UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM S-1

REGISTRATION STATEMENT UNDER THE SECURITIES ACT OF 1933

Verastem, Inc.

(Exact Name of Registrant as Specified in its Charter)

Delaware

(State or Other Jurisdiction of Incorporation or Organization)

2834

(Primary Standard Industrial Classification Code Number)

27-3269467 (I.R.S. Employer Identification Number)

215 First Street, Suite 440 Cambridge, MA 02142 (617) 252-9300

(Address, Including Zip Code, and Telephone Number, Including Area Code, of Registrant's Principal Executive Offices)

Christoph Westphal, M.D., Ph.D.
President and Chief Executive Officer
Verastem, Inc.
215 First Street, Suite 440
Cambridge, Massachusetts 02142
(617) 252-9300

(Name, Address, Including Zip Code, and Telephone Number, Including Area Code, of Agent for Service)

copies to:

David E. Redlick, Esq.
Brian A. Johnson, Esq.
Wilmer Cutler Pickering Hale and Dorr LLP
60 State Street
Boston, Massachusetts 02109
(617) 526-6000

Patrick O'Brien, Esq. Ropes & Gray LLP Prudential Tower 800 Boylston Street Boston, Massachusetts 02199 (617) 951-7000

Approximate date of commencement of proposed sale to the public: As soon as practicable after this Registration Statement becomes effective.

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, check the following box. o

If this Form is filed to register additional securities for an offering pursuant Rule 462(b) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. x 333-177677

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. o

If this Form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer o Accelerated Non-accelerated filer x (Do not check if a smaller reporting company) Smaller rep

Accelerated filer o Smaller reporting company o

CALCULATION OF REGISTRATION FEE

	Proposed maximum	
Title of each class of securities	aggregate	Amount of
to be registered	offering price (1)	registration fee(2)
Common Stock, \$0.0001 par value per share	\$6,325,000	\$725

- (1) Estimated solely for the purpose of calculating a registration fee pursuant to Rule 457(o) under the Securities Act of 1933, as amended.
- $(2) \ Calculated \ pursuant \ to \ Rule \ 457 (o) \ based \ on \ an \ estimate \ of \ the \ proposed \ maximum \ aggregate \ offering \ price.$

This Registration Statement shall become effective upon filing with the Commission in accordance with Rule 462(b) under the Securities Act of 1933, as amended.

Explanatory Note and Incorporation By Reference

This registration statement is being filed with respect to the registration of additional shares of common stock, par value \$0.0001 per share, of Verastem, Inc., a Delaware corporation, pursuant to Rule 462(b) under the Securities Act of 1933, as amended. The contents of the earlier registration statement on Form S-1 (File No. 333-177677), which was declared effective by the Commission on January 26, 2012, are incorporated in this registration statement by reference.

The required opinions and consents are listed on an Exhibit Index attached hereto and filed herewith.

Signatures

Pursuant to the requirements of the Securities Act of 1933, the Registrant has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Cambridge, Commonwealth of Massachusetts, on this 26th day of January, 2012.

VERASTEM, INC.

By: /s/ Christoph Westphal, M.D., Ph.D.

Name: Christoph Westphal, M.D., Ph.D. Title: President and Chief Executive Officer

Pursuant to the requirements of the Securities Act of 1933, this Registration Statement has been signed by the following persons in the capacities and on the dates indicated.

Signature	Title	Date
/s/ Christoph Westphal, M.D., Ph.D.	President, Chief Executive Officer and Director	January 26, 2012
Christoph Westphal, M.D., Ph.D.	(Principal executive officer)	
/s/ Robert Forrester	Chief Operating Officer	January 26, 2012
Robert Forrester	(Principal financial and accounting officer)	
*	Director	January 26, 2012
Richard Aldrich		
*	Director	January 26, 2012
John K. Clarke		
*	Director	January 26, 2012
Ansbert Gadicke, M.D.		
*	Director	January 26, 2012
Stephen Kraus		
*	Director	January 26, 2012
Henri Termeer		
*By: /s/ Christoph Westphal, M.D., Ph.D. Christoph Westphal, M.D., Ph.D.		
Attorney-in-Fact		

Exhibit Index

Exhibit No. Description

5.1 Opinion of Wilmer Cutler Pickering Hale and Dorr LLP

23.1 Consent of Wilmer Cutler Pickering Hale and Dorr LLP (included in Exhibit 5.1)

23.2 24.1* Consent of Ernst & Young LLP Powers of Attorney (included on signature page)

^{*} Filed as Exhibit 24.1 to the Registrant's Registration Statement on Form S-1 (File No. 333-177677) filed with the Commission on November 3, 2011, as amended, and incorporated in this registration statement by reference.

WILMERHALE

Brian A. Johnson

+1 212 937 7206(t) +1 212 230 8888(f) brian.johnson@wilmerhale.com

January 26, 2012

Verastem, Inc. 215 First Street, Suite 440 Cambridge, Massachusetts 02142

Re: Registration Statement on Form S-1

Ladies and Gentlemen:

This opinion is furnished to you in connection with a Registration Statement on Form S-1 (the "Registration Statement") filed with the Securities and Exchange Commission (the "Commission") under the Securities Act of 1933, as amended (the "Securities Act"), pursuant to Rule 462(b) of the Securities Act for the registration of shares of Common Stock, \$0.0001 par value per share, of Verastem, Inc., a Delaware corporation (the "Company"), with a proposed maximum offering price of \$6,325,000 (the "Shares"), including Shares issuable upon exercise of an over-allotment option granted by the Company.

The Shares are to be sold by the Company pursuant to an underwriting agreement (the "Underwriting Agreement") by and among the Company and the several underwriters named in Schedule A thereto, for which UBS Securities LLC and Leerink Swann LLC are acting as representatives, the form of which has been filed as Exhibit 1.1 to the Registration Statement.

We are acting as counsel for the Company in connection with the issue and sale by the Company of the Shares. We have examined signed copies of the Registration Statement as filed with the Commission. We have also examined and relied upon the Underwriting Agreement, minutes of meetings and actions of the stockholders and the Board of Directors of the Company as provided to us by the Company, stock record books of the Company as provided to us by the Company, the Certificate of Incorporation and Bylaws of the Company, each as restated and/or amended to date, and such other documents as we have deemed necessary for purposes of rendering the opinions hereinafter set forth.

In our examination of the foregoing documents, we have assumed the genuineness of all signatures, the authenticity of all documents submitted to us as originals, the conformity to original documents of all documents submitted to us as copies, the authenticity of the originals of such latter documents and the legal competence of all signatories to such documents.

We express no opinion herein as to the laws of any state or jurisdiction other than the state laws of the Commonwealth of Massachusetts, the General Corporation Law of the State of Delaware and the federal laws of the United States of America.

Based upon and subject to the foregoing, we are of the opinion that the Shares have been duly authorized for issuance and, when the Shares are issued and paid for in accordance with the terms and conditions of the Underwriting Agreement, the Shares will be validly issued, fully paid and nonassessable.

Please note that we are opining only as to the matters expressly set forth herein, and no opinion should be inferred as to any other matters. This opinion is based upon currently existing statutes, rules, regulations and judicial decisions, and we disclaim any obligation to advise you of any change in any of these sources of law or subsequent legal or factual developments which might affect any matters or opinions set forth herein.

We hereby consent to the filing of this opinion with the Commission as an exhibit to the Registration Statement in accordance with the requirements of Item 601(b)(5) of Regulation S-K under the Securities Act and to the use of our name therein and in the related Prospectus under the caption "Legal matters." In giving such consent, we do not hereby admit that we are in the category of persons whose consent is required under Section 7 of the Securities Act or the rules and regulations of the Commission.

Very truly yours,

WILMER CUTLER PICKERING HALE AND DORR LLP

By: /s/ Brian A. Johnson

Consent of Independent Registered Public Accounting Firm

We consent to the reference to our firm under the caption "Experts" and to the incorporation by reference of our report dated November 2, 2011, except for Note 12(b), (c) and (d), as to which the date is January 10, 2012, which appears in the Registration Statement (Form S-1 No. 333-177677) and related Prospectus of Verastem, Inc., in this Registration Statement on Form S-1, filed pursuant to Rule 462(b) of the Securities Act of 1933.

/s/ Ernst & Young LLP

Boston, Massachusetts January 23, 2012