As filed with the Securities and Exchange Commission on August 13, 2018

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM S-8

REGISTRATION STATEMENT

Under

The Securities Act of 1933

AXSOME THERAPEUTICS, INC.

(Exact name of registrant as specified in its charter)

Delaware

(State or other jurisdiction of incorporation or organization)

45-4241907 (IRS Employer Identification No.)

25 Broadway

9th Floor

New York, New York 10004 (Address of principal executive offices) (Zip Code)

Axsome Therapeutics, Inc. 2015 Omnibus Incentive Compensation Plan (Full title of the Plans)

> Herriot Tabuteau, M.D. President and Chief Executive Officer Axsome Therapeutics, Inc. 25 Broadway 9th Floor New York, New York 10004 (Name and address of agent for service)

(212) 332-3241 (Telephone number, including area code, of agent for service)

Copies to:

Emilio Ragosa DLA Piper LLP (US) 51 John F. Kennedy Parkway, Suite 120 Short Hills, New Jersey 07078 Telephone: (973) 520-2550

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a 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 o Non-accelerated filer o (Do not check if a smaller reporting company) Accelerated filer x Smaller reporting company o Emerging growth company x

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. x

CALCULATION OF REGISTRATION FEE

Title of Securities to be Registered (1)	Amount to be Registered(2)		Proposed Maximum Offering Price Per Share(3)		Proposed Maximum Aggregate Offering Price(3)		mount of stration Fee	
Common stock, \$0.0001 par value, to be issued								
pursuant to the Registrant's 2015 Omnibus Incentive								
Compensation Plan	1,019,719 shares	\$	2.50	\$	2,549,297.50	\$	317.39	
(1)This registration statement (the "Registration Statement") covers shares of the Registrant's common stock, \$0.0001 par value per share ("Common								

Stock"), which are issuable pursuant to the Registrant's 2015 Omnibus Incentive Compensation Plan (the "2015 Plan").

(2) This Registration Statement shall also cover any additional shares of Common Stock which become issuable under the 2015 Plan by reason of any stock dividend, stock split, recapitalization or other similar transaction effected without the Registrant's receipt of consideration which results in an increase in the number of the outstanding shares of Registrant's Common Stock.

(3)Calculated solely for purposes of this offering under Rule 457(h) of the Securities Act of 1933, as amended (the "1933 Act"), on the basis of the average of the high and low prices per share of Registrant's Common Stock on August 10, 2018 as reported by The Nasdaq Stock Market.

PART II

Information Required in the Registration Statement

This Registration Statement relates to the registration of an additional 1,019,719 shares (the "Shares") of the common stock, par value \$0.0001 per share, of Axsome Therapeutics, Inc. (the "Registrant"). The Shares are securities of the same class and relate to the same employee benefit plan, the 2015 Omnibus Incentive Compensation Plan, as those registered pursuant to the Registrant's registration statements on Form S-8, previously filed with the Securities and Exchange Commission on December 16, 2015 and March 29, 2017. In accordance with General Instruction E of Form S-8, the contents of the Registrant's registration statement on Form S-8 (File Nos. 333-208579 and 333-217002) filed with the Securities and Exchange Commission on December 16, 2017 are incorporated herein by reference and the information required by Part II is omitted, except as supplemented by the information set forth below.

Item 8. Exhibits

Exhibit Number	Exhibit
5.1	<u>Opinion and Consent of DLA Piper LLP (US).</u>
23.1	Consent of DLA Piper LLP (US) is contained in Exhibit 5.1.
23.2	Consent of Ernst & Young LLP, Independent Registered Public Accounting Firm.
24.1	Power of Attorney. Reference is made to page 4 of this Registration Statement.
99.1	Axsome Therapeutics, Inc. 2015 Omnibus Incentive Compensation Plan (Incorporated by reference, Exhibit 10.6 to Registrant's First Amendment of Registration Statement on Form S-1, File No. 333-207393, filed on November 2, 2015.)
99.2	2015 Omnibus Incentive Compensation Plan, Form of Stock Option Agreement. (Incorporated by reference, Exhibit 99.2 to Registrant's Registration Statement on Form S-8, File No. 333-208579, filed on December 16, 2015.)

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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 New York, State of New York on this 13th day of August, 2018.

AXSOME THERAPEUTICS, INC.

By /s/ Herriot Tabuteau, M.D. Herriot Tabuteau, M.D. *Chief Executive Officer*

POWER OF ATTORNEY

That each person whose signature appears below constitutes and appoints Herriot Tabuteau, M.D., Chief Executive Officer, and Nick Pizzie, Chief Financial Officer, and each of them, as such person's true and lawful attorneys-in-fact and agents, with full power of substitution and resubstitution, for such person and in such person's name, place and stead, in any and all capacities, to sign any and all amendments (including post-effective amendments) to this Registration Statement, 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 and necessary to be done in connection therewith, as fully to all intents and purposes as such person 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 or her 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 below by the following persons on behalf of the Registrant and in the capacities and on the dates indicated.

Signature	Title	Date
/s/ Herriot Tabuteau, M.D. Herriot Tabuteau, M.D.	Chief Executive Officer and Chairman of the Board (Principal Executive Officer)	August 13, 2018
/s/ Nick Pizzie, CPA, MBA Nick Pizzie, CPA, MBA	Chief Financial Officer (Principal Financial and Accounting Officer)	August 13, 2018
/s/ Mark Coleman, M.D. Mark Coleman, M.D.	Director	August 13, 2018
/s/ Roger Jeffs, Ph.D. Roger Jeffs, Ph.D.	Director	August 13, 2018
/s/ Myrtle Potter Myrtle Potter	Director	August 13, 2018
/s/ Mark Saad Mark Saad	Director	August 13, 2018
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DLA Piper LLP (US) 51 John F. Kennedy Parkway, Suite 120 Short Hills, New Jersey 07078 www.dlapiper.com

T: 973-520-2550 F: 973-520-2551

Attorneys Responsible for Short Hills Office:

Andrew P. Gilbert Michael E. Helmer

August 13, 2018

Axsome Therapeutics, Inc. 25 Broadway, 9th Floor New York, New York 10004

Re: Axsome Therapeutics, Inc. - Registration Statement on Form S-8

Dear Ladies and Gentlemen:

We have acted as counsel to Axsome Therapeutics, Inc., a Delaware corporation (the "Company"), in connection with the preparation of a Registration Statement on Form S-8 (the "Registration Statement") under the Securities Act of 1933, as amended (the "Act"). The Registration Statement relates to the registration of 1,019,719 shares (the "Plan Shares") of the Company's common stock, par value \$0.0001 per share (the "Common Stock"), issuable under the Axsome Therapeutics, Inc. 2015 Omnibus Incentive Compensation Plan (the "2015 Plan"), as referenced in the Registration Statement.

In connection with this opinion letter, we have examined the Registration Statement and originals, or copies certified or otherwise identified to our satisfaction, of the Amended and Restated Certificate of Incorporation and the Amended and Restated Bylaws of the Company and such other documents, records and other instruments as we have deemed appropriate for purposes of the opinion set forth herein.

We have assumed the genuineness of all signatures, the legal capacity of all natural persons, the authenticity of the documents submitted to us as originals, the conformity with the originals of all documents submitted to us as certified, facsimile or photostatic copies and the authenticity of the originals of all documents submitted to us as certified.

Based upon the foregoing, we are of the opinion that the Plan Shares have been duly authorized and, when and to the extent issued in accordance with the terms of the 2015 Plan and any award agreement entered into under the 2015 Plan, the Plan Shares will be validly issued, fully paid and nonassessable.

The opinion expressed herein is limited to the Delaware General Corporation Law.

We hereby consent to the use of this opinion as Exhibit 5.1 to the Registration Statement. In giving such consent, we do not hereby admit that we are acting within the category of persons whose consent is required under Section 7 of the Act or the rules or regulations of the U.S. Securities and Exchange Commission thereunder.

Very truly yours,

/s/ DLA Piper LLP (US)

Consent of Independent Registered Public Accounting Firm

We consent to the incorporation by reference in the Registration Statement (Form S-8) pertaining to the Axsome Therapeutics, Inc. 2015 Omnibus Incentive Compensation Plan of our report dated March 7, 2018, with respect to the consolidated financial statements of Axsome Therapeutics, Inc. included in its Annual Report (Form 10-K) for the year ended December 31, 2017, filed with the Securities and Exchange Commission.

/s/ Ernst & Young LLP New York, New York August 13, 2018