



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

DIVISION OF
CORPORATION FINANCE

December 19, 2011

Via Email

Christoph Westphal, M.D., Ph.D.
Chief Executive Officer
Verastem, Inc.
215 First Street, Suite 440
Cambridge, Massachusetts 02142

**Re: Verastem, Inc.
Registration Statement on Form S-1/A
Filed December 7, 2011
File No. 333-177677**

Dear Dr. Westphal:

We have reviewed your December 7, 2011 amendment and letter filed in response to our November 30, 2011 comment letter and have the following additional 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.

Dilution, page 45

1. Please tell us why it is appropriate to use the common shares outstanding and the unvested common stock that remain subject to repurchase in your dilution table as opposed to just the common shares that are outstanding. Please cite for us any specific reference in ASC Topic 718 that allows you to include unvested common stock that remains subject to repurchase as common stock outstanding.

Management's Discussion and Analysis of Financial Condition and Results of Operations, page 50

Stock Based Compensation, page 50

2. We acknowledge your response to comment 14. Please tell us why you selected the eight representative companies for estimating the volatility used to determine the value of your

company. Please describe the similarities between your company and the representative companies, such that using their historical volatility factor would produce the best estimate of your valuation. Additionally, please tell us why different representative companies were used to determine your volatility factor in the notes to the financial statements for your stock-based compensation.

Financial Statements, page F-3

Note 6 – Common Stock, page F-15

3. We acknowledge your response and revisions for comment 21. Please revise the estimated volatility in your stock based compensation calculation such that the historical volatility of a truly representative group of companies is used, with similar characteristics, preclinical stage of product development and therapeutic focus. We reviewed the business and financial statements disclosures of your representative group of public companies and do not believe that the companies used to determine your volatility have similar characteristics, including their stage of product development and therapeutic focus. Some of the companies are generating revenue, others have a significantly different market capitalization compared to your current valuation, some have product candidates in clinical development, some have products on the market and others have a new drug application under review by the Food and Drug Administration. These are not companies that have similar characteristics or start-ups in an early stage of product development as you identify yourself to be in your risk factors or throughout your financial statements. In addition, we identified some companies out of the seven companies used in your sample that have similar characteristics and are in a similar preclinical stage of product development but do not have a similar therapeutic focus.

Note 10. License Agreements, page F-21

4. We acknowledge your response to comment 22 that the remaining license agreements are individually not material to the Company. We would expect that disclosure of individual activity that is not material to the company would not be reported in the Company's financial statements. Since these agreements are included in your financial statements, please revise your disclosures to discuss the annual maintenance fees, upfront fees and milestones payments that could be made cumulatively for all of the remaining license agreements. With regards to the annual maintenance fee for the Whitehead Institute for Biomedical Research agreement, consistent with your response, please disclose that this amount is not material to the financial statements. Alternatively, please tell us why this activity is significant for disclosure to investors but not material enough to quantify for investors.

Note 12. Subsequent Events, page F-22

5. We note your agreement with Poniard for the issuance of 500,000 warrants to purchase your common stock for cash or on a cashless basis. Please tell us how you will account for the warrants and cite for us the authoritative accounting literature that you relied upon.

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 a written statement from the company 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 Christine Allen at (202) 551-3652 or Gus Rodriguez, Accounting Branch Chief, at (202) 551-3752 if you have questions regarding comments on the financial statements and related matters. Please contact Laura Crotty at (202) 551-3563, Bryan Pitko at (202) 551-3203 or me at (202) 551-3715 with any other questions.

Sincerely,

/s/ Jeffrey P. Riedler

Jeffrey P. Riedler
Assistant Director

cc: Brian A. Johnson (Wilmer Cutler Pickering Hale and Dorr LLP)