

October 29, 2015

VIA EDGAR AND FEDEX

Suzanne Hayes
Assistant Director
United States Securities and Exchange Commission
Division of Corporate Finance
100 F Street, N.E.
Washington, D.C. 20549

**Re: Axsome Therapeutics, Inc.
Draft Registration Statement on Form S-1
Submitted August 25, 2015
CIK No. 0001579428**

Dear Ms. Hayes:

On behalf of our client, Axsome Therapeutics, Inc. (“we” or the “Company”), set forth below is the Company’s supplemental response to the letter dated September 22, 2015 (the “September 22 Comment Letter”) from the staff (the “Staff”) of the Securities and Exchange Commission (the “Commission”), which relates to the Company’s Draft Registration Statement on Form S-1, CIK No. 0001579428 (the “Registration Statement”) submitted to the Commission on August 25, 2015 (the “Initial Submission”), which was subsequently amended in response to the September 22 Comment Letter and filed with the Commission on October 13, 2015 (“Revised Registration Statement”). In this letter, we are responding only to comment number 8 in the September 22 Comment Letter, the text of which is set forth in bold, followed by the Company’s response to such comment. The page numbers in the bold captions refer to pages in the Initial Submission, while the page numbers in the Company’s responses refer to page numbers in the Revised Registration Statement. Capitalized terms used in this letter but not defined herein have the meaning given to such terms in the Revised Registration Statement.

Confidential Treatment Request

Due to the commercially sensitive nature of information contained herein, the Company hereby requests, pursuant to 17 C.F.R. § 200.83, that certain portions of this letter be maintained in confidence, not be made part of any public record and not be disclosed to any person as they contain confidential information. The Company has filed a copy of this letter, marked to show the portions redacted from the version filed via EDGAR and for which the Company is requesting confidential treatment. In accordance with 17 C.F.R. § 200.83(d)(1), if any person (including any governmental employee who is not an employee of the Commission) should

request access to or an opportunity to inspect this letter, we request that we be immediately notified of any such request, be furnished with a copy of all written materials pertaining to such request (including, but not limited to, the request itself) and be given at least ten business days advance notice of any intended release so that the Company may, if deemed necessary or appropriate, pursue any remedies available to it. In such an event, we request that you telephone the undersigned rather than rely upon the U.S. mail for such notice. The address and telephone number for Emilio Ragosa, the responsible representative, is c/o Morgan, Lewis & Bockius LLP, 101 Park Avenue, New York, New York 10178, telephone number (212) 309-6633.

Management’s Discussion and Analysis of Financial Condition and Results of Operations Critical Accounting Policies and Significant Judgments and Estimates Stock-Based Compensation and Fair Market Value of Stock, page 73

8. We may have additional comments on your accounting for equity issuances including stock based compensation. Once you have an estimated offering price, please provide us an analysis explaining the reasons for the differences between the recent valuations of your common stock leading up to the IPO and the estimated offering price.

Response:

The Company advises the Staff that it presently estimates, based in part on input received from the underwriters (the “Underwriters”) for the initial public offering (“IPO”) of our common stock, that the public offering price per share for the IPO will be based on a pre-money equity value range of \$*** to \$***, with a midpoint of the estimated range of \$***, which considers information currently available and current market conditions.

Before any consideration for stock splits, the pre-money equity value range is based on approximately 1.8 million shares outstanding as of October 30, 2015, and results in a range of common stock values of \$*** per share to \$*** per share, with a midpoint of the estimated range of \$*** (the “Midpoint Price”). This compares to our most recent estimated equity valuation of \$92 million, which resulted in an estimated common share value of \$47.53 per share.

The following response is a quantitative and qualitative analysis explaining the difference between the estimated offering price and the Company’s most recent valuation. However, in simplistic terms, the largest differences between the estimated offering price and the Company’s most recent valuation is the lack of marketability discount that was

applied in the most recent valuation, along with the removal of other potential scenarios besides an IPO that were probability weighted in the most recent valuation.

Please note that the Company is currently planning on effectuating a 7.3445:1 forward stock split (the “Stock Split”) to reduce the offering price per share to \$*** to \$***, which the Company plans to effect prior to the closing of the IPO.

COMMON STOCK VALUATION METHODOLOGIES

The Company’s discussion of share-based compensation is primarily contained in the section of the Registration Statement entitled “Management’s Discussion and Analysis of Financial Condition and Results of Operations—Critical Accounting Policies and Significant Judgments and Estimates—Stock-Based Compensation and Fair Market Value of Stock” (the “Section”), which has previously been filed with the Commission and is included on pages 80 and 81 of the Revised Registration Statement. As described in the Section, the Company has historically determined the fair value of its common stock using methodologies, approaches and assumptions consistent with the American Institute of Certified Public Accountants (the “AICPA”), Audit and Accounting Practice Aid Series: *Valuation of Privately Held Company Equity Securities Issued as Compensation* (the “AICPA Practice Guide”).

The value of the Company’s common stock was determined utilizing the probability weighted expected return method (“PWERM”). This method is appropriate when the subject company anticipates a near-term exit but is unsure about what will occur if the plans fall through.

Under the PWERM, enterprise values were based upon the probability-weighted present value of expected future scenarios available to the enterprise. Potential future outcomes included (i) an initial public offering (the “IPO Scenario”), (ii) an additional round of private fund raising (the “Private Round Scenario”) and (iii) liquidation of the Company’s assets in the event that the prior scenarios above do not occur (the “Liquidation Scenario”).

The most recent valuation as of September 1, 2015 incorporated the following scenario weights:

- i. The IPO Scenario was assigned a probability weight of 60.0% with the future equity value reflecting management’s expectations of a price range

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for the anticipated IPO multiplied by the number of shares of common stock anticipated to be outstanding at the time of the IPO.

- ii. The Private Round Scenario was assigned a probability weight of 20.0% with the current equity value determined using a decision tree analysis (“DT Analysis”), which is an income-based method that captures the anticipated benefits, costs and probabilities of contingent outcomes at future decision points, or nodes. The DT Analysis was considered appropriate as it captures the risk of failure associated with the Company’s product portfolio. Each node considers failure at each step in the clinical trial process, as well as full commercialization with both a high and low market penetration scenario. The results of the Private Round Scenario reflect a present value as of the valuation date.
- iii. The Liquidation Scenario was assigned a probability weight of 20.0% with a future value of zero. This analysis assumes that there would be no residual value to investors in the event that the Company is liquidated.

Under the IPO Scenario and the Liquidation Scenario, the estimated future values were allocated to the equity securities based on a waterfall distribution that considers the respective rights and preferences of each of the Company’s outstanding securities, including its outstanding convertible notes, on the estimated exit date. Allocated amounts were then discounted back to the valuation date at discount rates that consider the relative risk of each security.

In selecting the appropriate discount rates, consideration was given to guidance provided by the AICPA Practice Guide, which discusses required rates of return for companies in various stages of development. The Company was considered to be in the Bridge/IPO stage with required rates of return between 20% and 35%. Companies existing in the Bridge/IPO stage are described in the AICPA Practice Guide as enterprises pursuing pilot plant construction, production design and product testing, as well as bridge financing in anticipation of a later IPO.

Under the Private Round Scenario, the estimated enterprise value was allocated to the various equity securities using the option pricing method (“OPM”). The primary inputs into the OPM include the current value, which was developed utilizing the DT Analysis, the rights and preferences of the various equity securities to future distributions in order to calculate break points, or exercise prices in a Black-Scholes option model framework, the continuously compounded annual risk-free interest rate, a measure of expected stock

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price volatility based on a set of guideline public companies and the expected time until an exit event.

A discount of 15.0% was applied to reach the final valuation given that the Company’s common stock reflects ownership in a private company with impediments to liquidity, including lack of publicly available information and the lack of an active trading market. The size of the discount was determined based on a review of various restricted stock studies, as well as using quantitative analysis reflecting market participant assumptions as to the estimated future time for the Company to reach a liquidity event.

MOST RECENT FAIR VALUE DETERMINATION

On September 15, 2015, the date on which the Company’s board of directors (the “Board of Directors”) most recently authorized the issuance of stock option grants, the Board of Directors determined the fair value of the Company’s common stock to be \$47.53 per share after taking into account input from management and an independent third-party valuation specialist, which determined the fair value of the Company’s common

stock to be \$47.53 per share as of September 1, 2015 using the PWERM described earlier. The Board of Directors determined the fair value of the Company's common stock remained substantially unchanged between September 1, 2015 and September 15, 2015, due to the lack of significant clinical and regulatory developments with respect to the Company during such period.

COMPARISON OF ESTIMATED FAIR VALUE AND ASSUMED IPO PRICE

As is typical in initial public offerings, the estimated price range for the IPO was not derived using a formal determination of fair value, but was determined primarily by negotiation between the Company and the Underwriters. Among the factors that were considered in setting the estimated price range for the IPO were the following:

- the history and prospects of other companies in the industry in which the Company competes;
- the Company's financial information;
- an assessment of the Company's management and their experience;
- an assessment of the Company's business potential and earning prospects;
- the prevailing securities markets at the time of the IPO;

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- the recent market prices of, and the demand for, publicly traded shares of generally comparable companies; and
- other factors deemed relevant.

As described above, and not giving consideration to the Stock Split that the Company expects to include in a future amendment, the Midpoint Price of \$*** per share exceeds the fair value of the Company's common stock of \$47.53 per share as of September 1, 2015 and September 15, 2015, which was determined as described above (the "Prior Valuation Price"), by approximately \$*** per share. The Company respectfully submits that the difference between the Prior Valuation Price and the Midpoint Price is primarily attributable to the following factors:

- The anticipated price range for the IPO necessarily assumes that the IPO has occurred and that a public market for the Company's common stock has been created, and, therefore, excludes any discount for lack of marketability of the Company's common stock, which was appropriately taken into account in the Company's determination of the fair value of its common stock on September 1, 2015.
- The anticipated price range for the IPO is based only upon a scenario in which the Company completes the IPO and is not probability weighted, in contrast to the Company's prior valuations of its common stock, which considered other potential outcomes under the PWERM, which would have resulted in a lower value of its common stock than an IPO.
- The Company's convertible notes currently have economic rights and preferences over its common stock. Upon the close of an IPO, all of the Company's outstanding convertible notes will convert into common stock, thus eliminating the superior rights and preferences of the Company's convertible notes as compared to its common stock.
- On October 23, 2015, the Company reached agreement to a Special Protocol Assessment (the "SPA") with the U.S. Food and Drug Administration for the Company's planned Phase 3 clinical trial with AXS-02 for the treatment of pain of knee osteoarthritis associated with bone marrow lesions. The SPA provides agreement that the design and planned analysis of the Company's Phase 3

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clinical trial adequately address the objectives necessary to support a regulatory submission.

- In October 2015, the Company received notice regarding the issuance of 1 patent and 3 patent applications that have been approved for issuance with claims covering the Company's AXS-02 program. Two of the allowed patent applications have claims covering the use of AXS-02 in knee osteoarthritis.
- In October 2015, the Company received notice regarding the issuance of 1 patent and 2 patent applications that have been approved for issuance with claims covering the Company's AXS-05 program, increasing the number of patents covering this program from 1 to 4. These patents substantially increase the number and scope of claims covering this program.

In conclusion, the Company respectfully submits that the difference between the latest valuation (i.e., the Prior Valuation Price) and the estimated IPO price (i.e., the Midpoint Price) is reasonable in light of the considerations outlined above. The Company will add disclosure to this effect in its next amendment to the Registration Statement and intends to describe the changes in the key valuation assumptions used to determine the most recent valuation.

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Please contact the undersigned at (212) 309-6633 if you have any questions regarding the foregoing.

Sincerely,

Emilio Ragosa

