FORM 4

## UNITED STATES SECURITIES AND EXCHANGE COMMISSION

| Washington, | D.C. 20549 |
|-------------|------------|
|-------------|------------|

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

## STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP

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

| Name and Address of Reporting Person*     Coleman Mark           |  |               |         |   |                | 2. Issuer Name <b>and</b> Ticker or Trading Symbol  Axsome Therapeutics, Inc. [ AXSM ] |                           |                              |                             |   |                    |   |   | theck all app<br>X Direc   | ctor  |   | 10%   | Owner       |  |
|--|--|---------------|---------|---|----------------|--|---------------------------|------------------------------|-----------------------------|---|--------------------|---|---|--|---|---|---|-------------|--|
|  | SOME THI   | ERAPEUTICS, I | Middle) |   |                | 3. Date of Earliest Transaction (Month/Day/Year) 06/29/2020                            |                           |                              |                             |   |                    |   |   | Officer (give title Other (specification) below)   |   |   |   |             |  |
| 200 BROADWAY, 3RD FLOOR  |  |               |         |   | 4. If A        | 4. If Amendment, Date of Original Filed (Month/Day/Year)                               |                           |                              |                             |   |                    |   |   | 6. Individual or Joint/Group Filing (Check Applicable Line)  |   |   |   |             |  |
| (Street) NEW YORK NY 10038                                       |  |               |         |   |                |  |                           |                              |                             |   |                    |   | X Form filed by One Reporting Person Form filed by More than One Reporting Person |  |   |   |   |             |  |
| (City)   | (St  | ate) (2       | Zip)    |   |                |  |                           |                              |                             |   |                    |   |   |  |   |   |   |             |  |
|  |  | Table         | I - No  | on-Deriva                               | tive S         | Secui  | rities                    | Acc                          | quirec                      | l, Dis  | sposed of          | , or B  | enefici   | ally Own   | ed  |   |   |             |  |
| 1. Title of Security (Instr. 3)  2. Transaction Date (Month/Day) |  |               |         |   | Execution Date |  |                           | 3.<br>Transa<br>Code (<br>8) |                             | 4. Securities Acquired (A) of Disposed Of (D) (Instr. 3, 4 5) |                    |   | 5. Amount of<br>Securities<br>Beneficially<br>Owned Following<br>Reported         |  | 6. Ownership<br>Form: Direct<br>(D) or Indirect<br>(I) (Instr. 4) |   | 7. Nature of Indirect Beneficial Ownership (Instr. 4) |             |  |
|  |  |               |         |   |                |  |                           |                              | Code                        | v   | Amount             | (A) or<br>(D)   | Price   | Transact<br>(Instr. 3  | ction(s)  |   |   | (111511. 4) |  |
| Common Stock 06/29/20  |  |               |         | 020                                     | 20             |  |                           | P                            |                             | 650   | A                  | \$78.5  | 5 403,  | 403,698(1)   |   | D   |   |             |  |
| Common Stock   |  |               |         |   |                |  |                           |                              |                             |   |                    |   | 5,1   | 00(2)  |   | I   | See<br>Footnote <sup>(3)</sup>                        |             |  |
|  | Table II - Derivative Securities Acquired, Disposed of, or Beneficially Owned (e.g., puts, calls, warrants, options, convertible securities) |               |         |   |                |  |                           |                              |                             |   |                    |   |   |  |   |   |   |             |  |
| 1. Title of<br>Derivative<br>Security<br>(Instr. 3)              | ative Conversion Date Execution Date, if any   |               |         | 4.<br>Transaction<br>Code (Instr.<br>8) |                | of<br>Deriv  | r<br>osed<br>)<br>r. 3, 4 | Expira                       | e Exer<br>ation D<br>h/Day/ |   |                    | nt of<br>ities<br>lying<br>ttive<br>ity (Instr.<br>4) | 8. Price of<br>Derivative<br>Security<br>(Instr. 5)                               | 9. Number of<br>derivative<br>Securities<br>Beneficially<br>Owned<br>Following<br>Reported<br>Transaction(s)<br>(Instr. 4) |   | 10.<br>Ownersh<br>Form:<br>Direct (D<br>or Indirec<br>(I) (Instr. | Beneficial<br>Ownership<br>(Instr. 4)                 |             |  |
|  |  |               |         | Coc                                     |                | v  | (A)                       | (D)                          | Date<br>Exerc               | isable  | Expiration<br>Date | Title   | Amount<br>or<br>Number<br>of<br>Shares  |  |   |   |   |             |  |

## **Explanation of Responses:**

- 1. 250,000 shares were previously transferred to the reporting person's former spouse for no consideration pursuant to a property settlement agreement entered into in connection with a divorce proceeding. The reporting person no longer reports as beneficially owned any securities owned by his former spouse.
- $2. \ Represents \ additional \ shares \ held \ indirectly \ by \ the \ reporting \ person \ prior \ to \ June \ 29, \ 2020. \ See \ Footnote \ 3.$
- 3. Such shares were purchased by an entity, of which the reporting person has voting and dispositive power, and therefore, the reporting person is deemed to be the indirect beneficial owner of such shares.

06/30/2020

\*\* 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.