



DIVISION OF
CORPORATION FINANCE

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

April 20, 2015

Via E-mail

Vivek Ramaswamy
Principal Executive Officer
Axovant Sciences Ltd.
Clarendon House
2 Church Street
Hamilton HM 11, Bermuda

**Re: Axovant Sciences Ltd.
Draft Registration Statement on Form S-1
Submitted March 24, 2015
CIK No. 0001636050**

Dear Mr. Ramaswamy:

We have reviewed your draft registration statement and have the following comments. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure.

Please respond to this letter by providing the requested information and either submitting an amended draft registration statement or publicly filing your registration statement on EDGAR. If you do not believe our comments apply to your facts and circumstances or do not believe an amendment is appropriate, please tell us why in your response.

After reviewing the information you provide in response to these comments and your amended draft registration statement or filed registration statement, we may have additional comments.

Dilution, page 48

1. Please revise to correct the net tangible book deficit per common share as of December 31, 2014 in the table, since you appear to reflect here your net loss per common share.

Business

Overview, page 58

2. At your first use of the term "statistically significant," please provide an explanation of the term and discuss how statistical significance relates to the FDA's and EU's criteria for market approval. Please make corresponding changes to the Prospectus Summary.

RVT-101, page 62

Preclinical and Clinical Development, page 63

3. Please include an explanation of the phrase “negative log of the dissociation constant (pK_i) value” in terms a lay investor would reasonably understand and clarify the significance of a value of 9.63.

Phase 2 Clinical Development, page 64

4. When you first discuss the specific ADAS-cog and ADCS-ADL results on pages 66 and 67, respectively, please give a brief explanation of the test formats and scoring methods and how the spectrum of scores on each scale corresponds to the manifestation of dementia and/or Alzheimer’s disease.
5. We note that GSK’s pre-specified co-secondary endpoints were MMSE and RBANS, as well as ADCS-ADL. Please disclose, if true, that RVT-101 failed to demonstrate a statistically significant improvement in either MMSE or RBANS at any of the dose groups.

Safety and Tolerability, page 70

6. Please disclose the nature and incidence of any serious, drug-related adverse events in the RVT-101 groups prior to 24 weeks, as well as the nature of the drug-related adverse events that led to withdrawal from the trial in the RVT-101 as compared to the placebo groups.

Phase 3 Clinical Development Plan, page 71

7. We note your statement that you “plan to meet with the FDA in March 2015 to discuss [y]our development plan for RVT-101 and confirm feedback received by GSK during its end-of-Phase 2 meeting.” If such meeting has occurred to date, please disclose any material feedback that you received from the FDA, how this impacts your plans to initiate a Phase 3 pivotal trial for RVT-101 in 2015, and any other material communications conveyed by the parties. In addition, please briefly disclose the nature of all material feedback received by GSK during its prior meeting(s) with the FDA.

Intellectual Property, page 74

8. Please disclose whether you have exclusive ownership of the material patents and IP discussed in this section, notwithstanding the usage rights retained by GSK.

Management

Director Independence, page 87

9. We note your statement that your “board of directors will undertake a review of the independence of the directors and consider whether any director has a material relationship with [you] that could compromise his ability to exercise independent judgment in carrying out his responsibilities.” Pursuant to Item 11(n) of Form S-1 and Item 407(a) of Regulation S-K, please identify each director that is independent under the independence standards applicable to the registrant under paragraph (a)(1) of Item 407.

Notes to Financial Statements

Note A – Description of Business and Liquidity

[1] Description of Business, page F-7

10. Although you were only legally formed on October 31, 2014 and did not acquire the rights to RVT-101, please tell us why it is appropriate to include only your financial statements in the registration statement. Reference for us the authoritative literature supporting your position. At a minimum, in your response, tell us why the financial statements of Roivant Sciences Ltd. along with pro forma financial statements reflecting operations not included in your offering should not be included given:
- The apparent similar line of business as disclosed in the first full paragraph on page 6;
 - The reliance on Roivant Sciences Ltd. through Roivant Sciences, Inc. to provide substantially all of your administrative, research and development and other functions as disclosed in the last bullet on page 5; and
 - That the track record of Roivant Sciences Ltd. with other late-stage product candidates acquired from other biopharmaceutical companies may be relevant to an investment decision in your offering.

Note D – Related Party Transactions, page F-11

11. Please revise your disclosure of share-based compensation to provide some indication of the expected requisite service period and the remaining requisite services period over which current awards will be earned.

Note G – Commitments and Contingencies, page F-13

12. On page F-11, you state that you have no obligation to make the \$5 million deferred payment to GSK if the FDA requires you to complete additional clinical work prior to commencement of the first Phase 3 trial. Given that this condition appears to be outside your control, please tell us how you considered this condition in determining that you will probably make the \$5 million contingent payment in early 2016. In your explanation, state whether the FDA has explicitly communicated to you that such additional work is not required prior to your first Phase 3 trial.

Note H – Subsequent Events, page F-13

13. Please revise your disclosure to indicate the terms of your March 18, 2015 stock option grants. At a minimum, please disclose the vesting provisions and the exercise price.
14. Please tell us the fair value of common stock underlying the March 18, 2015 option grants and describe how you estimated the fair value of common stock underlying those options. In addition, tell us your consideration for treating the valuation of your common stock and share-based compensation as a critical accounting estimate in MD&A and provide us a table that details the terms of all equity issuances, including options, warrants, ordinary shares, preferred shares, and convertible instruments subsequent to March 18, 2015, if any. The terms should include the number of ordinary shares underlying the instrument, ordinary share fair value on the grant date, and exercise price.
15. We may have additional comments on your accounting for equity issuances including stock compensation, underwriter and preferred stock warrant liability, and beneficial conversion features. Once you have an estimated offering price, please provide us an analysis explaining the reasons for the differences between recent valuations of your common stock leading up to the IPO and the estimated offering price.

General

16. Please confirm that the images included in your draft registration statement are all of the graphic, visual or photographic information you will be including. If you intend to use any additional images, please provide us proofs of such materials. Please note that we may have comments regarding this material.
17. Please supplementally provide us with copies of all written communications, as defined in Rule 405 under the Securities Act, that you, or anyone authorized to do so on your behalf, present to potential investors in reliance on Section 5(d) of the Securities Act, whether or not they retain copies of the communications.

You may contact Keira Nakada at (202) 551-3659 or Mark Brunhofer at (202) 551-3638 if you have questions regarding comments on the financial statements and related matters.

Vivek Ramaswamy
Axovant Sciences, Ltd.
April 20, 2015
Page 5

Please contact Christina De Rosa at (202) 551-3577, Daniel Greenspan at (202) 551-3623 or me at (202) 551-3715 with any other questions.

Sincerely,

/s/ Daniel Greenspan for

Jeffrey P. Riedler
Assistant Director

cc: Via E-mail
John T. McKenna
Cooley LLP
3175 Hanover Street
Palo Alto, CA 94304