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

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**FORM S-8  
REGISTRATION STATEMENT  
UNDER  
THE SECURITIES ACT OF 1933**

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**SAGE THERAPEUTICS, INC.**  
(Exact Name of Registrant as Specified in its Charter)

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**Delaware**  
(State or Other Jurisdiction of  
Incorporation or Organization)

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

**Sage Therapeutics, Inc.**  
**215 First Street**  
**Cambridge, MA 02142**  
(Address of Principal Executive Offices)

**Sage Therapeutics, Inc.**  
**2014 Stock Option and Incentive Plan**  
(Full Title of the Plans)

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**Jeffrey M. Jonas, M.D.**  
**President and Chief Executive Officer**  
**Sage Therapeutics, Inc.**  
**215 First Street**  
**Cambridge, MA 02142**  
**(617) 299-8380**  
(Name and Address of Agent For Service)

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*Copy to:*

**Anne Marie Cook**  
**Senior Vice President, General Counsel**  
**Sage Therapeutics, Inc.**  
**215 First Street**  
**Cambridge, MA 02142**  
**(617) 299-8380**

**Mitchell S. Bloom, Esq.**  
**Laurie A. Burlingame, Esq.**  
**Goodwin Procter LLP**  
**100 Northern Avenue**  
**Boston, MA 02210**  
**(617) 570-1000**

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

Large accelerated filer  Accelerated filer   
Non-accelerated filer  (Do not check if a smaller reporting company) Smaller reporting company   
Emerging growth company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 7(a)(2)(B) of the Securities Act.

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**CALCULATION OF REGISTRATION FEE**

Title of Securities to be Registered	Amount to be Registered(1)	Proposed Maximum Offering Price per Share(2)	Proposed Maximum Aggregate Offering Price	Amount of Registration Fee
Common Stock, \$0.0001 par value per share	1,680,117 shares(3)	\$166.28	\$279,369,854.76	\$34,781.55

- (1) Pursuant to Rule 416 under the Securities Act of 1933, as amended (the "Securities Act"), this registration statement shall also cover any additional shares of common stock which become issuable under the Registrant's 2014 Stock Option and Incentive Plan (the "Plan") by reason of any stock dividend, stock split, recapitalization or any other similar transaction effected without the receipt of consideration which results in an increase in the number of the Registrant's outstanding shares of common stock.
- (2) Estimated solely for the purpose of calculating the registration fee pursuant to Rule 457(h) of the Securities Act, and based on the average of the high and low sale prices of the Registrant's common stock, as quoted on the Nasdaq Global Market, on February 21, 2018.
- (3) Represents an automatic increase to the number of shares available for issuance under the Plan, effective January 1, 2018. Shares available for issuance under the Plan were previously registered on registration statements on Form S-8 filed with the Securities and Exchange Commission on July 18, 2014 (Registration No. 333-197498), May 29, 2015 (Registration No. 333-204549), February 29, 2016 (Registration No. 333-209831), and February 23, 2017 (Registration No. 333-216202).

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#### EXPLANATORY NOTE

This Registration Statement on Form S-8 registers additional shares of Common Stock under the Plan. The number of shares of Common Stock reserved and available for issuance under the Plan is subject to an automatic annual increase on each January 1 by an amount equal to four percent of the number of shares of Common Stock issued and outstanding on the immediately preceding December 31 or such lesser number of shares of Common Stock as determined by the Administrator (as defined in the Plan). Accordingly, on January 1, 2018, the number of shares of Common Stock reserved and available for issuance under the Plan increased by 1,680,117. This Registration Statement registers these additional 1,680,117 shares of Common Stock. The additional shares are of the same class as other securities relating to the Plan for which the Registrant's registration statement filed on Form S-8 (Registration No. 333-197498) on July 18, 2014, is effective. The information contained in the Registrant's registration statement on Form S-8 (Registration No. 333-197498) is hereby incorporated by reference pursuant to General Instruction E.

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**Part II**

**INFORMATION REQUIRED IN THE REGISTRATION STATEMENT**

**Item 8. Exhibits.**

See the Exhibit Index below for a list of exhibits filed as part of this registration statement on Form S-8, which Exhibit Index is incorporated herein by reference.

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## EXHIBIT INDEX

<u>Exhibit No.</u>	<u>Description</u>
4.1	<a href="#"><u>Specimen Common Stock Certificate (incorporated by reference to Exhibit 4.1 of the Registrant's Registration Statement on Form S-1, as amended (File No. 333-196849) filed on July 8, 2014)</u></a>
4.2	<a href="#"><u>Fifth Amended and Restated Certificate of Incorporation of the Registrant, as currently in effect (incorporated by reference to Exhibit 3.2 of the Registrant's Registration Statement on Form S-1, as amended (File No. 333-196849) filed on July 8, 2014)</u></a>
4.3	<a href="#"><u>Amended and Restated Bylaws (incorporated by reference of Exhibit 3.4 of the Registrant's Registration Statement on Form S-1, as amended (File No. 333-196849) filed on July 8, 2014)</u></a>
4.4	<a href="#"><u>Second Amended and Restated Investors' Rights Agreement by and among the Registrant and certain of its stockholders dated March 11, 2014 (incorporated by reference to Exhibit 4.2 of the Registrant's Registration Statement on Form S-1, as amended (File No. 333-196849) filed on July 8, 2014)</u></a>
5.1*	<a href="#"><u>Opinion of Goodwin Procter LLP</u></a>
23.1*	<a href="#"><u>Consent of PricewaterhouseCoopers LLP, Independent Registered Public Accounting Firm</u></a>
23.2*	<a href="#"><u>Consent of Goodwin Procter LLP (included in Exhibit 5.1)</u></a>
24.1*	<a href="#"><u>Power of Attorney (included on signature page)</u></a>
99.1	<a href="#"><u>2014 Stock Option and Incentive Plan and forms of agreements thereunder (incorporated by reference to Exhibit 10.2 to the Registrant's Registration Statement on Form S-1, as amended (File No. 333-196849) filed on July 8, 2014)</u></a>

\* Filed herewith.

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## SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, as amended, the Registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-8 and has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Cambridge, Commonwealth of Massachusetts on the 22nd day of February, 2018.

### SAGE THERAPEUTICS, INC.

By: /s/ Jeffrey M. Jonas  
Jeffrey M. Jonas, M.D.  
Chief Executive Officer, President  
and Director

## POWER OF ATTORNEY AND SIGNATURES

We, the undersigned officers and directors of Sage Therapeutics, Inc., hereby severally constitute and appoint Jeffrey M. Jonas and Kimi Iguchi, and each of them singly (with full power to each of them to act alone), our true and lawful attorneys-in-fact and agents, with full power of substitution and resubstitution in each of them for him or her and in his or her name, place and stead, and in any and all capacities, to sign for us and in our names in the capacities indicated below any and all amendments (including post-effective amendments) to this Registration Statement on Form S-8, 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 requisite or necessary to be done in and about the premises, as full to all intents and purposes as he or she might or could do in person, hereby 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 hereof.

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 and on the date indicated below.

Signature	Title	Date
<u>/s/ Jeffrey M. Jonas</u> Jeffrey M. Jonas, M.D.	Chief Executive Officer, President and Director (Principal Executive Officer)	February 22, 2018
<u>/s/ Kimi Iguchi</u> Kimi Iguchi	Chief Financial Officer (Principal Financial and Accounting Officer)	February 22, 2018
<u>/s/ Michael F. Cola</u> Michael F. Cola	Director	February 22, 2018
<u>/s/ Steven Paul</u> Steven Paul, M.D.	Director	February 22, 2018
<u>/s/ Kevin P. Starr</u> Kevin P. Starr	Director	February 22, 2018
<u>/s/ James Frates</u> James Frates	Director	February 22, 2018
<u>/s/ Geno Germano</u> Geno Germano	Director	February 22, 2018
<u>/s/ Asha Nayak</u> Asha Nayak	Director	February 22, 2018

February 22, 2018

Sage Therapeutics, Inc.  
215 First Street, Cambridge, MA 02142

Re: Securities Being Registered under Registration Statement on Form S-8

Ladies and Gentlemen:

We have acted as counsel to you in connection with your filing of a Registration Statement on Form S-8 (the "Registration Statement") pursuant to the Securities Act of 1933, as amended (the "Securities Act"), on or about the date hereof relating to an aggregate of 1,680,117 shares of Common Stock (the "Shares"), \$0.0001 par value per share, of Sage Therapeutics, Inc., a Delaware corporation (the "Company"), that may be issued pursuant to the Company's 2014 Stock Option and Incentive Plan (the "Plan").

We have reviewed such documents and made such examination of law as we have deemed appropriate to give the opinions set forth below. We have relied, without independent verification, on certificates of public officials and, as to matters of fact material to the opinion set forth below, on certificates of officers of the Company.

The opinion set forth below is limited to the Delaware General Corporation Law.

For purposes of the opinion set forth below, we have assumed that a sufficient number of authorized but unissued shares of the Company's Common Stock will be available for issuance when the Shares are issued.

Based on the foregoing, we are of the opinion that the Shares have been duly authorized and, upon issuance and delivery against payment therefor in accordance with the terms of the Plan, will be validly issued, fully paid and nonassessable.

We hereby consent to the inclusion of this opinion as Exhibit 5.1 to the Registration Statement. In giving our consent, we do not admit that we are in the category of persons whose consent is required under Section 7 of the Securities Act or the rules and regulations thereunder.

Very truly yours,

/S/ GOODWIN PROCTER LLP

GOODWIN PROCTER LLP

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We hereby consent to the incorporation by reference in this Registration Statement on Form S-8 of our report dated February 22, 2018 relating to the financial statements, and the effectiveness of internal control over financial reporting, which appears in Sage Therapeutics, Inc.'s Annual Report on Form 10-K for the year ended December 31, 2017.

/s/ PricewaterhouseCoopers LLP  
Boston, Massachusetts  
February 22, 2018