UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 8-A

FOR REGISTRATION OF CERTAIN CLASSES OF SECURITIES PURSUANT TO SECTION 12(b) OR 12(g) OF THE SECURITIES EXCHANGE ACT OF 1934

Axsome Therapeutics, Inc.

(Exact name of registrant as specified in its charter)

Delaware 45-4241907 (State of incorporation or organization) (I.R.S. Employer Identification No.)

25 Broadway 9th Floor New York, New York (Address of principal executive offices)

10004 (Zip Code)

Securities to be registered pursuant to Section 12(b) of the Act:

Title of each class
to be so registered

Common Stock, par value \$0.0001 per share

Name of each exchange on which each class is to be registered

The NASDAQ Stock Market LLC

If this form relates to the registration of a class of securities pursuant to Section 12(b) of the Securities Exchange Act of 1934, as amended, and is effective pursuant to General Instruction A.(c), please check the following box.

If this form relates to the registration of a class of securities pursuant to Section 12(g) of the Securities Exchange Act of 1934, as amended, and is effective pursuant to General Instruction A.(d), please check the following box. \Box

Securities Act registration statement file number to which this form relates: 333-207393

Securities to be registered pursuant to Section 12(g) of the Act:

None

Item 1. Description of Registrant's Securities to be Registered

A description of the common stock, \$0.0001 par value per share, of Axsome Therapeutics, Inc., a Delaware corporation (the "Registrant"), to be registered hereunder is contained in the section entitled "Description of Capital Stock" in the prospectus included in the Registrant's Registration Statement on Form S-1 (File No. 333-207393), initially filed with the Securities and Exchange Commission (the "Commission") on October 13, 2015, as amended from time to time (the "Registration Statement"), and is incorporated herein by reference. Any form of prospectus subsequently filed by the Registrant with the Commission pursuant to Rule 424(b) under the Securities Act of 1933, as amended, that constitutes part of the Registration Statement shall be deemed to be incorporated herein by reference.

Item 2. Exhibits

Under the "Instructions as to Exhibits" with respect to Form 8-A, no exhibits are required to be filed with this registration statement because no other securities of the Registrant are registered on The NASDAQ Stock Market LLC and the securities registered hereby are not being registered pursuant to Section 12(g) of the Securities Exchange Act of 1934, as amended.

SIGNATURE

Pursuant to the requirements of Section 12 of the Securities Exchange Act of 1934, as amended, the Registrant has duly caused this registration statement to be signed on its behalf by the undersigned, thereto duly authorized.

Axsome Therapeutics, Inc.

Date: November 16, 2015 By: /s/ Herriot Tabuteau, M.D.

Herriot Tabuteau, M.D. Chief Executive Officer and Chairman of the Board