timely made pursuant to Section 8 of this Agreement, (iii) no determination of entitlement to indemnification shall have been made pursuant to Section 10(a) of this Agreement within sixty (60) days after receipt by the Company of the request for indemnification for which a determination is to be made other than by Independent Counsel, (iv) payment of indemnification or reimbursement of expenses is not made pursuant to Section 5 or 6 or the last sentence of Section 10(a) of this Agreement within thirty (30) days after receipt by the Company of a written request therefor (which shall include any invoices received by Indemnitee but, in the case of invoices in connection with legal services, any references to legal work performed or to expenditures made that would cause Indemnitee to waive any privilege accorded by applicable law need not be included with the invoice) or (v) payment of indemnification pursuant to Section 3 or 4 of this Agreement is not made within thirty (30) days after a determination has been made that Indemnitee is entitled to indemnification, Indemnitee shall be entitled to an adjudication by the Delaware Court of his or her entitlement to such indemnification or advancement. Alternatively, Indemnitee, at his or her option, may seek an award in arbitration to be conducted by a single arbitrator pursuant to the Commercial Arbitration Rules of the American Arbitration Association. Indemnitee shall commence such proceeding seeking an adjudication or an award in arbitration within one hundred eighty (180) days following the date on which Indemnitee first has the right to commence such proceeding pursuant to this Section 12(a); provided, however, that the foregoing time limitation shall not apply in respect of a proceeding brought by Indemnitee to enforce his or her rights under Section 5 of this Agreement. The Company shall not oppose Indemnitee's right to seek any such adjudication or award in arbitration.

(b) In the event that a determination shall have been made pursuant to Section 10(a) of this Agreement that Indemnitee is not entitled to indemnification, any judicial proceeding or arbitration commenced pursuant to this Section 12 shall be conducted in all respects as a de novo trial, or arbitration, on the merits and Indemnitee shall not be prejudiced by reason of that adverse determination. In any judicial proceeding or arbitration commenced pursuant to this Section 12, the Company shall have the burden of proving Indemnitee is not entitled to indemnification or advancement, as the case may be.

(c) If a determination shall have been made pursuant to Section 10(a) of this Agreement that Indemnitee is entitled to indemnification, the Company shall be bound by such determination in any judicial proceeding or arbitration commenced pursuant to this Section 12, absent (i) a misstatement by Indemnitee of a material fact, or an omission of a material fact necessary to make Indemnitee's statement not materially misleading, in connection with the request for indemnification, or (ii) a prohibition of such indemnification under applicable law.

(d) The Company shall be precluded from asserting in any judicial proceeding or arbitration commenced pursuant to this Section 12 that the procedures and presumptions of this Agreement are not valid, binding and enforceable and shall stipulate in any such court or before any such arbitrator that the Company is bound by all the provisions of this Agreement.

(e) The Company shall indemnify Indemnitee to the fullest extent permitted by law against any and all Enforcement Expenses and, if requested by Indemnitee, shall (within thirty (30) days after receipt by the Company of a written request therefor) advance, to the extent not prohibited by law, such Enforcement Expenses to Indemnitee, which are incurred by Indemnitee in connection with any action brought by Indemnitee for indemnification or advancement from the Company under this Agreement or under any directors' and officers' liability insurance policies maintained by the Company in the suit for which indemnification or advancement is being sought. Such written request for advancement shall include invoices received by Indemnitee in connection with such Enforcement Expenses but, in the case of invoices in connection with legal services, any references to legal work performed or to expenditures made that would cause Indemnitee to waive any privilege accorded by applicable law need not be included with the invoice.

(f) Notwithstanding anything in this Agreement to the contrary, no determination as to entitlement to indemnification under this Agreement shall be required to be made prior to the final disposition of the Proceeding, including any appeal therein.

Section 13. Non-exclusivity; Survival of Rights; Insurance; Primacy of Indemnification; Subrogation.

(a) The rights of indemnification and to receive advancement as provided by this Agreement shall not be deemed exclusive of any other rights to which Indemnitee may at any time be entitled under applicable law, the Charter, the Bylaws, any agreement, a vote of stockholders or a resolution of directors, or otherwise. No amendment, alteration or repeal of this Agreement or of any provision hereof shall limit or restrict any right of Indemnitee under this Agreement in respect of any action taken or omitted by such Indemnitee in his or her Corporate Status prior to such amendment, alteration or repeal. To the extent that a change in Delaware law, whether by statute or judicial decision, permits greater indemnification or advancement than would be afforded currently under the Charter, the Bylaws and this Agreement, it is the intent of the parties hereto that Indemnitee shall enjoy by this Agreement the greater benefits so afforded by such change. No right or remedy herein conferred is intended to be exclusive of any other right or remedy, and every other right and remedy shall be cumulative and in addition to every other right and remedy given hereunder or now or hereafter existing at law or in equity or otherwise. The assertion or employment of any right or remedy hereunder, or otherwise, shall not prevent the concurrent assertion or employment of any other right or remedy.

(b) To the extent that the Company maintains an insurance policy or policies providing liability insurance for directors, managers, partners, officers, employees, agents or trustees of the Company or of any other Enterprise, Indemnitee shall be covered by such policy



or policies in accordance with its or their terms to the maximum extent of the coverage available for any such director, manager, partner, officer, employee, agent or trustee under such policy or policies. If, at the time of the receipt of a notice of a claim pursuant to the terms hereof, the Company has director and officer liability insurance in effect, the Company shall give prompt notice of the commencement of such proceeding to the insurers in accordance with the procedures set forth in the respective policies. The Company shall thereafter take all necessary or desirable action to cause such insurers to pay, on behalf of Indemnitee, all amounts payable as a result of such proceeding in accordance with the terms of such policies.

(c) The Company hereby acknowledges that Indemnitee may have certain rights to indemnification, advancement of expenses and/or insurance provided by third parties (collectively, the "Secondary Indemnitors"), including as provided by **[Name of Fund/Sponsor]** and certain of **[its][their]** affiliates. The Company hereby agrees (i) that it is the indemnitor of first resort (*i.e.*, its obligations to Indemnitee are primary and any obligation of the Secondary Indemnitors to advance expenses or to provide indemnification for the same expenses or liabilities incurred by Indemnitee are secondary), (ii) that it shall be required to advance the full amount of expenses incurred by Indemnitee and shall be liable for the full amount of all Expenses, judgments, penalties, fines and amounts paid in settlement to the extent legally permitted and as required by the terms of this Agreement and the Charter and/or Bylaws (or any other agreement between the Company and Indemnitee), without regard to any rights Indemnitee may have against the Secondary Indemnitors, and (iii) that it irrevocably waives, relinquishes and releases the Secondary Indemnitors from any and all claims against the Secondary Indemnitors for contribution, subrogation or any other recovery of any kind in respect thereof. The Company further agrees that no advancement or payment by the Secondary Indemnitors on behalf of Indemnitee with respect to any claim for which Indemnitee has sought indemnification from the Company shall affect the foregoing and the Secondary Indemnitors shall have a right of contribution and/or be subrogated to the extent of such advancement or payment to all of the rights of recovery of Indemnitee against the Company. The Company and Indemnitee agree that the Secondary Indemnitors are express third party beneficiaries of the terms of this Section 13(c). At the request of Indemnitee, the Company shall acknowledge in writing its obligations under this Section 13(c) to any Secondary Indemnitors.

(d) Except as provided in Section 13(c), in the event of any payment under this Agreement, the Company shall be subrogated to the extent of such payment to all of the rights of recovery of Indemnitee (other than against the Secondary Indemnitors), who shall execute all papers required and take all action necessary to secure such rights, including execution of such documents as are necessary to enable the Company to bring suit to enforce such rights.

(e) Except as provided in Section 13(c), the Company's obligation to provide indemnification or advancement hereunder to Indemnitee who is or was serving at the request of the Company as a director, manager, partner, officer, employee, agent or trustee of any other Enterprise shall be reduced by any amount Indemnitee has actually received as indemnification or advancement from such other Enterprise.

Section 14. Duration of Agreement. This Agreement shall continue until and terminate upon the later of: (a) ten (10) years after the date that Indemnitee shall have ceased to

serve as a director of the Company or (b) one (1) year after the final termination of any Proceeding, including any appeal, then pending in respect of which Indemnitee is granted rights of indemnification or advancement hereunder and of any proceeding commenced by Indemnitee pursuant to Section 12 of this Agreement relating thereto. This Agreement shall be binding upon the Company and its successors and assigns and shall inure to the benefit of Indemnitee and his or her heirs, executors and administrators. The Company shall require and cause any successor (whether direct or indirect by purchase, merger, consolidation or otherwise) to all, substantially all or a substantial part, of the business and/or assets of the Company, by written agreement in form and substance satisfactory to Indemnitee, expressly to assume and agree to perform this Agreement in the same manner and to the same extent that the Company would be required to perform if no such succession had taken place.

Section 15. Severability. If any provision or provisions of this Agreement shall be held to be invalid, illegal or unenforceable for any reason whatsoever: (a) the validity, legality and enforceability of the remaining provisions of this Agreement (including, without limitation, each portion of any section of this Agreement containing any such provision held to be invalid, illegal or unenforceable, that is not itself invalid, illegal or unenforceable) shall not in any way be affected or impaired thereby and shall remain enforceable to the fullest extent permitted by law; (b) such provision or provisions shall be deemed reformed to the extent necessary to conform to applicable law and to give the maximum effect to the intent of the parties hereto; and (c) to the fullest extent possible, the provisions of this Agreement (including, without limitation, each portion of any section of this Agreement containing any such provision held to be invalid, illegal or unenforceable, that is not itself invalid, illegal or unenforceable) shall be construed so as to give effect to the intent manifested thereby.

Section 16. Enforcement.

(a) The Company expressly confirms and agrees that it has entered into this Agreement and assumed the obligations imposed on it hereby in order to induce Indemnitee to serve or continue to serve as a director of the Company, and the Company acknowledges that Indemnitee is relying upon this Agreement in serving as a director of the Company.

(b) This Agreement constitutes the entire agreement between the parties hereto with respect to the subject matter hereof and supersedes all prior agreements and understandings, oral, written and implied, between the parties hereto with respect to the subject matter hereof, including that certain [ ]<sup>1</sup>; provided, however, that this Agreement is a supplement to and in furtherance of the Charter, the Bylaws and applicable law, and shall not be deemed a substitute therefor, nor to diminish or abrogate any rights of Indemnitee thereunder.

Section 17. Modification and Waiver. No supplement, modification or amendment, or waiver of any provision, of this Agreement shall be binding unless executed in writing by the parties thereto. No waiver of any of the provisions of this Agreement shall be deemed or shall constitute a waiver of any other provisions of this Agreement nor shall any waiver constitute a continuing waiver. No supplement, modification or amendment of this Agreement or of any provision hereof shall limit or restrict any right of Indemnitee under this Agreement in respect of any action taken or omitted by such Indemnitee prior to such supplement, modification or amendment.

<sup>1</sup> List any private company indemnification agreements between Company and Indemnitee.

Section 18. Notice by Indemnitee. Indemnitee agrees promptly to notify the Company in writing upon being served with any summons, citation, subpoena, complaint, indictment, information or other document relating to any Proceeding or matter which may be subject to indemnification, reimbursement or advancement as provided hereunder. The failure of Indemnitee to so notify the Company shall not relieve the Company of any obligation which it may have to Indemnitee under this Agreement or otherwise.

Section 19. Notices. All notices, requests, demands and other communications under this Agreement shall be in writing and shall be deemed to have been duly given if (i) delivered by hand and receipted for by the party to whom said notice or other communication shall have been directed, (ii) mailed by certified or registered mail with postage prepaid, on the third business day after the date on which it is so mailed, (iii) mailed by reputable overnight courier and receipted for by the party to whom said notice or other communication shall have been directed or (iv) sent by facsimile transmission, with receipt of oral confirmation that such transmission has been received:

- (a) If to Indemnitee, at such address as Indemnitee shall provide to the Company.
- (b) If to the Company to:

Sage Therapeutics, Inc.  
215 First Street  
Cambridge, MA 02142  
Attention: Chief Financial Officer

or to any other address as may have been furnished to Indemnitee by the Company.

Section 20. Contribution. To the fullest extent permissible under applicable law, if the indemnification provided for in this Agreement is unavailable to Indemnitee for any reason whatsoever, the Company, in lieu of indemnifying Indemnitee, shall contribute to the amount incurred by Indemnitee, whether for judgments, fines, penalties, excise taxes, amounts paid or to be paid in settlement and/or for Expenses, in connection with any Proceeding in such proportion as is deemed fair and reasonable in light of all of the circumstances in order to reflect (i) the relative benefits received by the Company and Indemnitee in connection with the event(s) and/or transaction(s) giving rise to such Proceeding; and/or (ii) the relative fault of the Company (and its directors, officers, employees and agents) and Indemnitee in connection with such event(s) and/or transactions.

Section 21. Internal Revenue Code Section 409A. The Company intends for this Agreement to comply with the Indemnification exception under Section 1.409A-1(b)(10) of the regulations promulgated under the Internal Revenue Code of 1986, as amended (the "Code"), which provides that indemnification of, or the purchase of an insurance policy providing for payments of, all or part of the expenses incurred or damages paid or payable by Indemnitee with respect to a bona fide claim against Indemnitee or the Company do not provide for a deferral of

compensation, subject to Section 409A of the Code, where such claim is based on actions or failures to act by Indemnitee in his or her capacity as a service provider of the Company. The parties intend that this Agreement be interpreted and construed with such intent.

Section 22. Applicable Law and Consent to Jurisdiction. This Agreement and the legal relations among the parties shall be governed by, and construed and enforced in accordance with, the laws of the State of Delaware, without regard to its conflict of laws rules. Except with respect to any arbitration commenced by Indemnitee pursuant to Section 12(a) of this Agreement, the Company and Indemnitee hereby irrevocably and unconditionally (i) agree that any action or proceeding arising out of or in connection with this Agreement shall be brought only in the Delaware Court, and not in any other state or federal court in the United States of America or any court in any other country, (ii) consent to submit to the exclusive jurisdiction of the Delaware Court for purposes of any action or proceeding arising out of or in connection with this Agreement, (iii) consent to service of process at the address set forth in Section 19 of this Agreement with the same legal force and validity as if served upon such party personally within the State of Delaware, (iv) waive any objection to the laying of venue of any such action or proceeding in the Delaware Court, and (v) waive, and agree not to plead or to make, any claim that any such action or proceeding brought in the Delaware Court has been brought in an improper or inconvenient forum.

Section 23. Headings. The headings of the paragraphs of this Agreement are inserted for convenience only and shall not be deemed to constitute part of this Agreement or to affect the construction thereof.

Section 24. Identical Counterparts. This Agreement may be executed in one or more counterparts, each of which shall for all purposes be deemed to be an original but all of which together shall constitute one and the same Agreement. Only one such counterpart signed by the party against whom enforceability is sought needs to be produced to evidence the existence of this Agreement.

[Remainder of Page Intentionally Left Blank]

IN WITNESS WHEREOF, the parties have caused this Agreement to be signed as of the day and year first above written.

SAGE THERAPEUTICS, INC.

By: \_\_\_\_\_  
Name:  
Title:

\_\_\_\_\_  
[Name of Indemnitee]

[Signature Page to Director Indemnification Agreement]

**SAGE THERAPEUTICS, INC.**  
**FORM OF OFFICER INDEMNIFICATION AGREEMENT**

This Indemnification Agreement (this "Agreement") is made as of \_\_\_\_\_ by and between Sage Therapeutics, Inc., a Delaware corporation (the "Company"), and \_\_\_\_\_ ("Indemnitee").

RECITALS

WHEREAS, the Company desires to attract and retain the services of highly qualified individuals, such as Indemnitee, to serve the Company;

WHEREAS, in order to induce Indemnitee to continue to provide services to the Company, the Company wishes to provide for the indemnification of, and advancement of expenses to, Indemnitee to the maximum extent permitted by law;

WHEREAS, the Amended and Restated Certificate of Incorporation (the "Charter") and the Amended and Restated Bylaws (the "Bylaws") of the Company require indemnification of the officers and directors of the Company, and Indemnitee may also be entitled to indemnification pursuant to the General Corporation Law of the State of Delaware (the "DGCL");

WHEREAS, the Charter, the Bylaws and the DGCL expressly provide that the indemnification provisions set forth therein are not exclusive, and thereby contemplate that contracts may be entered into between the Company and members of the board of directors, officers and other persons with respect to indemnification;

WHEREAS, the Board of Directors of the Company (the "Board") has determined that the increased difficulty in attracting and retaining highly qualified persons such as Indemnitee is detrimental to the best interests of the Company's stockholders;

WHEREAS, it is reasonable and prudent for the Company contractually to obligate itself to indemnify, and to advance expenses on behalf of, such persons to the fullest extent permitted by applicable law, regardless of any amendment or revocation of the Charter or the Bylaws, so that they will serve or continue to serve the Company free from undue concern that they will not be so indemnified; and

WHEREAS, this Agreement is a supplement to and in furtherance of the indemnification provided in the Charter, the Bylaws and any resolutions adopted pursuant thereto, and shall not be deemed a substitute therefor, nor to diminish or abrogate any rights of Indemnitee thereunder.

NOW, THEREFORE, in consideration of the premises and the covenants contained herein, the Company and Indemnitee do hereby covenant and agree as follows:

Section 1. Services to the Company. Indemnitee agrees to serve as an officer of the Company. Indemnitee may at any time and for any reason resign from such position (subject to any other contractual obligation or any obligation imposed by law), in which event the Company

shall have no obligation under this Agreement to continue Indemnitee in such position. This Agreement shall not be deemed an employment contract between the Company (or any of its subsidiaries or any Enterprise (as defined below)) and Indemnitee.

Section 2. Definitions.

As used in this Agreement:

(a) “Corporate Status” describes the status of a person as a current or former officer of the Company or current or former director, manager, partner, officer, employee, agent or trustee of any other Enterprise which such person is or was serving at the request of the Company.

(b) “Enforcement Expenses” shall include all reasonable attorneys’ fees, court costs, transcript costs, fees of experts, travel expenses, duplicating costs, printing and binding costs, telephone charges, postage, delivery service fees, and all other out-of-pocket disbursements or expenses of the types customarily incurred in connection with an action to enforce indemnification or advancement rights, or an appeal from such action. Expenses, however, shall not include fees, salaries, wages or benefits owed to Indemnitee.

(c) “Enterprise” shall mean any corporation (other than the Company), partnership, joint venture, trust, employee benefit plan, limited liability company, or other legal entity of which Indemnitee is or was serving at the request of the Company as a director, manager, partner, officer, employee, agent or trustee.

(d) “Expenses” shall include all reasonable attorneys’ fees, court costs, transcript costs, fees of experts, travel expenses, duplicating costs, printing and binding costs, telephone charges, postage, delivery service fees, and all other out-of-pocket disbursements or expenses of the types customarily incurred in connection with prosecuting, defending, preparing to prosecute or defend, investigating, being or preparing to be a witness in, or otherwise participating in, a Proceeding or an appeal resulting from a Proceeding. Expenses, however, shall not include amounts paid in settlement by Indemnitee, the amount of judgments or fines against Indemnitee or fees, salaries, wages or benefits owed to Indemnitee.

(e) “Independent Counsel” means a law firm, or a partner (or, if applicable, member or shareholder) of such a law firm, that is experienced in matters of Delaware corporation law and neither presently is, nor in the past five (5) years has been, retained to represent: (i) the Company, any subsidiary of the Company, any Enterprise or Indemnitee in any matter material to any such party; or (ii) any other party to the Proceeding giving rise to a claim for indemnification hereunder. Notwithstanding the foregoing, the term “Independent Counsel” shall not include any person who, under the applicable standards of professional conduct then prevailing, would have a conflict of interest in representing either the Company or Indemnitee in an action to determine Indemnitee’s rights under this Agreement. The Company agrees to pay the reasonable fees and expenses of the Independent Counsel referred to above and to fully indemnify such counsel against any and all expenses, claims, liabilities and damages arising out of or relating to this Agreement or its engagement pursuant hereto.

(f) The term “Proceeding” shall include any threatened, pending or completed action, suit, arbitration, alternate dispute resolution mechanism, investigation, inquiry, administrative hearing or any other actual, threatened or completed proceeding, whether brought in the right of the Company or otherwise and whether of a civil, criminal, administrative, regulatory or investigative nature, and whether formal or informal, in which Indemnitee was, is or will be involved as a party or otherwise by reason of the fact that Indemnitee is or was an officer of the Company or is or was serving at the request of the Company as a director, manager, partner, officer, employee, agent or trustee of any Enterprise or by reason of any action taken by Indemnitee or of any action taken on his or her part while acting as an officer of the Company or while serving at the request of the Company as a director, manager, partner, officer, employee, agent or trustee of any Enterprise, in each case whether or not serving in such capacity at the time any liability or expense is incurred for which indemnification, reimbursement or advancement of expenses can be provided under this Agreement; provided, however, that the term “Proceeding” shall not include any action, suit or arbitration, or part thereof, initiated by Indemnitee to enforce Indemnitee’s rights under this Agreement as provided for in Section 12(a) of this Agreement.

Section 3. Indemnity in Third-Party Proceedings. The Company shall indemnify Indemnitee to the extent set forth in this Section 3 if Indemnitee is, or is threatened to be made, a party to or a participant in any Proceeding, other than a Proceeding by or in the right of the Company to procure a judgment in its favor. Pursuant to this Section 3, Indemnitee shall be indemnified against all Expenses, judgments, fines, penalties, excise taxes, and amounts paid in settlement actually and reasonably incurred by Indemnitee or on his or her behalf in connection with such Proceeding or any claim, issue or matter therein, if Indemnitee acted in good faith and in a manner he or she reasonably believed to be in or not opposed to the best interests of the Company and, in the case of a criminal proceeding, had no reasonable cause to believe that his or her conduct was unlawful.

Section 4. Indemnity in Proceedings by or in the Right of the Company. The Company shall indemnify Indemnitee to the extent set forth in this Section 4 if Indemnitee is, or is threatened to be made, a party to or a participant in any Proceeding by or in the right of the Company to procure a judgment in its favor. Pursuant to this Section 4, Indemnitee shall be indemnified against all Expenses actually and reasonably incurred by Indemnitee or on his or her behalf in connection with such Proceeding or any claim, issue or matter therein, if Indemnitee acted in good faith and in a manner he or she reasonably believed to be in or not opposed to the best interests of the Company. No indemnification for Expenses shall be made under this Section 4 in respect of any claim, issue or matter as to which Indemnitee shall have been finally adjudged by a court to be liable to the Company, unless and only to the extent that the Delaware Court of Chancery (the “Delaware Court”) shall determine upon application that, despite the adjudication of liability but in view of all the circumstances of the case, Indemnitee is fairly and reasonably entitled to indemnification for such expenses as the Delaware Court shall deem proper.

Section 5. Indemnification for Expenses of a Party Who is Wholly or Partly Successful. Notwithstanding any other provisions of this Agreement and except as provided in



Section 7, to the extent that Indemnitee is a party to or a participant in any Proceeding and is successful in such Proceeding or in defense of any claim, issue or matter therein, the Company shall indemnify Indemnitee against all Expenses actually and reasonably incurred by him or her in connection therewith. If Indemnitee is not wholly successful in such Proceeding but is successful as to one or more but less than all claims, issues or matters in such Proceeding, the Company shall indemnify Indemnitee against all Expenses actually and reasonably incurred by Indemnitee or on his or her behalf in connection with each successfully resolved claim, issue or matter. For purposes of this Section and without limitation, the termination of any claim, issue or matter in such a Proceeding by dismissal, with or without prejudice, shall be deemed to be a successful result as to such claim, issue or matter.

Section 6. Reimbursement for Expenses of a Witness or in Response to a Subpoena. Notwithstanding any other provision of this Agreement, to the extent that Indemnitee, by reason of his or her Corporate Status, (i) is a witness in any Proceeding to which Indemnitee is not a party and is not threatened to be made a party or (ii) receives a subpoena with respect to any Proceeding to which Indemnitee is not a party and is not threatened to be made a party, the Company shall reimburse Indemnitee for all Expenses actually and reasonably incurred by him or her or on his or her behalf in connection therewith.

Section 7. Exclusions. Notwithstanding any provision in this Agreement to the contrary, the Company shall not be obligated under this Agreement:

(a) to indemnify for amounts otherwise indemnifiable hereunder (or for which advancement is provided hereunder) if and to the extent that Indemnitee has otherwise actually received such amounts under any insurance policy, contract, agreement or otherwise;

(b) to indemnify for an accounting of profits made from the purchase and sale (or sale and purchase) by Indemnitee of securities of the Company within the meaning of Section 16(b) of the Securities Exchange Act of 1934, as amended, or similar provisions of state statutory law or common law;

(c) to indemnify for any reimbursement of, or payment to, the Company by Indemnitee of any bonus or other incentive-based or equity-based compensation or of any profits realized by Indemnitee from the sale of securities of the Company pursuant to Section 304 of the Sarbanes-Oxley Act of 2002 or any formal policy of the Company adopted by the Board (or a committee thereof), or any other remuneration paid to Indemnitee if it shall be determined by a final judgment or other final adjudication that such remuneration was in violation of law;

(d) to indemnify with respect to any Proceeding, or part thereof, brought by Indemnitee against the Company, any legal entity which it controls, any director or officer thereof or any third party, unless (i) the Board has consented to the initiation of such Proceeding or part thereof and (ii) the Company provides the indemnification, in its sole discretion, pursuant to the powers vested in the Company under applicable law; provided, however, that this Section 7(d) shall not apply to (A) counterclaims or affirmative defenses asserted by Indemnitee in an action brought against Indemnitee or (B) any action brought by Indemnitee for indemnification or advancement from the Company under this Agreement or under any directors' and officers' liability insurance policies maintained by the Company in the suit for which indemnification or advancement is being sought as described in Section 12; or

(e) to provide any indemnification or advancement of expenses that is prohibited by applicable law (as such law exists at the time payment would otherwise be required pursuant to this Agreement).

Section 8. Advancement of Expenses. Subject to Section 9(b), the Company shall advance, to the extent not prohibited by law, the Expenses incurred by Indemnitee in connection with any Proceeding, and such advancement shall be made within thirty (30) days after the receipt by the Company of a statement or statements requesting such advances (which shall include invoices received by Indemnitee in connection with such Expenses but, in the case of invoices in connection with legal services, any references to legal work performed or to expenditures made that would cause Indemnitee to waive any privilege accorded by applicable law need not be included with the invoice) from time to time, whether prior to or after final disposition of any Proceeding. Advances shall be unsecured and interest free. Advances shall be made without regard to Indemnitee's ability to repay the expenses and without regard to Indemnitee's ultimate entitlement to indemnification under the other provisions of this Agreement. Indemnitee shall qualify for advances upon the execution and delivery to the Company of this Agreement which shall constitute an undertaking providing that Indemnitee undertakes to the fullest extent required by law to repay the advance if and to the extent that it is ultimately determined by a court of competent jurisdiction in a final judgment, not subject to appeal, that Indemnitee is not entitled to be indemnified by the Company. The right to advances under this paragraph shall in all events continue until final disposition of any Proceeding, including any appeal therein. Nothing in this Section 8 shall limit Indemnitee's right to advancement pursuant to Section 12(e) of this Agreement.

Section 9. Procedure for Notification and Defense of Claim.

(a) To obtain indemnification under this Agreement, Indemnitee shall submit to the Company a written request therefor specifying the basis for the claim, the amounts for which Indemnitee is seeking payment under this Agreement, and all documentation related thereto as reasonably requested by the Company.

(b) In the event that the Company shall be obligated hereunder to provide indemnification for or make any advancement of Expenses with respect to any Proceeding, the Company shall be entitled to assume the defense of such Proceeding, or any claim, issue or matter therein, with counsel approved by Indemnitee (which approval shall not be unreasonably withheld or delayed) upon the delivery to Indemnitee of written notice of the Company's election to do so. After delivery of such notice, approval of such counsel by Indemnitee and the retention of such counsel by the Company, the Company will not be liable to Indemnitee under this Agreement for any fees or expenses of separate counsel subsequently employed by or on behalf of Indemnitee with respect to the same Proceeding; provided that (i) Indemnitee shall have the right to employ separate counsel in any such Proceeding at Indemnitee's expense and (ii) if (A) the employment of separate counsel by Indemnitee has been previously authorized by the Company, (B) Indemnitee shall have reasonably concluded that there may be a conflict of interest between the Company and Indemnitee in the conduct of such defense, or (C) the

Company shall not continue to retain such counsel to defend such Proceeding, then the reasonable fees and expenses actually and reasonably incurred by Indemnitee with respect to his or her separate counsel shall be Expenses hereunder.

(c) In the event that the Company does not assume the defense in a Proceeding pursuant to Section 9(b) above, then the Company will be entitled to participate in the Proceeding at its own expense.

(d) The Company shall not be liable to indemnify Indemnitee under this Agreement for any amounts paid in settlement of any Proceeding effected without its prior written consent (which consent shall not be unreasonably withheld or delayed). The Company shall not, without the prior written consent of Indemnitee (which consent shall not be unreasonably withheld or delayed), enter into any settlement which (i) includes an admission of fault of Indemnitee, any non-monetary remedy imposed on Indemnitee or any monetary damages for which Indemnitee is not wholly and actually indemnified hereunder or (ii) with respect to any Proceeding with respect to which Indemnitee may be or is made a party or may be otherwise entitled to seek indemnification hereunder, does not include the full release of Indemnitee from all liability in respect of such Proceeding.

Section 10. Procedure Upon Application for Indemnification.

(a) Upon written request by Indemnitee for indemnification pursuant to Section 9(a), a determination, if such determination is required by applicable law, with respect to Indemnitee's entitlement to indemnification hereunder shall be made in the specific case by one of the following methods: (i) by a majority vote of the disinterested directors, even though less than a quorum; (ii) by a committee of disinterested directors designated by a majority vote of the disinterested directors, even though less than a quorum; or (iii) if there are no disinterested directors or if the disinterested directors so direct, by Independent Counsel in a written opinion to the Board. For purposes hereof, disinterested directors are those members of the Board who are not parties to the action, suit or proceeding in respect of which indemnification is sought. In the case that such determination is made by Independent Counsel, a copy of Independent Counsel's written opinion shall be delivered to Indemnitee and, if it is so determined that Indemnitee is entitled to indemnification, payment to Indemnitee shall be made within thirty (30) days after such determination. Indemnitee shall cooperate with the Independent Counsel or the Company, as applicable, in making such determination with respect to Indemnitee's entitlement to indemnification, including providing to such counsel or the Company, upon reasonable advance request, any documentation or information which is not privileged or otherwise protected from disclosure and which is reasonably available to Indemnitee and reasonably necessary to such determination. Any reasonable out-of-pocket costs or expenses (including reasonable attorneys' fees and disbursements) actually and reasonably incurred by Indemnitee in so cooperating with the Independent Counsel or the Company shall be borne by the Company (irrespective of the determination as to Indemnitee's entitlement to indemnification) and the Company hereby indemnifies and agrees to hold Indemnitee harmless therefrom.

(b) If the determination of entitlement to indemnification is to be made by Independent Counsel pursuant to Section 10(a), the Independent Counsel shall be selected by the Board. Indemnitee may, within ten (10) days after written notice of such selection, deliver to the

Company a written objection to such selection; provided, however, that such objection may be asserted only on the ground that the Independent Counsel so selected does not meet the requirements of "Independent Counsel" as defined in Section 2 of this Agreement, and the objection shall set forth with particularity the factual basis of such assertion. Absent a proper and timely objection, the person so selected shall act as Independent Counsel. If such written objection is so made and substantiated, the Independent Counsel so selected may not serve as Independent Counsel unless and until such objection is withdrawn or the Delaware Court has determined that such objection is without merit. If, within twenty (20) days after the later of (i) submission by Indemnitee of a written request for indemnification pursuant to Section 9(a), and (ii) the final disposition of the Proceeding, including any appeal therein, no Independent Counsel shall have been selected without objection, either Indemnitee or the Company may petition the Delaware Court for resolution of any objection which shall have been made by Indemnitee or the Company to the selection of Independent Counsel and/or for the appointment as Independent Counsel of a person selected by the court or by such other person as the court shall designate. The person with respect to whom all objections are so resolved or the person so appointed shall act as Independent Counsel under Section 10(a) hereof. Upon the due commencement of any judicial proceeding or arbitration pursuant to Section 12(a) of this Agreement, Independent Counsel shall be discharged and relieved of any further responsibility in such capacity (subject to the applicable standards of professional conduct then prevailing).

Section 11. Presumptions and Effect of Certain Proceedings.

(a) To the extent permitted by applicable law, in making a determination with respect to entitlement to indemnification hereunder, it shall be presumed that Indemnitee is entitled to indemnification under this Agreement if Indemnitee has submitted a request for indemnification in accordance with Section 9(a) of this Agreement, and the Company shall have the burden of proof to overcome that presumption in connection with the making of any determination contrary to that presumption.

(b) The termination of any Proceeding or of any claim, issue or matter therein, by judgment, order, settlement or conviction, or upon a plea of guilty, nolo contendere or its equivalent, shall not (except as otherwise expressly provided in this Agreement) of itself adversely affect the right of Indemnitee to indemnification or create a presumption that Indemnitee did not act in good faith and in a manner which he or she reasonably believed to be in or not opposed to the best interests of the Company or, with respect to any criminal Proceeding, that Indemnitee had reasonable cause to believe that his or her conduct was unlawful.

(c) The knowledge and/or actions, or failure to act, of any director, manager, partner, officer, employee, agent or trustee of the Company, any subsidiary of the Company, or any Enterprise shall not be imputed to Indemnitee for purposes of determining the right to indemnification under this Agreement.

Section 12. Remedies of Indemnitee.

(a) Subject to Section 12(f), in the event that (i) a determination is made pursuant to Section 10 of this Agreement that Indemnitee is not entitled to indemnification under

this Agreement, (ii) advancement of Expenses is not timely made pursuant to Section 8 of this Agreement, (iii) no determination of entitlement to indemnification shall have been made pursuant to Section 10(a) of this Agreement within sixty (60) days after receipt by the Company of the request for indemnification for which a determination is to be made other than by Independent Counsel, (iv) payment of indemnification or reimbursement of expenses is not made pursuant to Section 5 or 6 or the last sentence of Section 10(a) of this Agreement within thirty (30) days after receipt by the Company of a written request therefor or (v) payment of indemnification pursuant to Section 3 or 4 of this Agreement is not made within thirty (30) days after a determination has been made that Indemnitee is entitled to indemnification, Indemnitee shall be entitled to an adjudication by the Delaware Court of his or her entitlement to such indemnification or advancement. Alternatively, Indemnitee, at his or her option, may seek an award in arbitration to be conducted by a single arbitrator pursuant to the Commercial Arbitration Rules of the American Arbitration Association. Indemnitee shall commence such proceeding seeking an adjudication or an award in arbitration within one hundred eighty (180) days following the date on which Indemnitee first has the right to commence such proceeding pursuant to this Section 12(a); provided, however, that the foregoing time limitation shall not apply in respect of a proceeding brought by Indemnitee to enforce his or her rights under Section 5 of this Agreement. The Company shall not oppose Indemnitee's right to seek any such adjudication or award in arbitration.

(b) In the event that a determination shall have been made pursuant to Section 10(a) of this Agreement that Indemnitee is not entitled to indemnification, any judicial proceeding or arbitration commenced pursuant to this Section 12 shall be conducted in all respects as a de novo trial, or arbitration, on the merits and Indemnitee shall not be prejudiced by reason of that adverse determination. In any judicial proceeding or arbitration commenced pursuant to this Section 12, the Company shall have the burden of proving Indemnitee is not entitled to indemnification or advancement, as the case may be.

(c) If a determination shall have been made pursuant to Section 10(a) of this Agreement that Indemnitee is entitled to indemnification, the Company shall be bound by such determination in any judicial proceeding or arbitration commenced pursuant to this Section 12, absent (i) a misstatement by Indemnitee of a material fact, or an omission of a material fact necessary to make Indemnitee's statement not materially misleading, in connection with the request for indemnification, or (ii) a prohibition of such indemnification under applicable law.

(d) The Company shall be precluded from asserting in any judicial proceeding or arbitration commenced pursuant to this Section 12 that the procedures and presumptions of this Agreement are not valid, binding and enforceable and shall stipulate in any such court or before any such arbitrator that the Company is bound by all the provisions of this Agreement.

(e) The Company shall indemnify Indemnitee to the fullest extent permitted by law against any and all Enforcement Expenses and, if requested by Indemnitee, shall (within thirty (30) days after receipt by the Company of a written request therefor) advance, to the extent not prohibited by law, such Enforcement Expenses to Indemnitee, which are incurred by Indemnitee in connection with any action brought by Indemnitee for indemnification or advancement from the Company under this Agreement or under any directors' and officers'

liability insurance policies maintained by the Company in the suit for which indemnification or advancement is being sought. Such written request for advancement shall include invoices received by Indemnitee in connection with such Enforcement Expenses but, in the case of invoices in connection with legal services, any references to legal work performed or to expenditures made that would cause Indemnitee to waive any privilege accorded by applicable law need not be included with the invoice.

(f) Notwithstanding anything in this Agreement to the contrary, no determination as to entitlement to indemnification under this Agreement shall be required to be made prior to the final disposition of the Proceeding, including any appeal therein.

Section 13. Non-exclusivity; Survival of Rights; Insurance; Subrogation.

(a) The rights of indemnification and to receive advancement as provided by this Agreement shall not be deemed exclusive of any other rights to which Indemnitee may at any time be entitled under applicable law, the Charter, the Bylaws, any agreement, a vote of stockholders or a resolution of directors, or otherwise. No amendment, alteration or repeal of this Agreement or of any provision hereof shall limit or restrict any right of Indemnitee under this Agreement in respect of any action taken or omitted by such Indemnitee in his or her Corporate Status prior to such amendment, alteration or repeal. To the extent that a change in Delaware law, whether by statute or judicial decision, permits greater indemnification or advancement than would be afforded currently under the Charter, the Bylaws and this Agreement, it is the intent of the parties hereto that Indemnitee shall enjoy by this Agreement the greater benefits so afforded by such change. No right or remedy herein conferred is intended to be exclusive of any other right or remedy, and every other right and remedy shall be cumulative and in addition to every other right and remedy given hereunder or now or hereafter existing at law or in equity or otherwise. The assertion or employment of any right or remedy hereunder, or otherwise, shall not prevent the concurrent assertion or employment of any other right or remedy.

(b) To the extent that the Company maintains an insurance policy or policies providing liability insurance for directors, managers, partners, officers, employees, agents or trustees of the Company or of any other Enterprise, Indemnitee shall be covered by such policy or policies in accordance with its or their terms to the maximum extent of the coverage available for any such director, manager, partner, officer, employee, agent or trustee under such policy or policies. If, at the time of the receipt of a notice of a claim pursuant to the terms hereof, the Company has director and officer liability insurance in effect, the Company shall give prompt notice of the commencement of such proceeding to the insurers in accordance with the procedures set forth in the respective policies.

(c) In the event of any payment under this Agreement, the Company shall be subrogated to the extent of such payment to all of the rights of recovery of Indemnitee, who shall execute all papers required and take all action necessary to secure such rights, including execution of such documents as are necessary to enable the Company to bring suit to enforce such rights.

(d) The Company's obligation to provide indemnification or advancement hereunder to Indemnitee who is or was serving at the request of the Company as a director,

manager, partner, officer, employee, agent or trustee of any other Enterprise shall be reduced by any amount Indemnitee has actually received as indemnification or advancement from such other Enterprise.

Section 14. Duration of Agreement. This Agreement shall continue until and terminate upon the later of: (a) ten (10) years after the date that Indemnitee shall have ceased to serve as an officer of the Company or (b) one (1) year after the final termination of any Proceeding, including any appeal, then pending in respect of which Indemnitee is granted rights of indemnification or advancement hereunder and of any proceeding commenced by Indemnitee pursuant to Section 12 of this Agreement relating thereto. This Agreement shall be binding upon the Company and its successors and assigns and shall inure to the benefit of Indemnitee and his or her heirs, executors and administrators. The Company shall require and cause any successor (whether direct or indirect by purchase, merger, consolidation or otherwise) to all, substantially all or a substantial part, of the business and/or assets of the Company, by written agreement in form and substance satisfactory to Indemnitee, expressly to assume and agree to perform this Agreement in the same manner and to the same extent that the Company would be required to perform if no such succession had taken place.

Section 15. Severability. If any provision or provisions of this Agreement shall be held to be invalid, illegal or unenforceable for any reason whatsoever: (a) the validity, legality and enforceability of the remaining provisions of this Agreement (including, without limitation, each portion of any section of this Agreement containing any such provision held to be invalid, illegal or unenforceable, that is not itself invalid, illegal or unenforceable) shall not in any way be affected or impaired thereby and shall remain enforceable to the fullest extent permitted by law; (b) such provision or provisions shall be deemed reformed to the extent necessary to conform to applicable law and to give the maximum effect to the intent of the parties hereto; and (c) to the fullest extent possible, the provisions of this Agreement (including, without limitation, each portion of any section of this Agreement containing any such provision held to be invalid, illegal or unenforceable, that is not itself invalid, illegal or unenforceable) shall be construed so as to give effect to the intent manifested thereby.

Section 16. Enforcement.

(a) The Company expressly confirms and agrees that it has entered into this Agreement and assumed the obligations imposed on it hereby in order to induce Indemnitee to serve or continue to serve as an officer of the Company, and the Company acknowledges that Indemnitee is relying upon this Agreement in serving as an officer of the Company.

(b) This Agreement constitutes the entire agreement between the parties hereto with respect to the subject matter hereof and supersedes all prior agreements and understandings, oral, written and implied, between the parties hereto with respect to the subject matter hereof; provided, however, that this Agreement is a supplement to and in furtherance of the Charter, the Bylaws and applicable law, and shall not be deemed a substitute therefor, nor to diminish or abrogate any rights of Indemnitee thereunder.

Section 17. Modification and Waiver. No supplement, modification or amendment, or waiver of any provision, of this Agreement shall be binding unless executed in writing by the

parties thereto. No waiver of any of the provisions of this Agreement shall be deemed or shall constitute a waiver of any other provisions of this Agreement nor shall any waiver constitute a continuing waiver. No supplement, modification or amendment of this Agreement or of any provision hereof shall limit or restrict any right of Indemnatee under this Agreement in respect of any action taken or omitted by such Indemnatee prior to such supplement, modification or amendment.

Section 18. Notice by Indemnatee. Indemnatee agrees promptly to notify the Company in writing upon being served with any summons, citation, subpoena, complaint, indictment, information or other document relating to any Proceeding or matter which may be subject to indemnification, reimbursement or advancement as provided hereunder. The failure of Indemnatee to so notify the Company shall not relieve the Company of any obligation which it may have to Indemnatee under this Agreement or otherwise.

Section 19. Notices. All notices, requests, demands and other communications under this Agreement shall be in writing and shall be deemed to have been duly given if (i) delivered by hand and received for by the party to whom said notice or other communication shall have been directed, (ii) mailed by certified or registered mail with postage prepaid, on the third business day after the date on which it is so mailed, (iii) mailed by reputable overnight courier and received for by the party to whom said notice or other communication shall have been directed or (iv) sent by facsimile transmission, with receipt of oral confirmation that such transmission has been received:

(a) If to Indemnatee, at such address as Indemnatee shall provide to the Company.

(b) If to the Company to:

Sage Therapeutics, Inc.  
215 First Street  
Cambridge, MA 02142  
Attention: Chief Financial Officer

or to any other address as may have been furnished to Indemnatee by the Company.

Section 20. Contribution. To the fullest extent permissible under applicable law, if the indemnification provided for in this Agreement is unavailable to Indemnatee for any reason whatsoever, the Company, in lieu of indemnifying Indemnatee, shall contribute to the amount incurred by Indemnatee, whether for judgments, fines, penalties, excise taxes, amounts paid or to be paid in settlement and/or for Expenses, in connection with any Proceeding in such proportion as is deemed fair and reasonable in light of all of the circumstances in order to reflect (i) the relative benefits received by the Company and Indemnatee in connection with the event(s) and/or transaction(s) giving rise to such Proceeding; and/or (ii) the relative fault of the Company (and its directors, officers, employees and agents) and Indemnatee in connection with such event(s) and/or transactions.

Section 21. Internal Revenue Code Section 409A. The Company intends for this Agreement to comply with the Indemnification exception under Section 1.409A-1(b)(10) of the



regulations promulgated under the Internal Revenue Code of 1986, as amended (the “Code”), which provides that indemnification of, or the purchase of an insurance policy providing for payments of, all or part of the expenses incurred or damages paid or payable by Indemnatee with respect to a bona fide claim against Indemnatee or the Company do not provide for a deferral of compensation, subject to Section 409A of the Code, where such claim is based on actions or failures to act by Indemnatee in his or her capacity as a service provider of the Company. The parties intend that this Agreement be interpreted and construed with such intent.

Section 22. Applicable Law and Consent to Jurisdiction. This Agreement and the legal relations among the parties shall be governed by, and construed and enforced in accordance with, the laws of the State of Delaware, without regard to its conflict of laws rules. Except with respect to any arbitration commenced by Indemnatee pursuant to Section 12(a) of this Agreement, the Company and Indemnatee hereby irrevocably and unconditionally (i) agree that any action or proceeding arising out of or in connection with this Agreement shall be brought only in the Delaware Court, and not in any other state or federal court in the United States of America or any court in any other country, (ii) consent to submit to the exclusive jurisdiction of the Delaware Court for purposes of any action or proceeding arising out of or in connection with this Agreement, (iii) consent to service of process at the address set forth in Section 19 of this Agreement with the same legal force and validity as if served upon such party personally within the State of Delaware, (iv) waive any objection to the laying of venue of any such action or proceeding in the Delaware Court, and (v) waive, and agree not to plead or to make, any claim that any such action or proceeding brought in the Delaware Court has been brought in an improper or inconvenient forum.

Section 23. Headings. The headings of the paragraphs of this Agreement are inserted for convenience only and shall not be deemed to constitute part of this Agreement or to affect the construction thereof.

Section 24. Identical Counterparts. This Agreement may be executed in one or more counterparts, each of which shall for all purposes be deemed to be an original but all of which together shall constitute one and the same Agreement. Only one such counterpart signed by the party against whom enforceability is sought needs to be produced to evidence the existence of this Agreement.

[Remainder of Page Intentionally Left Blank]

IN WITNESS WHEREOF, the parties have caused this Agreement to be signed as of the day and year first above written.

**SAGE THERAPEUTICS, INC.**

By: \_\_\_\_\_

Name:

Title:

\_\_\_\_\_  
[Name of Indemnitee]

[Signature Page to Indemnification Agreement]

May 9, 2014

**VIA EDGAR AND FEDERAL EXPRESS**

United States Securities and Exchange Commission  
Division of Corporation Finance  
Mail Stop 4561  
100 F. Street, N.E.  
Washington, D.C. 20549  
Attention: Jeffrey Rielder  
Dan Greenspan

**Re: Sage Therapeutics, Inc.  
Confidential Draft Registration Statement on Form S-1  
Submitted March 28, 2014  
CIK No. 0001597553**

Dear Mr. Greenspan:

This letter is being submitted on behalf of Sage Therapeutics, Inc. (the "Company") in response to the comments of the staff of the Division of Corporation Finance (the "Staff") of the U.S. Securities and Exchange Commission (the "Commission") with respect to the Company's Confidential Draft Registration Statement on Form S-1 submitted on March 28, 2014 (the "Draft Registration Statement"), as set forth in your letter dated April 25, 2014 addressed to Jeffrey M. Jonas, President and Chief Executive Officer of the Company (the "Comment Letter"). The Company is concurrently confidentially submitting Amendment No. 1 to the Draft Registration Statement on Form S-1 ("Amendment No. 1"), which includes changes to reflect responses to the Staff's comments.

For reference purposes, the text of the Comment Letter has been reproduced herein with responses below each numbered comment. For your convenience, we have italicized the reproduced Staff comments from the Comment Letter. Unless otherwise indicated, page references in the descriptions of the Staff's comments refer to the Draft Registration Statement, and page references in the responses refer to Amendment No. 1.

The responses provided herein are based upon information provided to Goodwin Procter LLP by the Company. In addition to submitting this letter via EDGAR, we are sending via Federal Express two (2) copies of each of this letter and Amendment No. 1 (marked to show changes from the Draft Registration Statement).

General

1. *If our comments are applicable to portions of the filings that we have not cited, please make the appropriate changes elsewhere in the filing in accordance with our comments.*

RESPONSE: The Company acknowledges the Staff's comment and confirms that it will make changes to all applicable portions of Amendment No. 1 to which the Staff's comments relate.

2. *Please submit all exhibits as soon as practicable. We may have further comments upon examination of these exhibits.*

RESPONSE: The Company acknowledges the Staff's comment and confirms that it will submit all exhibits as soon as practicable.

3. *Please confirm that the graphics included in your registration statement are the only graphic, visual, or photographic information you will use in your prospectus. If those are not the only graphics, please provide any additional graphics prior to their use for our review.*

RESPONSE: The Company respectfully advises the Staff that the graphics included in the Draft Registration Statement are the only graphic, visual or photographic information that the Company intends to use in its prospectus.

4. *Please supplementally provide us with copies of all written communications, as defined in Rule 405 under the Securities Act, that you, or anyone authorized to do so on your behalf, present to potential investors in reliance on Section 5(d) of the Securities Act, whether or not they retain copies of the communications. Similarly, please supplementally provide us with any research reports about you that are published or distributed in reliance upon Section 2(a)(3) of the Securities Act of 1933 added by Section 105(a) of the Jumpstart Our Business Startups Act by any broker or dealer that is participating or will participate in your offering.*

RESPONSE: The Company respectfully advises the Staff that as of the date hereof no written communications have been presented to investors in reliance on Section 5(d) of the Securities Act. The Company will supplementally provide the Staff with any written communications that are presented to investors in reliance on Section 5(d) of the Securities Act that occur after the date hereof. The Company further advises the Staff that as of the date hereof no research reports about the Company have been published or distributed in reliance upon Section 2(a)(3) of the Securities Act. The Company will supplementally provide the Staff with any research reports about the Company that are published or distributed in reliance upon Section 2(a)(3) of the Securities Act after the date hereof.

5. We note that a footnote to your exhibit index suggests that you have submitted or intend to submit a confidential treatment request with respect to portion of certain of your exhibits. We will provide any comments on your confidential treatment request and the related disclosure in a separate comment letter.

RESPONSE: The Company acknowledges the Staff's comment.

Prospectus Summary, page 1

6. Please revise the table of your current pipeline that appears here and in your Business section so that the arrows indicating developmental progress more precisely reflect the status of your activities. In particular, we note that the arrow for SAGE-689 continues into the area of the table marked "IND" although it appears that no such filing has yet been made.

RESPONSE: The Draft Registration Statement has been revised in response to the Staff's comment. Please see revisions on pages 1 and 87 of Amendment No. 1

Risk Factors

"We may not be successful in our efforts..." page 22

"We may expend our limited resources..." page 39

7. We note that these two risk factors appear to be substantially similar. Please revise your disclosure to combine these two risk factors.

RESPONSE: The Draft Registration Statement has been revised in response to the Staff's comment. Please see revisions on pages 22 and 39 of Amendment No. 1.

"We are dependent on licensed intellectual property..." page 33

8. Please revise this risk factor to explain the relationship between Ligand Pharmaceuticals and CyDex Pharmaceuticals, as well as the effect of Ligand's acquisition of Cydex on your license.

RESPONSE: The Draft Registration Statement has been revised in response to the Staff's comment. Please see revisions on pages 33 and 98 of Amendment No. 1. We respectfully advise the Staff that the Company's license remained in effect and unchanged as a result of Ligand Pharmaceutical's acquisition of Cydex Pharmaceuticals, Inc., therefore, the Company has not included any such disclosure in the revisions on pages 33 and 99 of Amendment No. 1.

Managements' Discussion and Analysis of Financial Condition and Results of Operations Critical Accounting Policies and Significant Judgments and Estimates Stock-Based Compensation, page 67

9. We are deferring final evaluation of stock compensation and related costs until an amendment including your estimated offering price has been filed. Please continue to update your tabular disclosure on page 70 for any new option grants or other equity issuances and discuss how you determined the fair value. Provide us with a quantitative and qualitative analysis explaining the difference between the estimated offering price and the fair value of recent equity issuances.

RESPONSE: The Company acknowledges the Staff's comment and confirms that it will continue to update its tabular disclosure in the Draft Registration Statement for new option grants and other equity issuances. The Company respectfully advises the Staff that once the estimated offering price has been determined, it will supplementally provide the Staff with a quantitative and qualitative analysis explaining the difference between the estimated offering price and the fair value of recent equity issuances.

Business  
Overview, page 78

10. Please revise your disclosure to describe the IND submitted in connection with your Phase 1/2 clinical trial of SAGE-547 for SRSE, and disclose when this IND was filed and by whom. If you or someone else has not filed an IND for SAGE-547 for SRSE or has filed an IND for a different indication, please explain the basis of your position that an IND filing or an amended IND filing was not required.

RESPONSE: The Draft Registration Statement has been revised in response to the Staff's comment. Please see revisions on pages 2, 61, 80 and 92 of Amendment No. 1.

Our Strategy, page 79

11. In the first bullet that appears in this section, please clarify why you believe the opportunity exists for accelerated clinical trials following your ongoing Phase 1/2 trial. If you are referring to Fast Track designation, please specify this and discuss your plans for requesting this status.

RESPONSE: The Draft Registration Statement has been revised in response to the Staff's comment. Please see revisions on page 82 of Amendment No. 1.

12. In the third bullet, please briefly describe the differentiating features of your newer compounds and explain why the risk-benefit calculus may be better for such compounds.

RESPONSE: The Draft Registration Statement has been revised in response to the Staff's comment. Please see revisions on page 82 of Amendment No. 1.

13. On page 82 you state that "BDZs are prototypical allosteric modulators that primarily act at a particular receptor." However, on page 83, you talk about the advantages of your allosteric approach over therapy with BDZs, which seems more consistent with the preponderance of your disclosure that BDZs are limited in their efficacy because they act as orthosteric modulators in patients with SE. Please revise to reconcile this apparent inconsistency or advise us accordingly.

RESPONSE: The Company respectfully advises the Staff that benzodiazepines do not act as orthosteric modulators of GABA receptors, rather they act as allosteric modulators of GABA<sub>A</sub> synaptic receptors only. The Company's product candidates, such as SAGE-547, act as

allosteric modulators of both GABA<sub>A</sub> synaptic receptors and GABA<sub>A</sub> extrasynaptic receptors. The Draft Registration Statement has been revised in response to the Staff's comment. Please see revisions on page 84 of Amendment No. 1.

Understanding the Foundations of Our Approach—Allosteric Modulation of Extrasynaptic GABA<sub>A</sub> receptors to treat SE, page 83

14. *The left-most chart on page 83 appears to show that the level of extrasynaptic GABA<sub>A</sub> receptors (the percentage of receptors expressed on the neuronal surface) increased (i.e., was greater than 100%) as SE progressed. Please clarify as necessary and explain how receptor surface expression was measured.*

RESPONSE: The Company respectfully advises the Staff that the chart shows that extrasynaptic GABA<sub>A</sub> receptor expression increased, but this increase is not statistically significant (not within error limits). This error limit is represented by the lines going above the bar. Typically represented, these bars extend below the bar for an equal amount as they go above. The Draft Registration Statement has been revised in response to the Staff's comment. Please see revisions on page 85 of Amendment No. 1.

SAGE-547

Emergency-use experience with SAGE-547, page 89

15. *Please include cautionary language similar to your risk factor disclosure on page 13 regarding the extent to which results in these emergency-use settings are predictive of success in your clinical trials of SAGE-547.*

RESPONSE: The Draft Registration Statement has been revised in response to the Staff's comment. Please see revisions on page 92 of Amendment No. 1.

16. *Please expand your disclosure to provide more details and observations about the two pediatric SRSE patients in a manner similar to your discussion of the two adult patients.*

RESPONSE: The Draft Registration Statement has been revised in response to the Staff's comment. Please see revisions on page 91 of Amendment No. 1.

Clinical, page 90

17. *Please disclose the current status of your Phase 1/2 clinical trials of SAGE-547 that indicate how far the study has progressed thus far.*

RESPONSE: The Draft Registration Statement has been revised in response to the Staff's comment. Please see revisions on pages 2, 61, 80, and 92-93 of Amendment No. 1.

18. *Please expand your discussion of the clinical trials of SAGE-547 on page to include a brief description of the investigator sponsored trial for the treatment of TBI, identify your collaborator, and disclose the material terms of your arrangement with the collaborator as it relates to this trial and the right to use the results of the trial.*

RESPONSE: The Company respectfully advises the Staff that it does not believe that it is appropriate to describe the results of the investigator-sponsored TBI clinical trial (the "TBI Trial") as this clinical trial is being performed by a third party as opposed to the Company and is being conducted in TBI, which is unrelated to the indications under investigation by the Company. In addition, the Company does not have an arrangement in place with this third party with respect to the TBI Trial and does not have the right to use the results of the TBI Trial.

SAGE-689—Non-clinical results—Efficacy, page 91

SAGE-217—Non-clinical results—Efficacy, page 93

19. *Please revise your discussion of these non-clinical trials to address the inherent limitations of pre-clinical studies in animal models in predicting efficacy in human patients. If there were other factors, such as trial design, that also could impact the predictive power of these studies, please address this as well.*

RESPONSE: The Draft Registration Statement has been revised in response to the Staff's comment. Please see revisions on pages 94 and 96 of Amendment No. 1.

Licenses

Cydex Pharmaceuticals, page 95

20. *Please briefly explain the nature of Captisol technology and its relationship to allopregnanolone and SAGE-547.*

RESPONSE: The Draft Registration Statement has been revised in response to the Staff's comment. Please see revisions on page 99 of Amendment No. 1.

Intellectual Property

Patents— page 98

21. *Please expand your discussion to disclose, if material, the expiration dates of the potential patents issuable under the remaining seven patent application families licensed from WU described in paragraph (2) and the three families of application that you own described in paragraph (4).*

RESPONSE: The Draft Registration Statement has been revised in response to the Staff's comment. Please see revisions on pages 101 and 102 of Amendment No. 1.

Certain Relationships and Related Party Transactions

Agreements with Stockholders, page 131

22. *Please expand you discussion of the Third Rock Ventures agreement to describe with more specificity the services provided by Third Rock and summarize the parties' material obligations under this agreement. In addition, please file a copy of the agreement as an exhibit to your registration statement.*



RESPONSE: The Company further advises the Staff that the Company does not have a written agreement in place with Third Rock Ventures for these consulting services, but has expanded its disclosure to further describe these services. The Draft Registration Statement has been revised in response to the Staff's comment. Please see revisions on page 135 of Amendment No. 1.

Material U.S. Federal Income and Estate Tax Considerations  
to Non-U.S. Holders, page 142

23. Please delete the word "certain" from the introductory paragraph and make clear that the summary discusses all material tax consequences of which you are aware.

RESPONSE: The Draft Registration Statement has been revised in response to the Staff's comment. Please see revisions on page 147 of Amendment No. 1.

If you should have any questions concerning the enclosed matters, please contact the undersigned at (617) 570-1933.

Sincerely,

/s/ Michael H. Bison

Michael H. Bison

Enclosures

cc: Jeffrey M. Jonas, *Sage Therapeutics, Inc.*  
Kimi Iguchi, *Sage Therapeutics, Inc.*  
Mitchell S. Bloom, *Goodwin Procter LLP*  
Laurie A. Burlingame, *Goodwin Procter LLP*