FORM 4

## UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

## STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP

|   | OMB APPRO                | OVAL      |  |  |  |  |  |  |  |
|---|--------------------------|-----------|--|--|--|--|--|--|--|
|   | OMB Number:              | 3235-0287 |  |  |  |  |  |  |  |
| l | Estimated average burden |           |  |  |  |  |  |  |  |
| l | hours per response:      | 0.5       |  |  |  |  |  |  |  |

Check this box if no longer subject to Section 16. Form 4 or Form 5 obligations may continue. See Instruction 1(b).

Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934 or Section 30(h) of the Investment Company Act of 1940

| 1. Name an   |   | 2. Issuer Name and Ticker or Trading Symbol Sage Therapeutics, Inc. [ SAGE ] |                 |  |   |   |  |   |                           | (Che | elationshi<br>ck all app  | ,  |                                   | rson(s) to Is                                |  |                          |  |  |   |  |
|--|---|--|-----------------|--|---|---|--|---|---------------------------|------|---|--|-----------------------------------|--|--|--------------------------|--|--|---|--|
| (Last) (First) (Middle) C/O SAGE THERAPEUTICS, INC.,                             |   |  |                 |  |   | 3. Date of Earliest Transaction (Month/Day/Year) 02/12/2019 |  |   |                           |      |   |  |                                   |  | Offic<br>below   | cer (give title<br>ow)   |  | Other (specify below)  |   |  |
| 215 FIRST STREET   |   |  |                 |  |   |   | 4. If Amendment, Date of Original Filed (Month/Day/Year) |   |                           |      |   |  |                                   |  | 6. Individual or Joint/Group Filing (Check Applicable Line)  |                          |  |  |   |  |
| (Street) CAMBRIDGE MA 02142  |   |  |                 |  | _                                       |   |  |   |                           |      |   |  |                                   |  | X Form filed by One Reporting Person  Form filed by More than One Reporting  Person                                |                          |  |  |   |  |
| (City)   | (S  | tate) (  | Zip)            |  |   |   |  |   |                           |      |   |  |                                   |  |  |                          |  |  |   |  |
| Table I - Non-Derivative Securities Acquired, Disposed of, or Beneficially Owned |   |  |                 |  |   |   |  |   |                           |      |   |  |                                   |  |  |                          |  |  |   |  |
| 1. Title of Security (Instr. 3)  2. Transacti Date (Month/Day)                   |   |  |                 |  |   | Exec<br>y/Year) if any                                      |  | a. Deemed<br>secution Date,<br>any<br>lonth/Day/Year) |                           |      |   | es Acquired (A) o<br>Of (D) (Instr. 3, 4 a |                                   |  | 5. Amou<br>Securiti<br>Benefic<br>Owned<br>Reporte   | es<br>ially<br>Following | Form<br>(D) o  | : Direct<br>r Indirect<br>str. 4)                                  | 7. Nature of<br>Indirect<br>Beneficial<br>Ownership<br>(Instr. 4) |  |
|  |   |  |                 |  |   | Code  | v  | Amount  | (A) (D)                   | Pri  | ce  | Transac<br>(Instr. 3                       | tion(s)                           |  |  | (11341.4)                |  |  |   |  |
| Common Stock 02/12/20  |   |  |                 |  |   | 019   |  | S   |                           | 0(1) | D   | \$0  | .00(1)                            | (1) 0(1)                                     |  |                          | T I  | See<br>Footnote <sup>(2)</sup>                                     |   |  |
| Common Stock   |   |  |                 |  |   |   |  |   |                           |      |   |  |                                   | 302,817                                      |  |                          | D  |  |   |  |
|  |   | Та   | ıble II -       |  |   |   |  |   |                           |      | osed of,<br>convertib   |  |                                   |  | Owned  |                          |  |  |   |  |
| 1. Title of<br>Derivative<br>Security<br>(Instr. 3)                              | 2.<br>Conversion<br>or Exercise<br>Price of<br>Derivative<br>Security | Execution if any   | ecution Date, T |  | 4.<br>Transaction<br>Code (Instr.<br>8) |   |  |   | Exerc<br>ion Da<br>/Day/Y |      | 7. Title and<br>Amount of<br>Securities<br>Underlying<br>Derivative<br>Security (Instr.<br>and 4) |  | De<br>Se<br>(Ir                   | Price of<br>erivative<br>ecurity<br>astr. 5) | 9. Number<br>derivative<br>Securities<br>Beneficiall<br>Owned<br>Following<br>Reported<br>Transactio<br>(Instr. 4) | ly                       | 10.<br>Ownership<br>Form:<br>Direct (D)<br>or Indirect<br>(I) (Instr. 4) | 11. Nature<br>of Indirect<br>Beneficial<br>Ownership<br>(Instr. 4) |   |  |
|  |   |  |                 |  | Code                                    | v   | (A)  | (D)   | Date<br>Exercisable       |      | Expiration<br>Date  | Title                                      | Amou<br>or<br>Numb<br>of<br>Share | er   |  |                          |  |  |   |  |

## Explanation of Responses:

- 1. On February 12, 2019, Third Rock Ventures II, L.P. ("TRV II") sold 37,362 shares of Common Stock of the Issuer in multiple transactions at prices ranging from \$153.60 to \$154.51, inclusive, at a weighted average price per share of \$154.2096. The reporting person undertakes to provide to the Issuer, any security holder of the Issuer, or the staff of the Securities and Exchange Commission, upon request, full information regarding the number of shares sold at each separate price within the ranges set forth in this footnote (1). Following the reported transaction, TRV II held zero shares of Common Stock of the Issuer.
- 2. These shares are directly held by TRV II. The general partner of TRV II is Third Rock Ventures GP II, L.P. ("TRV GP II"). The general partner of TRV GP II is TRV GP II, LLC ("TRV GP II LLC"). The individual managers of TRV GP II LLC are Mark Levin, Kevin Starr ("Starr") and Dr. Robert Tepper. Due to an ethical wall between Mr. Starr and each of TRV II, TRV GP II and TRV GP II LLC that prevents (i) the sharing of information related to the Issuer between Mr. Starr and the foregoing funds and their respective representatives and (ii) participation in investment decisions with respect to the common stock of the Issuer held by TRV II, Starr disclaims beneficial ownership of the shares except to the extent of its or his pecuniary interest therein, if any, and this report shall not be deemed an admission that it or he is the beneficial owner of such shares.

## Remarks:

/s/ Kevin Gillis, as attorney-infact for Kevin Starr

02/14/2019

\*\* Signature of Reporting Person

Date

Reminder: Report on a separate line for each class of securities beneficially owned directly or indirectly.

- \* If the form is filed by more than one reporting person, see Instruction 4 (b)(v).
- \*\* Intentional misstatements or omissions of facts constitute Federal Criminal Violations See 18 U.S.C. 1001 and 15 U.S.C. 78ff(a).

Note: File three copies of this Form, one of which must be manually signed. If space is insufficient, see Instruction 6 for procedure.

Persons who respond to the collection of information contained in this form are not required to respond unless the form displays a currently valid OMB Number.