



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

DIVISION OF  
CORPORATION FINANCE

August 25, 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.  
Registration Statement on Form S-1  
Filed August 12, 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.

Prospectus Summary, page 1

1. Please update the disclosure. In this regard, we note that you refer on pages 1 and 2 to clinical trials expected to commence in July 2014. Also, based on the information on page F-52, it appears that your disclosure on page 142 is not current.

Overview, page 1

2. Your response to the first sentence of prior comment 4 appears to indicate that you believe that you have developed an improved process; however, since it appears that the process has not yet resulted in successfully commercialized drugs and you have not provided information indicating that others are seeking to follow the process that you have developed, it remains unclear why you believe your disclosure regarding leadership is accurate. Also, please provide us your analysis of whether the publication of the article

that you mention in your response is an offer as contemplated by the Securities Act and if so how it is consistent with Section 5 of the Act; include in your response a summary of the content and publication date of any similar articles that you had published.

Risk Factors, page 11

3. We note your response to prior comment 8. Please add a risk factor to disclose (1) your reliance on Rule 3a-8 and (2) the risks to you and your investors if you should fail to meet the conditions of Rule 3a-8.

Use of Proceeds, page 46

4. We note your revisions in response to prior comment 10. Please clarify what you mean by single and multiple ascending dose, and whether these trials represent all of the steps of Phase 1.

Capitalization, page 48

5. We note that you removed cash, cash equivalents, and marketable securities from the capitalization table in response to prior comment 11. As a result, it appears that certain language before and after the table referring to cash, cash equivalents and marketable securities should similarly be removed.

Stock-Based Compensation, page 64

6. Your response to prior comment 13 appears to address your disclosure regarding the conclusions of the Board; however, that comment addressed your disclosure of the conclusions of the “independent valuation firm.” Please revise your disclosure to name that firm, and include its consent as an exhibit to this registration statement.

Immuno-Oncology Program, page 101

7. It does not appear that you revised the disclosure in the second paragraph of this section in response to prior comment 14. Therefore, if the clinical successes and clinical results that you describe in that paragraph are not the results of your clinical studies, please revise to remove any implication to the contrary. Please also apply this comment to the disclosure that you added at the top of page 80.

Collaborations, page 105

8. We note your revisions in response to prior comment 24. Please clarify the purpose of the amendments to your agreements with your related parties. For example, where you say the scope was clarified, what was unclear about the original agreement and why did it

need to be clarified? Where you say the development plan was revised, was it extended or accelerated? To what extent? Why?

9. Please ensure that you have disclosed the material terms of the amended agreements and that you have filed the amended agreements as exhibits. In this regard, we note the reference in the fourth paragraph of this section to an amendment in May 2014. Please tell us with specificity where you filed the agreement as an exhibit. Also, please tell us why you have not included in this section disclosure of the amended agreement dated February 5, 2014 filed as exhibit 10.9.

Outstanding Equity Awards, page 128

10. The instruction that you cite in your response to prior comment 21 is not the instruction that governs the disclosure required in the footnotes to this table. See instruction 2 to Regulation S-K Item 402(p)(2). Please revise your analysis accordingly. If your revised analysis concludes that the disclosure need not be provided, include in your response what the milestones are and a clear explanation of how disclosure of those milestones is likely to cause substantial competitive harm. Also, if you do not believe that the actual final agreement governing this grant must be filed as an exhibit to this registration statement, please provide us the basis for your belief and provide us a copy of the agreement.

Certain Relationships and Related Party Transactions, page 141

11. Please tell us whether additional disclosure would be provided in response to Regulation S-K Item 404 if you had disclosed the information required by Regulation S-K Item 403 based on currently outstanding securities, rather than on an as-converted basis; see instruction 1.b.(i) to Regulation S-K Item 404(a).

Voting Agreement, page 141

12. Please expand your response to prior comment 25 to tell us why you do not believe your disclosure need address section 2.4(f) of exhibit 4.2, which, according to section 2.12 that you cite in your response, survives the IPO.

Principal Stockholders, page 143

13. We note your revisions on page 130 in response to prior comment 22. Please confirm our understanding that the 9,000,000 shares will be reflected in the last two columns of the table on page 143. Also, if these are the shares excluded per the third bullet point on page 7, please provide us your analysis of why it is appropriate to exclude those shares.

14. Please expand your response to prior comment 26 to provide more complete and specific information regarding how voting and dispositive power is exercised over your shares held in the name of Boehringer and Venrock. Include the number of people that must be involved before a voting or dispositive decision is made, and the role of those people.

Exhibit Index, page II-7

15. We note your response to prior comment 34. However, exhibit 10.24 to your Form S-1 filed on August 12, 2014 appears to be missing Exhibit E. Please file the complete exhibit.
16. We note your response to prior comment 35. Please tell us, with a view to disclosure, how the registrant is a party to the lease agreement between 502 WOC Properties, LP and Concurrent Pharmaceuticals, Inc. filed as exhibit 10.28 to your Form S-1.

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.

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.

Jeffrey S. Hatfield  
Vitae Pharmaceuticals, Inc.  
August 25, 2014  
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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.