



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

DIVISION OF
CORPORATION FINANCE

September 18, 2014

Via E-mail

Jeffrey S. Hatfield
Chief Executive Officer
Vitae Pharmaceuticals, Inc.
502 West Office Center Drive
Fort Washington, PA 19034

**Re: Vitae Pharmaceuticals, Inc.
Amendment No. 3 to Registration Statement on Form S-1
Filed September 8, 2014
File No. 333-198090**

Dear Mr. Hatfield:

We have reviewed your 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 amending your registration statement and providing the requested information. 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 any amendment to your registration statement and the information you provide in response to these comments, we may have additional comments.

BACE, page 108

1. Please expand your response to prior comment 4 to provide us your analysis of whether the disclosed dollar amount addressed in the December 2013 amendment represents a reduction in the amount owed absent that amendment, and if so the amount of the reduction.

Director Compensation, page 127

2. Please disclose in your prospectus all options to be granted to your officers and directors in connection with this offering. We note for example the options mentioned in exhibit 10.31.

Principal Stockholders, page 147

3. We note your response to prior comment 5. Please expand the disclosure in footnote 3 to disclose the natural persons who control Venrock Associates, L.P. and Venrock Management III, LLC.
4. We note your response to prior comment 7. Please reconcile the disclosure in the last paragraph on page 147 that certain of your existing principal stockholders or their affiliates have indicated an interest to purchase 916,667 shares with the disclosure in the footnotes to the table on page 148. It appears from the disclosure in the footnotes to the table that your existing principal stockholders or their affiliates have indicated an interest to purchase fewer than 916,667 shares. In this regard, please ensure that the reason for the entire increase in the number of shares beneficially owned by your executive officers as reflected in the post-offering column of the table is clear.

Description of Capital Stock, page 151

5. We note the third-to-last bullet point on page 153; however, that bullet point does not appear to address the full extent of the provisions requiring a 66 2/3% vote according to exhibit 3.2. Please expand your disclosure as appropriate. See Regulation S-K Item 202(a)(1)(v).
6. In an appropriate section of your prospectus, please address Article 13 of exhibit 3.2.

Exhibit 5.1

7. Please tell us which documents relevant to the opinion required by Regulation S-K Item 601(b)(5) are subject to the “due execution and delivery” assumption in the second paragraph of this exhibit. Also, please tell us why you believe the condition is necessary and appropriate for the opinion required by Regulation S-K Item 601(b)(5).
8. Please tell us why the opinion does not address any state fraud laws. In this regard, we note the disclosure in the last sentence in the third paragraph of the opinion.
9. Please tell us why the September 11, 2014 amendment to your registration statement indicates that this exhibit is to be filed by amendment. Was the opinion filed with your September 8, 2014 amendment withdrawn?

We urge all persons who are responsible for the accuracy and adequacy of the disclosure in the filing to be certain that the filing includes the information the Securities Act of 1933 and all applicable Securities Act rules require. Since the company and its management are in possession of all facts relating to a company’s disclosure, they are responsible for the accuracy and adequacy of the disclosures they have made.

Jeffrey S. Hatfield
Vitae Pharmaceuticals, Inc.
September 18, 2014
Page 3

Notwithstanding our comments, in the event you request acceleration of the effective date of the pending registration statement please provide us with a letter, acknowledging that:

- should the Commission or the staff, acting pursuant to delegated authority, declare the filing effective, it does not foreclose the Commission from taking any action with respect to the filing;
- the action of the Commission or the staff, acting pursuant to delegated authority, in declaring the filing effective, does not relieve the company from its full responsibility for the adequacy and accuracy of the disclosure in the filing; and
- the company may not assert staff comments and the declaration of effectiveness as a defense in any proceeding initiated by the Commission or any person under the federal securities laws of the United States.

Please refer to Rules 460 and 461 regarding requests for acceleration. We will consider a written request for acceleration of the effective date of the registration statement as confirmation of the fact that those requesting acceleration are aware of their respective responsibilities under the Securities Act of 1933 and the Securities Exchange Act of 1934 as they relate to the proposed public offering of the securities specified in the above registration statement. Please allow adequate time for us to review any amendment prior to the requested effective date of the registration statement.

You may contact Tara Harkins, Staff Accountant, at (202) 551-3639 or Kate Tillan, Assistant Chief Accountant, at (202) 551-3604 if you have questions regarding comments on the financial statements and related matters. Please contact Tom Jones at (202) 551-3602 or me at (202) 551-3617 with any other questions.

Sincerely,

/s/ Russell Mancuso

Russell Mancuso
Branch Chief

cc (via e-mail): Timothy H. Ehrlich, Esq.