# UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

# FORM S-3

**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) 27-3269467 (I.R.S. Employer Identification No.)

117 Kendrick Street, Suite 500 Needham, Massachusetts 02494 (781) 292-4200

(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

Brian M. Stuglik Chief Executive Officer Verastem, Inc.

117 Kendrick Street, Suite 500

Needham, Massachusetts 02494 (781) 292-4200

(Name, address including zip code, and telephone number, including area code, of agent for service)

With copies to:

Thomas J. Danielski, Esq. Ropes & Gray LLP Prudential Tower 800 Boylston St. Boston, Massachusetts 02199 (617) 951-7000

Approximate date of commencement of proposed sale to the public: From time to time after the effective date of this registration statement.

If the only securities being registered on this Form are being offered pursuant to dividend or interest reinvestment plans, please check the following box. o

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, other than securities offered only in connection with dividend or interest reinvestment plans, check the following box. x

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please 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(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 registration statement pursuant to General Instruction I.D. or a post-effective amendment thereto that shall become effective upon filing with the Commission pursuant to Rule 462(e) under the Securities Act, check the following box. o

If this Form is a post-effective amendment to a registration statement filed pursuant to General Instruction I.D. filed to register additional securities or additional classes of securities pursuant to Rule 413(b) under the Securities Act, check the following box. o

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

Large accelerated fileroAccelerated filerxNon-accelerated fileroSmaller reporting companyxEmerging growth companyo

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 7(a)(2)(B) of Securities Act. o

#### CALCULATION OF REGISTRATION FEE

|                        |               | Proposed           |      |                          |                 |
|------------------------|---------------|--------------------|------|--------------------------|-----------------|
| Title of Each Class of |               | Maximum            |      |                          | Amount of       |
| Securities to be       | Amount to be  | Offering Price Per |      | Proposed Maximum         | Registration    |
| Registered             | Registered(1) | Share              |      | Aggregate Offering Price | Fee             |
| Common Stock           | 46,511,628    | \$<br>1.69(2       | ) \$ | 78,604,651.32            | \$<br>10,202.88 |

(1) Pursuant to Rule 416 under the Securities Act of 1933, as amended (the "Securities Act"), the shares of common stock offered hereby also include an indeterminate number of additional shares of common stock as may from time to time become issuable by reason of stock splits, stock dividends, recapitalizations or other similar transactions.

(2) With respect to the shares of common stock offered by the selling stockholders named herein, estimated at \$1.69 per share, the average of the high and low prices as reported on the Nasdaq Capital Market on March 16, 2020, for the purpose of calculating the registration fee in accordance with Rule 457(c) under the Securities Act.

The registrant hereby amends this registration statement on such date or dates as may be necessary to delay its effective date until the registrant shall file a further amendment which specifically states that this registration statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act, or until the registration statement shall become effective on such date as the Securities and Exchange Commission, acting pursuant to said Section 8(a), may determine.

The information in this prospectus is not complete and may be changed. The selling stockholders may not sell these securities or accept an offer to buy these securities until the Securities and Exchange Commission declares the registration statement effective. This prospectus is not an offer to sell these securities and is not soliciting an offer to buy these securities in any state where the offer or sale is not permitted.

### SUBJECT TO COMPLETION, DATED MARCH 20, 2020

### PRELIMINARY PROSPECTUS

#### VERASTEM, INC.

#### 46,511,628 Shares of Common Stock

This prospectus relates to the resale or other disposition from time to time of up to 46,511,628 shares of our common stock, par value \$0.0001 per share (the "Common Stock"), by the selling stockholders identified in this prospectus, including their transferees, pledgees, donees or successors.

The selling stockholders may, from time to time, sell, transfer, or otherwise dispose of any or all of their securities from time to time on any stock exchange, market, or trading facility on which the securities are traded or in private transactions. These dispositions may be at fixed prices, at prevailing market prices at the time of sale, at prices related to the prevailing market price, at varying prices determined at the time of sale, or at negotiated prices. See "Plan of Distribution" which begins on page 15.

We are not offering any shares of our Common Stock for sale under this prospectus. We will not receive any of the proceeds from the sale of common stock by the selling stockholders. All expenses of registration incurred in connection with this offering are being borne by us. All selling and other expenses incurred by the selling stockholders will be borne by the selling stockholders.

Our common stock is quoted on the Nasdaq Capital Market under the symbol "VSTM." On March 19, 2020, the last reported sale price of our common stock as reported on the Nasdaq Capital Market was \$1.86 per share.

We may amend or supplement this prospectus from time to time by filing amendments or supplements as required. You should read the entire prospectus and any amendments or supplements carefully before you make your investment decision.

Investing in our securities involves risks. See "Risk Factors" on page 6, and any applicable prospectus supplement, and under similar headings in the other documents that are incorporated by reference into this prospectus.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the adequacy or accuracy of this prospectus. Any representation to the contrary is a criminal offense.

Prospectus dated , 2020

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### ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement on Form S-3 that we filed with the Securities and Exchange Commission (the "SEC") using a "shelf" registration or continuous offering process.

You should read this prospectus and the information and documents incorporated by reference carefully. Such documents contain important information you should consider when making your investment decision. See "Where You Can Find More Information" and "Incorporation of Documents by Reference" in this prospectus.

This prospectus may be supplemented from time to time to add, to update or change information in this prospectus. Any statement contained in this prospectus will be deemed to be modified or superseded for purposes of this prospectus to the extent that a statement contained in such prospectus supplement modifies or supersedes such statement. Any statement so modified will be deemed to constitute a part of this prospectus only as so modified, and any statement so superseded will be deemed not to constitute a part of this prospectus. You should rely only on the information contained or incorporated by reference in this prospectus, any applicable prospectus supplement or any related free writing prospectus. We have not authorized any other person to provide you with different information. If anyone provides you with different or inconsistent information, you should not rely on it. No dealer, salesperson or other person is authorized to give any information or to represent anything not contained in this prospectus, any applicable prospectus is not an offer to sell securities, and it is not soliciting an offer to buy securities, in any jurisdiction where the offer or sale is not permitted. You should assume that the information appearing in this prospectus or any prospectus supplement, as well as information we have filed with the SEC that is incorporated by reference, is accurate as of the date on the front of those documents only, regardless of the time of delivery of this prospectus or any applicable prospectus supplement, or any sale of a security. Our business, financial condition, results of operations and prospects may have changed since those dates.

This prospectus contains summaries of certain provisions contained in some of the documents described herein, but reference is made to the actual documents for complete information. All of the summaries are qualified in their entirety by the actual documents. Copies of some of the documents referred to herein have been filed, will be filed or will be incorporated by reference as exhibits to the registration statement of which this prospectus is a part, and you may obtain copies of those documents as described below under "Where You Can Find More Information."

Unless otherwise stated or the context requires otherwise, references in this prospectus to "Verastem," the "company" or the "Company," "we," "us," or "our" refer to Verastem, Inc.

### ABOUT THE COMPANY

#### **Company Overview**

We are a biopharmaceutical company focused on developing and commercializing medicines to improve the survival and quality of life of cancer patients. Our marketed product, COPIKTRA® ("duvelisib") capsules, and most advanced product candidates, defactinib and CH5126766 also referred to as VS-6766, utilize a multi-faceted approach designed to treat cancers originating either in the blood or major organ systems. We are currently developing duvelisib and our product candidates in both preclinical and clinical studies as potential therapies for certain cancers, including leukemia, lymphoma, lung cancer, mesothelioma, ovarian cancer, head and neck cancer, colorectal cancer and pancreatic cancer. We believe that these compounds may be beneficial as therapeutics either as single agents or when used in combination with immuno-oncology agents, other pathway inhibitors or other current and emerging standard of care treatments in aggressive cancers that do not adequately respond to currently available therapies.

COPIKTRA is an oral inhibitor of phosphoinositide 3-kinase ("PI3K"), and the first approved dual inhibitor of PI3K-delta and PI3K-gamma, two enzymes known to help support the growth and survival of malignant B-cells and T-cells. PI3K signaling may lead to the proliferation of malignant B-cells and T-cells and is thought to play a role in the formation and maintenance of the supportive tumor microenvironment. COPIKTRA was approved by the U.S. Food & Drug Administration (the "FDA") on September 24, 2018 and is now indicated for the treatment of adult patients with relapsed or refractory chronic lymphocytic leukemia/small lymphocytic lymphoma ("CLL/SLL") after at least two prior therapies and relapsed or refractory follicular lymphoma ("FL") after at least two prior systemic therapies. The indication in FL is approved under accelerated approval based on overall response rate. Continued approval for this FL indication may be contingent upon verification and description of clinical benefits in confirmatory trials.

We are also developing duvelisib for the treatment of multiple types of cancer, the most advanced of which is for treatment of patients with peripheral T-cell lymphoma ("PTCL"). The development of duvelisib in PTCL has been awarded Fast Track and Orphan Drug status by the FDA and a registration study is underway. During 2020, we plan to continue to further develop duvelisib through our registration-directed Phase 2 PTCL study and other sponsored trials. We also expect that interim data for several ongoing investigator sponsored studies ("ISTs") will be reported.

Defactinib, is a targeted inhibitor of Focal Adhesion Kinase ("FAK"). FAK is a non-receptor tyrosine kinase encoded by the Protein Tyrosine Kinase-2 ("PTK-2") gene that is involved in cellular adhesion and, in cancer, metastatic capability. CH5126766, is a first-in-class small molecule RAF/MEK inhibitor. Defactinib in combination with CH5126766 is being studied in an ongoing Phase 1 IST in patients with KRAS mutant advanced solid tumors, including ovarian cancer, non-small cell lung cancer ("NSCLC") and colorectal cancer. Similar to COPIKTRA, both defactinib and CH5126766 are delivered orally and designed to be a potential therapy for patients to take at home under the advice of their physician. During 2020, we expect the results from the defactinib/CH5126766 IST to be reported.

In addition, defactinib is currently being investigated in combination with immunotherapeutic and other agents through ISTs. In 2020, it is planned to report results from certain ongoing dose escalation combination studies involving defactinib.

Our principal executive offices are located at 117 Kendrick Street, Suite 500, Needham, MA 02494, and our telephone number is (781) 292-4200. Our website address is: www.verastem.com. We have included our website address as a factual reference and do not intend it to be an active link to our website. The information that can be accessed through our website is not part of this prospectus, and investors should not rely on any such information in deciding whether to purchase our common stock.

### **RISK FACTORS**

An investment in our common stock involves risks. Prior to making a decision about investing in our common stock, you should consider carefully the risks together with all of the other information contained or incorporated by reference in this prospectus, including any risks described in the section entitled "Risk Factors" contained in any supplements to this prospectus, in our <u>Annual Report on Form 10-K for the year ended December 31, 2019</u>, and in our subsequent filings with the SEC. Each of the referenced risks and uncertainties could adversely affect our business, prospects, operating results and financial condition, as well as adversely affect the value of an investment in our securities. Additional risks not known to us or that we believe are immaterial may also adversely affect our business, operating results and financial condition and the value of an investment in our securities.

## DESCRIPTION OF PRIVATE PLACEMENT OF COMMON STOCK

On March 3, 2020, we completed a private placement financing transaction. Pursuant to a securities purchase agreement (the "Purchase Agreement"), we issued 46,511,628 shares (the "Shares") of Common Stock at a purchase price of \$2.15 per Share. We received gross cash proceeds of approximately \$100,000,000, excluding transactions costs, fees and expenses, for the purchase of the Shares. The purchasers of the Shares were the selling stockholders named in this prospectus.

### DISCLOSURE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus, any prospectus supplement and the other documents we have filed with the SEC that are incorporated herein by reference, contain forward-looking statements that involve substantial risks and uncertainties. All statements, other than statements related to present facts or current conditions or historical facts, contained in or incorporated by reference into this prospectus, including statements regarding our strategy, future operations, future financial position, future revenues, projected costs, prospects, plans and objectives of management, are forward-looking statements. Such statements relate to, among other things, the development and activity of our lead product, COPIKTRA and our phosphoinositide 3-kinase ("PI3K"), focal adhesion kinase ("FAK") and rapidly accelerated fibrosarcoma ("RAF")/ mitogen-activated protein kinase ("MEK") programs generally, the potential commercial success of COPIKTRA, the anticipated adoption of COPIKTRA by patients and physicians, the structure of our planned and pending clinical trials, and the timeline and indications for clinical development, regulatory submissions and commercialization activities. The words "anticipate," "believe," "estimate," "expect," "intend," "may," "plan," "predict," "project," "target," "potential," "will," "would," "could," "should," "continue" and similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words.

Forward-looking statements are not guarantees of future performance and our actual results could differ materially from the results discussed in the forward-looking statements we make. Applicable risks and uncertainties include the risks and uncertainties, among other things, regarding: the commercial success of COPIKTRA in the United States; physician and patient adoption of COPIKTRA, including those related to the safety and efficacy of COPIKTRA; the uncertainties inherent in research and development of COPIKTRA, such as negative or unexpected results of clinical trials; whether and when any applications for COPIKTRA may be filed with regulatory authorities in any other jurisdictions; whether and when regulatory authorities in any other jurisdictions may approve any such other applications that may be filed for COPIKTRA, which will depend on the assessment by such regulatory authorities of the benefit-risk profile suggested by the totality of the efficacy and safety information submitted and, if approved, whether COPIKTRA will be commercially successful in such jurisdictions; our ability to obtain, maintain and enforce patent and other intellectual property protection for COPIKTRA and our other product candidates; the scope, timing, and outcome of any legal proceedings; decisions by regulatory authorities regarding labeling and other matters that could affect the availability or commercial potential of COPIKTRA; the fact that regulatory authorities in the U.S. or other jurisdictions, if approved, could withdraw approval; whether preclinical testing of our product candidates and preliminary or interim data from clinical trials will be predictive of the results or success of ongoing or later clinical trials; that the timing, scope and rate of reimbursement for our product candidates is uncertain; that third-party payors (including government agencies) may not reimburse for COPIKTRA; that there may be competitive developments affecting our product candidates; that data may not be available when expected; that enrollment of clinical trials may take longer than expected; that COPIKTRA or our other product candidates will cause unexpected safety events, experience manufacturing or supply interruptions or failures, or result in unmanageable safety profiles as compared to their levels of efficacy; that COPIKTRA will be ineffective at treating patients with lymphoid malignancies; that we will be unable to successfully initiate or complete the clinical development and eventual commercialization of our product candidates; that the development and commercialization of our product candidates will take longer or cost more than planned; that we may not have sufficient cash to fund our contemplated operations; that we may not realize the operational efficiencies and cost savings from restructuring; that we, Sanofi, CSPC Pharmaceutical Group Limited, Yakult Honsha Co. Ltd., Chugai Pharmaceutical Co., Ltd. or Infinity Pharmaceuticals, Inc.

will fail to fully perform under the license agreements; that we may be unable to make additional draws under our debt facility or obtain adequate financing in the future through product licensing, co-promotional arrangements, public or private equity, debt financing or otherwise; that we will not pursue or submit regulatory filings for our product candidates, including for duvelisib in patients with chronic lymphocytic leukemia/small lymphocytic lymphoma ("CLL/SLL") or indolent non-Hodgkin lymphoma ("iNHL") in other jurisdictions; and that our product candidates will not receive regulatory approval, become commercially successful products, or result in new treatment options being offered to patients. Other risks and uncertainties include those identified under the heading "Risk Factors" in our Annual Report on Form 10-K for the year ended December 31, 2019, and in any subsequent filings with the SEC.

As a result of these and other factors, we may not achieve the plans, intentions or expectations disclosed in our forward-looking statements, and you should not place undue reliance on our forward-looking statements. Our forward-looking statements do not reflect the potential impact of any future acquisitions, mergers, dispositions, joint ventures or investments we may make. We do not assume any obligation to update any forward-looking statements, whether as a result of new information, future events or otherwise, except as required by law.

## **USE OF PROCEEDS**

The selling stockholders will receive all of the net proceeds from sales of the Common Stock pursuant to this prospectus.

### SELLING STOCKHOLDERS

Pursuant to the Purchase Agreement, we agreed to file the registration statement of which this prospectus is a part to cover the resale of the shares of our Common Stock and to keep such registration statement effective with respect to each selling stockholder until the date on which all of the shares of our Common Stock registered for resale under the registration statement have been disposed of in accordance with such registration statement, disposed of pursuant to Rule 144 under the Securities Act, or can be resold pursuant to Rule 144 without restriction or limitation (including without any limitation as to volume of sales and without the selling stockholder complying with any method of sale requirements or notice requirements under Rule 144).

We are registering the resale of the above-referenced shares to permit each of the selling stockholders identified below, or their permitted transferees or other successors-in-interest that may be identified in a supplement to this prospectus or, if required, a post-effective amendment to the registration statement of which this prospectus is a part, to resell or otherwise dispose of the shares in the manner contemplated under "Plan of Distribution" in this prospectus (as may be supplemented and amended). This prospectus covers the sale or other disposition by the selling stockholders of up to the total number of shares of Common Stock that have been issued to the selling stockholders pursuant to the Purchase Agreement. Throughout this prospectus, when we refer to the shares of our Common Stock being registered on behalf of the selling stockholders, we are referring to the shares of our Common Stock issued pursuant to the Purchase Agreement, and when we refer to the selling stockholders in this prospectus, we are referring to the purchasers under the Purchase Agreement and, as applicable, their permitted transferees or other successors-in-interest that may be identified in a supplement to this prospectus or, if required, a post-effective amendment to the registration statement of which this prospectus is a part.

The selling stockholders may sell some, all or none of their shares. We do not know how long the selling stockholders will hold the shares before selling them, and we currently have no agreements, arrangements or understandings with the selling stockholders regarding the sale or other disposition of any of the shares. The shares of our Common Stock covered hereby may be offered from time to time by the selling stockholders.

When we refer to "selling stockholders" in this prospectus, we mean those persons listed in the table below, as well as their transferees, pledgees or donees or their successors. The information regarding shares beneficially owned after the offering assumes the sale of all shares offered by the selling stockholders. To our knowledge, subject to community property laws where applicable, each selling stockholder named in the table has sole voting and investment power with respect to the shares of Common Stock set forth opposite such selling stockholder's name.

The following table sets forth the name of each selling stockholder, the number and percentage of our Common Stock beneficially owned by the selling stockholders as of March 15, 2020, the number of shares of our Common Stock that may be offered under this prospectus, and the number and percentage of our Common Stock beneficially owned by the selling stockholders assuming all of the shares of our Common Stock registered hereunder are sold. As of March 15, 2020, a total of 158,604,929 shares of our Common Stock were outstanding. Beneficial ownership is determined in accordance with the rules of the SEC and includes voting or investment power with respect to our Common Stock. Generally, a person "beneficially owns" shares of our Common Stock if the person has or shares with others the right to vote those shares or to dispose of them, or if the person has the right to acquire voting or disposition rights within 60 days. The number of shares of our Common Stock in the column "Number of Shares Offered" represents all of the shares of our Common Stock that a selling stockholder may offer and sell from time to time under this prospectus.

|   | Prior to<br>Offering<br>Number of<br>Shares<br>Beneficially | Percentage<br>of<br>Shares<br>Beneficially | Number of<br>Shares | <u>After Offering</u><br>Number of<br>Shares<br>Beneficially | Percentage<br>of<br>Shares<br>Beneficially |
|---|---|--|---------------------|--|--|
| Name and Address Entities associated with RA Capital Management | Owned   | Owned                                      | Offered             | Owned  | Owned                                      |
| 200 Berkeley Street, $18^{th}$ Floor                            |   |  |                     |  |  |
| Boston, MA 02116  | 18,604,651(1)   | 11.73%                                     | 18,604,651          | 0  |  |
| Entities associated with Vivo Capital                           | 10,004,001(1)   | 11.7570                                    | 10,004,001          | 0  |  |
| 192 Lytton Avenue   |   |  |                     |  |  |
| Palo Alto, CA 94301   | 8,139,535(2)  | 5.13%                                      | 8,139,535           | 0  |  |
| Entities Associated with Venrock                                |   |  |                     |  |  |
| 7 Bryant Park, 23 <sup>rd</sup> Floor                           |   |  |                     |  |  |
| New York, NY 10018  | 3,720,930(3)  | 2.35%                                      | 3,720,930           | 0  |  |
| Entities Associated with Acuta Capital                          |   |  |                     |  |  |
| c/o Acuta Capital Partners, LLC                                 |   |  |                     |  |  |
| 1301 Shoreway Road, Suite 350                                   |   |  |                     |  |  |
| Belmont, CA 94002   | 3,720,930(4)  | 2.35%                                      | 3,720,930           | 0  |  |
| Entities associated with Farallon Capital Management,           |   |  |                     |  |  |
| L.L.C.  |   |  |                     |  |  |
| One Maritime Plaza, Suite 2100                                  |   |  |                     | _  |  |
| San Francisco, CA 94111   | 3,720,930(5)  | 2.35%                                      | 3,720,930           | 0  | —  |
| Entities associated with EcoR1 Capital                          |   |  |                     |  |  |
| 357 Tehama Street, Suite 3                                      |   | 0.050/                                     |                     | 0  |  |
| San Francisco, CA 94103   | 3,255,813(6)  | 2.05%                                      | 3,255,813           | 0  |  |
| Avidity Master Fund LP  |   |  |                     |  |  |
| 2828 N. Harwood, Floor 12<br>Dallas, TX 75209                   | 2,790,698(7)  | 1.76%                                      | 2,790,698           | 0  |  |
| Logos Global Master Fund, LP                                    | 2,790,090(7)  | 1./0%                                      | 2,790,090           | 0  | _  |
| 1 Letterman Drive   |   |  |                     |  |  |
| Building D, Suite D3-700  |   |  |                     |  |  |
| San Francisco, CA 94129   | 2,325,582(8)  | 1.47%                                      | 2,325,582           | 0  | _  |
| CVI Investments, Inc.   | _,5_5,552(0)  | 2,,0                                       | <u>_,0_0,00</u>     | 0  |  |
| c/o Heights Capital Management, Inc.                            |   |  |                     |  |  |
| 101 California Street, Suite 3250                               |   |  |                     |  |  |
| San Francisco, CA 94111   | 232,599(9)  | *  | 232,599             | 0  | _  |
|   |   |  |                     |  |  |

\*Represents less than 1%.

(1) Consists of (i) 15,917,532 shares of Common Stock owned by RA Capital Healthcare Fund, LP (the "Fund") and (ii) 2,687,119 shares of Common Stock owned by Blackwell Partners LLC — Series A (the "Account"). RA Capital Management, L.P. (the "Adviser") is the investment manager for the Fund and the Account. The general partner of the Adviser is RA Capital Management GP, LLC (the "Adviser GP"), of which Dr. Peter Kolchinsky and Mr. Rajeev Shah are the managing members. The Adviser, the Adviser GP, Dr. Kolchinsky, and Mr. Shah disclaim beneficial ownership of securities held by the Fund and the Account, except to the extent of their pecuniary interest therein.

- (2) Consists of (i) 6,654,632 shares of Common Stock held by Vivo Opportunity Fund, L.P. and (ii) 1,484,903 shares of Common Stock held by Vivo Capital Fund IX, L.P. Vivo Opportunity, LLC is the general partner of Vivo Opportunity Fund, L.P. The voting members of Vivo Opportunity, LLC are Albert Cha, Gaurav Aggarwal, Shan Fu, Frank Kung and Michael Chang, none of whom has individual voting or investment power with respect to these shares and each of whom disclaims beneficial ownership of such shares. Vivo Capital IX, LLC is the general partner of Vivo Capital Fund IX, L.P. The voting members of Vivo Capital IX, LLC are Frank Kung, Edgar Engleman, Albert Cha, Shan Fu and Chen Yu, none of whom has individual voting or investment power with respect to these shares and each of whom each of whom has individual voting or investment power with respect to these shares.
- (3) Consists of (i) 338,266 shares of Common Stock owned by VHCP Co-Investment Holdings III, LLC and (ii) 3,382,664 shares of Common Stock owned by Venrock Healthcare Capital Partners III, L.P. VHCP Management III, LLC is the general partner of Venrock Healthcare Capital Partners III, L.P. and the manager of VHCP Co-Investment Holdings III, LLC. Bong Koh and Nimish Shah are the voting members of VHCP Management III, LLC.
- (4) Consists of (i) 3,013,953 shares of Common Stock held by Acuta Capital Fund, LP and (ii) 706,977 shares of Common Stock held by Acuta Opportunity Fund, LP. Anupam Dalal is the Chief Investment Officer and Manfred Yu is the Manager of Acuta Capital Partners, LLC, the general partner of Acuta Capital Fund, LP and Acuta Opportunity Fund, LP. Both Mr. Yu and Mr. Dalal have voting and investment authority over all of the shares held by Acuta Capital Fund, LP and Acuta Opportunity Fund, LP, and both disclaim beneficial ownership of all such shares except to the extent of their pecuniary interest therein.
- (5) Consists of (i) 818,605 shares of Common Stock held by Farallon Capital Partners, L.P. ("FCP"), (ii) 893,023 shares of Common Stock held by Farallon Capital Institutional Partners, L.P. ("FCIP"), (iii) 111,628 shares of Common Stock held by Farallon Capital Institutional Partners II, L.P. ("FCIP II"), (iv) 55,814 shares of Common Stock held by Farallon Capital Institutional Partners III, L.P. ("FCIP III"), (v) 111,628 shares of Common Stock held by Four Crossings Institutional Partners V, L.P. ("FCIP V"), (vi) 1,516,279 shares of Common Stock held by Farallon Capital Offshore Investors II, L.P. ("FCOI II"), (vii) 65,116 shares of Common Stock held by Farallon Capital (AM) Investors, L.P. ("FCAMI") and (viii) 148,837 shares of Common Stock held by Farallon Capital F5 Master I, L.P. ("F5MI"). Farallon Partners, L.L.C. ("FPLLC"), as the general partner of each of FCP, FCIP, FCIP II, FCIP III, FCOI II and FCAMI (together, the "FPLLC Entities") and the sole member of the general partner of FCIP V, may be deemed to beneficially own such shares of Common Stock held by each of the FPLLC Entities and FCIP V. Farallon Institutional (GP) V, L.L.C. ("FCIP V GP"), as the general partner of FCIP V, may be deemed to beneficially own such shares of Common Stock held by FCIP V. Farallon F5 (GP), L.L.C. ("F5MI GP"), as the general partner of F5MI, may be deemed to beneficially own such shares of Common Stock held by F5MI. Each of Philip D. Dreyfuss, Michael B. Fisch, Richard B. Fried, David T. Kim, Michael G. Linn, Rajiv A. Patel, Thomas G. Roberts, Jr., William Seybold, Andrew J. M. Spokes, John R. Warren and Mark C. Wehrly (together, the "Farallon Managing Members"), as a managing member or senior managing member, as the case may be, of FPLLC and a manager or senior manager, as the case may be, of each of FCIP V GP and F5MI GP, in each case with the power to exercise investment discretion with respect to the shares that may be deemed to be beneficially owned by FPLLC, FCIP V GP or

F5MI GP, may be deemed to beneficially own such shares of Common Stock held by the FPLLC Entities, FCIP V and F5MI. Each of FPLLC, FCIP V GP, F5MI GP and the Farallon Managing Members disclaims beneficial ownership of any such shares of Common Stock. The address for each of the entities and individuals identified in this footnote is c/o Farallon Capital Management, L.L.C., One Maritime Plaza, Suite 2100, San Francisco, California 94111.

- (6) Consists of (i) 553,164 shares of Common Stock held by EcoR1 Capital Fund, LP and (ii) 2,702,649 shares of Common Stock held by EcoR1 Capital Fund Qualified, LP. EcoR1 Capital LLC is the general partner of EcoR1 Capital Fund, LP and EcoR1 Capital Fund Qualified, LP. Oleg Nodelman, as manager of EcoR1 Capital LLC, has voting and investment power with respect to the shares owned by EcoR1 Capital LLC.
- (7) Avidity Capital Partners Fund (GP) LP is the general partner of Avidity Master Fund LP (the "Avidity Fund"). Avidity Capital Partners (GP) LLC is the general partner of Avidity Capital Partners Fund (GP) LP. David Witzke and Michael Gregory are the managing members of Avidity Capital Partners (GP) LLC. Avidity Partners Management LP, is the investment manager of the Avidity Fund. Avidity Partners Management (GP) LLC is the general partner of Avidity Partners Management LP. David Witzke and Michael Gregory are the managing members of Avidity Partners Management (GP) LLC. Each of the entities and individuals referenced in this footnote may be deemed to beneficially own the shares held by Avidity Master Fund LP.
- (8) Consists of 2,325,582 shares of Common Stock held by Logos Global Master Fund, LP. Logos GP LLC is the general partner of Logos Global Master Fund, LP and Logos Global Management, LP. Arsani William, as manager of Logos GP LLC, has voting and investment power with respect to the shares owned by Logos GP LLC.
- (9) Heights Capital Management, Inc., the authorized agent of CVI Investments, Inc. ("CVI"), has discretionary authority to vote and dispose of the shares held by CVI and may be deemed to be the beneficial owner of these shares. Martin Kobinger, in his capacity as Investment Manager of Heights Capital Management, Inc., may also be deemed to have investment discretion and voting power over the shares held by CVI. Mr. Kobinger disclaims any such beneficial ownership of the shares.

### PLAN OF DISTRIBUTION

The selling stockholders, which as used herein includes donees, pledgees, transferees or other successors-in-interest selling shares of Common Stock previously issued or interests in shares of Common Stock received after the date of this prospectus from a selling stockholder as a gift, pledge, partnership distribution or other transfer, may, from time to time, sell, transfer or otherwise dispose of any or all of their shares of Common Stock or interests in shares of Common Stock exchange, market or trading facility on which the shares are traded or in private transactions. The selling stockholders may sell their shares of our Common Stock pursuant to this prospectus at fixed prices, at prevailing market prices at the time of sale, at prices related to the prevailing market price, at varying prices determined at the time of sale, or at negotiated prices.

The selling stockholders may use any one or more of the following methods when disposing of shares or interests therein:

- ordinary brokerage transactions and transactions in which the broker-dealer solicits purchasers;
- block trades in which the broker-dealer will attempt to sell the shares as agent, but may position and resell a portion of the block as principal to facilitate the transaction;
- · purchases by a broker-dealer as principal and resale by the broker-dealer for its account;
- an exchange distribution in accordance with the rules of the applicable exchange;
- privately negotiated transactions;
- · short sales effected after the date the registration statement of which this prospectus is a part is declared effective by the SEC;
- through the writing or settlement of options or other hedging transactions, whether through an options exchange or otherwise;
- broker-dealers may agree with the selling stockholders to sell a specified number of such shares at a stipulated price per share;
- · a combination of any such methods of sale; and
- · any other method permitted by applicable law.

If the selling stockholders effect such transactions by selling shares of Common Stock to or through underwriters, broker-dealers or agents, such underwriters, broker-dealers or agents may receive commissions in the form of discounts, concessions or commissions from the selling stockholders or commissions from purchasers of the shares of Common Stock for whom they may act as agent or to whom they may sell as principal (which discounts, concessions or commissions as to particular underwriters, broker-dealers or agents may be in excess of those customary in the types of transactions involved).

Broker-dealers engaged by the selling stockholders may arrange for other brokers-dealers to participate in sales. Broker-dealers may receive commissions or discounts from the selling stockholders (or, if any broker-dealer acts as agent for the purchaser of securities, from the purchaser) in amounts to be negotiated.

The selling stockholders may, from time to time, pledge or grant a security interest in some or all of the shares of Common Stock owned by them and, if they default in the performance of their secured obligations, the pledgees or secured parties may offer and sell the shares of Common Stock, from time to time, under this prospectus, or under an amendment to this prospectus under Rule 424(b)(3) or other applicable provision of the Securities Act amending the list of selling stockholders to include the pledgee, transferee or other successors in interest as selling stockholders under this prospectus. The selling stockholders also may transfer the shares of Common Stock in other circumstances, in which case the transferees, pledgees or other successors in interest will be the selling beneficial owners for purposes of this prospectus.

In connection with the sale of our Common Stock or interests therein, the selling stockholders may enter into hedging transactions with brokerdealers or other financial institutions, which may in turn engage in short sales of our Common Stock in the course of hedging the positions they assume. The selling stockholders may also sell shares of our Common Stock short and deliver these securities to close out their short positions, or loan or pledge our common stock to broker-dealers that in turn may sell these securities. The selling stockholders may also enter into option or other transactions with brokerdealers or other financial institutions or the creation of one or more derivative securities which require the delivery to such broker-dealer or other financial institution of shares offered by this prospectus, which shares such broker-dealer or other financial institution may resell pursuant to this prospectus (as supplemented or amended to reflect such transaction).

The aggregate proceeds to the selling stockholders from the sale of the Common Stock offered by them will be the purchase price of the Common Stock less discounts or commissions, if any. Each of the selling stockholders reserves the right to accept and, together with their agents from time to time, to reject, in whole or in part, any proposed purchase of Common Stock to be made directly or through agents. We will not receive any of the proceeds from this offering.

The selling stockholders also may resell all or a portion of the shares of Common Stock in open market transactions in reliance upon Rule 144 under the Securities Act, provided that they meet the criteria and conform to the requirements of that rule. In addition, the selling stockholders may transfer the shares of Common Stock by other means not described in this prospectus.

The selling stockholders and any underwriters, broker-dealers or agents that participate in the sale of the Common Stock or interests therein may be "underwriters" within the meaning of Section 2(11) of the Securities Act. Any discounts, commissions, concessions or profit they earn on any resale of the shares may be underwriting discounts and commissions under the Securities Act. Selling stockholders who are "underwriters" within the meaning of Section 2(11) of the Securities Act. Selling stockholders who are "underwriters" within the meaning of Section 2(11) of the Securities Act will be subject to the prospectus delivery requirements of the Securities Act.

To the extent required, the shares of our Common Stock to be sold, the names of the selling stockholders, the respective purchase prices and public offering prices, the names of any agents, dealer or underwriter, any applicable commissions or discounts with respect to a particular offer will be set forth in an accompanying prospectus supplement or, if appropriate, a post-effective amendment to the registration statement that includes this prospectus.

In order to comply with the securities laws of some states, if applicable, the Common Stock may be sold in these jurisdictions only through registered or licensed brokers or dealers. In addition, in some states the Common Stock may not be sold unless it has been registered or qualified for sale or an exemption from registration or qualification requirements is available and is complied with.

We have advised the selling stockholders that the anti-manipulation rules of Regulation M under the Exchange Act may apply to sales of shares in the market and to the activities of the selling stockholders and their affiliates. In addition, to the extent applicable we will make copies of this prospectus (as it may be supplemented or amended from time to time) available to the selling stockholders for the purpose of satisfying the prospectus delivery requirements of the Securities Act.

The selling stockholders may indemnify any broker-dealer that participates in transactions involving the sale of the shares against certain liabilities, including liabilities arising under the Securities Act.

Once sold under the registration statement of which this prospectus forms a part, the shares of Common Stock will be freely tradable in the hands of persons other than our affiliates.

We have agreed to indemnify the selling stockholders against liabilities, including liabilities under the Securities Act and state securities laws, relating to the registration of the shares offered by this prospectus.

We will pay all expenses of the registration of the shares of Common Stock, including, without limitation, SEC filing fees. We have agreed with the selling stockholders to keep the registration statement of which this prospectus constitutes a part effective until such time as the shares offered by the selling stockholders have been effectively registered under the Securities Act and disposed of in accordance with such registration statement, the shares offered by the selling stockholders have been disposed of pursuant to Rule 144 under the Securities Act or the shares offered by the selling stockholders may be resold pursuant to Rule 144 without restriction or limitation (including without any limitation as to volume of sales and without the selling stockholder complying with any method of sale requirements or notice requirements under Rule 144).

### LEGAL MATTERS

The validity of the issuance of the securities offered hereby will be passed upon for us by Ropes & Gray LLP, Boston, Massachusetts.

#### EXPERTS

The consolidated financial statements of Verastem, Inc. appearing in Verastem, Inc.'s <u>Annual Report (Form 10-K) for the year ended</u> <u>December 31, 2019</u> and the effectiveness of Verastem, Inc.'s internal control over financial reporting as of December 31, 2019 have been audited by Ernst & Young LLP, independent registered public accounting firm, as set forth in their reports therein, appearing elsewhere therein, and incorporated herein by reference. Such consolidated financial statements are incorporated herein by reference in reliance upon such reports given on the authority of such firm as experts in accounting and auditing.

### WHERE YOU CAN FIND MORE INFORMATION

This prospectus is part of a registration statement we filed with the SEC. This prospectus does not contain all of the information set forth in the registration statement and the exhibits to the registration statement. For further information with respect to us and the Common Stock we are offering under this prospectus, we refer you to the registration statement and the exhibits and schedules filed as a part of the registration statement. Neither we nor any agent, underwriter or dealer has authorized any person to provide you with different information. We are not making an offer of Common Stock in any state where the offer is not permitted. You should not assume that the information in this prospectus is accurate as of any date other than the date on the front page of this prospectus, regardless of the time of delivery of this prospectus or any sale of Common Stock offered by this prospectus.

We file annual, quarterly and current reports, proxy statements and other information with the SEC. The SEC maintains a website that contains reports, proxy statements and other information regarding issuers that file electronically with the SEC, including us. The address of the SEC website is www.sec.gov.

We maintain a website at www.verastem.com. Information contained in, or accessible through, our website is not a part of, and is not incorporated into, this prospectus, and you should not consider it part of this prospectus.

### INCORPORATION OF DOCUMENTS BY REFERENCE

The SEC allows us to "incorporate by reference" into this prospectus the information we file with it, which means that we can disclose important information to you by referring you to those documents. The information incorporated by reference is considered to be part of this prospectus, and information in documents that we file later with the SEC will automatically update and supersede information in this prospectus. We incorporate by reference into this prospectus the documents listed below and any future filings made by us with the SEC under Section 13(a), 13(c), 14 or 15(d) of the Exchange Act, except for information "furnished" under Items 2.02, 7.01 or 9.01 on Form 8-K or other information "furnished" to the SEC which is not deemed filed and not incorporated in this prospectus, until the termination of the offering of securities described in the applicable prospectus supplement. We hereby incorporate by reference the following documents:

• our <u>Annual Report on Form 10-K for the year ended December 31, 2019, as filed with the SEC on March 11, 2020;</u>

• our Current Reports on Form 8-K filed with the SEC on January 13, 2020 and February 28, 2020;

- the information specifically incorporated by reference into our Annual Report on Form 10-K for the year ended December 31, 2018 from our Definitive Proxy Statement on Schedule 14A for the 2019 Annual Meeting of Stockholders filed with the SEC on April 8, 2019; and
- the description of our common stock, which is contained in the <u>Registration Statement on Form 8-A, as filed with the SEC on January 23, 2012</u>, as supplemented by the description of our common stock contained in Exhibit 4.5 to our <u>Annual Report on Form 10-K for the fiscal year ended</u> <u>December 31, 2019, filed with the SEC on March 11, 2020.</u>

Any statement contained in a document incorporated or deemed to be incorporated by reference in this prospectus will be deemed modified, superseded or replaced for purposes of this prospectus to the extent that a statement contained in this prospectus modifies, supersedes or replaces such statement.

You may request a copy of these filings, at no cost, by writing or telephoning us at the following address:

Investor Relations 117 Kendrick Street, Suite 500 Needham, Massachusetts 02494 (781) 292-4279 email address: info@verastem.com

Copies of these filings are also available, without charge, on the SEC's website at www.sec.gov and on our website at www.verastem.com as soon as reasonably practicable after they are filed electronically with the SEC. The information contained on our website is not a part of this prospectus.

### PART II

### INFORMATION NOT REQUIRED IN PROSPECTUS

#### Item 14. Other Expenses of Issuance and Distribution

The following table sets forth an estimate of the fees and expenses relating to the issuance and distribution of the securities being registered hereby, other than underwriting discounts and commissions, all of which shall be borne by the Registrant. All of such fees and expenses, except for the SEC registration fee, are estimated:

| SEC registration fee            | \$<br>10,202.88  |
|---------------------------------|------------------|
| Legal fees and expenses         | \$<br>160,000.00 |
| Accounting fees and expenses    | \$<br>20,000.00  |
| Miscellaneous fees and expenses | \$<br>6,000.00   |
| Total                           | \$<br>196,202.88 |

### Item 15. Indemnification of Officers and Directors.

Section 102 of the Delaware General Corporation Law permits a corporation to eliminate the personal liability of its directors or its stockholders for monetary damages for a breach of fiduciary duty as a director, except where the director breached his or her duty of loyalty, failed to act in good faith, engaged in intentional misconduct or knowingly violated a law, authorized the payment of a dividend or approved a stock repurchase in violation of Delaware corporate law or obtained an improper personal benefit. Our certificate of incorporation provides that no director shall be personally liable to us or our stockholders for monetary damages for any breach of fiduciary duty as a director, notwithstanding any provision of law imposing such liability, except to the extent that the Delaware General Corporation Law prohibits the elimination or limitation of liability of directors for breaches of fiduciary duty.

Section 145 of the Delaware General Corporation Law provides that a corporation has the power to indemnify a director, officer, employee or agent of the corporation and certain other persons serving at the request of the corporation in related capacities against expenses (including attorneys' fees), judgments, fines and amounts paid in settlements actually and reasonably incurred by the person in connection with an action, suit or proceeding to which he or she is party or is threatened to be made a party by reason of such position, if such person acted in good faith and in a manner he or she reasonably believed to be in or not opposed to the best interests of the corporation, and, in any criminal action or proceeding, had no reasonable cause to believe his or her conduct was unlawful, except that, in the case of actions brought by or in the right of the corporation unless and only to the extent that the Court of Chancery or other adjudicating court determines that, despite the adjudication of liability but in view of all of the circumstances of the case, such person is fairly and reasonably entitled to indemnification for such expenses which the Court of Chancery or such other court shall deem proper.

Our certificate of incorporation provides that we will indemnify each person who was or is a party or threatened to be made a party to any threatened, pending or completed action, suit or proceeding whether civil, criminal, administrative or investigative (other than an action by or in the right of us) by reason of the fact that he or she is or was, or has agreed to become, our director or officer, or is or was serving, or has agreed to serve, at our request as a director, officer, partner, employee or trustee of, or in a similar capacity with, another corporation, partnership, joint venture, trust or other enterprise (all such persons being referred to as an "Indemnitee"), or by reason of any action alleged to have been taken or omitted in such capacity, against all expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred in connection with such action, suit or proceeding and any appeal therefrom, if such Indemnitee acted in good faith and in a manner he or she reasonably believed to be in, or not opposed to, our best interests, and, with respect to any criminal action or proceeding, he or she had no reasonable cause to believe his or her conduct was unlawful.

Our certificate of incorporation also provides that we will indemnify any Indemnitee who was or is a party to an action or suit by or in the right of us to procure a judgment in our favor by reason of the fact that the Indemnitee is or was, or has agreed to become, our director or officer, or is or was serving, or has agreed to serve, at our request as a director, officer, partner, employee or trustee or, or

in a similar capacity with, another corporation, partnership, joint venture, trust or other enterprise, or by reason of any action alleged to have been taken or omitted in such capacity, against all expenses (including attorneys' fees) and, to the extent permitted by law, amounts paid in settlement actually and reasonably incurred in connection with such action, suit or proceeding, and any appeal therefrom, if the Indemnitee acted in good faith and in a manner he or she reasonably believed to be in, or not opposed to, our best interests, except that no indemnification shall be made with respect to any claim, issue or matter as to which such person shall have been adjudged to be liable to us, unless a court determines that, despite such adjudication but in view of all of the circumstances, he or she is entitled to indemnification of such expenses. Notwithstanding the foregoing, to the extent that any Indemnitee has been successful, on the merits or otherwise, he or she will be indemnified by us against all expenses (including attorneys' fees) actually and reasonably incurred by him or her or on his or her behalf in connection therewith. If we do not assume the defense, expenses must be advanced to an Indemnitee under certain circumstances.

We have entered into indemnification agreements with our directors. In general, these agreements provide that we will indemnify the director to the fullest extent permitted by law for claims arising in his or her capacity as a director of our Company or in connection with his or her service at our request for another corporation or entity. The indemnification agreements also provide for procedures that will apply in the event that a director makes a claim for indemnification and establish certain presumptions that are favorable to the director.

We maintain a general liability insurance policy which covers certain liabilities of our directors and officers arising out of claims based on acts or omissions in their capacities as directors or officers.

Also see "Undertakings."

#### Item 16. Exhibits.

| Exhibit<br>Number | Description of Document  |
|-------------------|--|
| 3.1               | Restated Certificate of Incorporation of the Registrant (incorporated by reference to Exhibit 3.1 to the Annual Report on Form 10-K filed by the Registrant on March 12, 2019)   |
| 3.2               | Certificate of Amendment to the Restated Certificate of Incorporation of the Registrant (incorporated by reference to Exhibit 3.2 to the Annual Report on Form 10-K filed by the Registrant on March 12, 2019)                   |
| 3.3               | Amended and Restated Bylaws of the Registrant (incorporated by reference to Exhibit 3.4 to Amendment No. 3 to the Registration Statement on Form S-1 (File No. 333 177677) filed by the Registrant on January 13, 2012)          |
| 4.1               | Specimen certificate evidencing shares of common stock (incorporated by reference to Exhibit 4.1 to Amendment No. 3 to the Registration Statement on Form S-1 (File No. 333 177677) filed by the Registrant on January 13, 2012) |
| 4.2               | Purchase Agreement, dated February 27, among Verastem, Inc. and each purchaser party thereto (incorporated by reference to Exhibit 10.1 to Current Report on Form 8-K filed by the Registrant on February 28, 2020)              |
| 5.1               | Opinion of Ropes & Gray LLP (filed herewith)   |
| 23.1              | Consent of Ernst & Young LLP (filed herewith)  |
| 23.2              | Consent of Ropes & Gray LLP (included in Exhibit 5.1)  |
| 24.1              | Power of Attorney (incorporated by reference to the signature page hereto).  |
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## Item 17. Undertakings.

The undersigned registrant hereby undertakes:

(1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:

(i) To include any prospectus required by Section 10(a)(3) of the Securities Act of 1933;

(ii) To reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than 20 percent change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement;

(iii) To include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement;

provided, however, that the undertakings set forth in paragraphs (1)(i), (1)(ii) and (1)(iii) above do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the Commission by the registrant pursuant to Section 13 or Section 15(d) of the Securities Exchange Act of 1934 that are incorporated by reference in this registration statement or is contained in a form of prospectus filed pursuant to Rule 424(b) that is part of this registration statement.

(2) That, for the purpose of determining any liability under the Securities Act of 1933, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.

(3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

(4) That, for the purpose of determining liability under the Securities Act of 1933 to any purchaser:

(i) Each prospectus filed by the registrant pursuant to Rule 424(b)(3) shall be deemed to be part of the registration statement as of the date the filed prospectus was deemed part of and included in the registration statement; and

(ii) Each prospectus required to be filed pursuant to Rule 424(b)(2), (b)(5), or (b)(7) as part of a registration statement in reliance on Rule 430B relating to an offering made pursuant to Rule 415(a)(1)(i), (vii), or (x) for the purpose of providing the information required by Section 10(a) of the Securities Act of 1933 shall be deemed to be part of and included in the registration statement as of the earlier of the date such form of prospectus is first used after effectiveness or the date of the first contract of sale of securities in the offering described in the prospectus. As provided in Rule 430B, for liability purposes of the issuer and any person that is at that date an underwriter, such date shall be deemed to be a new effective date of the registration statement to which that prospectus relates, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof. *Provided, however*, that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such effective date, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement.

or made in any such document immediately prior to such effective date.

(5) That, for the purpose of determining liability of the registrant under the Securities Act of 1933 to any purchaser in the initial distribution of the securities, the undersigned registrant undertakes that in a primary offering of securities of the undersigned registrant pursuant to this registration statement, regardless of the underwriting method used to sell the securities to the purchaser, if the securities are offered or sold to such purchaser by means of any of the following communications, the undersigned registrant will be a seller to the purchaser and will be considered to offer or sell such securities to such purchaser: (i) any preliminary prospectus or prospectus of the undersigned registrant relating to the offering required to be filed pursuant to Rule 424; (ii) any free writing prospectus relating to the offering prepared by or on behalf of the undersigned registrant or used or referred to by the undersigned registrant or its securities provided by or on behalf of the undersigned registrant; (iii) the portion of any other free writing prospectus relating to the offering containing material information about the undersigned registrant or its securities provided by or on behalf of the undersigned registrant; and (iv) any other communication that is an offer in the offering made by the undersigned registrant to the purchaser.

(6) That, for purposes of determining any liability under the Securities Act of 1933, each filing of the registrant's annual report pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934 (and, where applicable, each filing of an employee benefit plan's annual report pursuant to Section 15(d) of the Securities Exchange Act of 1934) that is incorporated by reference in the registration statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.

Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the Commission such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act of 1933 and will be governed by the final adjudication of such issue.

### SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, as amended, the Registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-3 and has duly caused this Form S-3 to be signed on its behalf by the undersigned, thereunto duly authorized, in City of Needham, Commonwealth of Massachusetts, on the 20th day of March, 2020.

### VERASTEM, INC.

By: /s/ BRIAN M. STUGLIK R.PH

Brian M. Stuglik Chief Executive Officer (Principal executive officer)

### POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Brian M. Stuglik and Robert Gagnon and each of them, either of whom may act without the joinder of the other, as his or her true and lawful attorneys-in-fact and agents, with full power of substitution and resubstitution, for him or her and in his or her name, place, and stead, in any and all capacities, to sign any and all amendments and supplements thereto (including post-effective amendments and registration statements filed pursuant to Rule 462(b)) to this Registration Statement, and to file the same, with all exhibits thereto, and other documents in connection therewith with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection therewith, as fully to all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents, or either of them, or their or his substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

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/ BRIAN M. STUGLIK R.PH<br>Brian M. Stuglik                      | Chief Executive Officer and Director<br>(Principal executive officer)                | March 20, 2020 |
| /s/ ROBERT GAGNON<br>Robert Gagnon                                 | Chief Business and Financial Officer<br>(Principal financial and accounting officer) | March 20, 2020 |
| /s/ TIMOTHY BARBERICH<br>Timothy Barberich                         | Director   | March 20, 2020 |
| /s/ GINA CONSYLMAN<br>Gina Consylman                               | Director   | March 20, 2020 |
| /s/ MICHAEL KAUFFMAN, M.D., PH.D.<br>Michael Kauffman, M.D., PH.D. | Director   | March 20, 2020 |
| /s/ ALISON LAWTON<br>Alison Lawton                                 | Director   | March 20, 2020 |
| /s/ ERIC ROWINSKY, M.D.<br>Eric Rowinsky                           | Director   | March 20, 2020 |
| /s/ BRUCE WENDEL<br>Bruce Wendel                                   | Director   | March 20, 2020 |
|  | 25   |                |



ROPES & GRAY LLP PRUDENTIAL TOWER 800 BOYLSTON STREET BOSTON, MA 02199-3600 WWW.ROPESGRAY.COM

March 20, 2020

Verastem, Inc. 117 Kendrick Street, Suite 500 Needham, MA 02494

Re: Registration Statement on Form S-3

Ladies and Gentlemen:

We have acted as counsel to Verastem, Inc., a Delaware corporation (the "<u>Company</u>"), in connection with the registration statement on Form S-3 (the "<u>Registration Statement</u>") to be filed with the Securities and Exchange Commission (the "<u>Commission</u>") under the Securities Act of 1933, as amended (the "<u>Act</u>"), on the date hereof. The Registration Statement relates to the offer and sale, from time to time by certain stockholders of the Company identified in the Registration Statement, of up to 46,511,628 shares of the Company's common stock, \$0.0001 par value (the "<u>Shares</u>").

In connection with this opinion letter, we have examined such certificates, documents and records and have made such investigation of fact and such examination of law as we have deemed appropriate in order to enable us to render the opinions set forth herein. In conducting such investigation, we have relied, without independent verification, upon certificates of officers of the Company, public officials and other appropriate persons.

The opinions expressed below are limited to the Delaware General Corporation Law.

Based upon and subject to the foregoing, we are of the opinion that the Shares have been duly authorized and validly issued, fully paid and non-assessable.

We hereby consent to your filing of this opinion as an exhibit to the Registration Statement and to the use of our name therein under the caption "Legal Matters." In giving such consent, we do not thereby admit that we are in the category of persons whose consent is required under Section 7 of the Act or the rules and regulations of the Commission thereunder.

Very truly yours,

/s/ Ropes & Gray LLP Ropes & Gray LLP

### Consent of Independent Registered Public Accounting Firm

We consent to the reference to our firm under the caption "Experts" in the Registration Statement (Form S-3) and related Prospectus of Verastem, Inc. for the registration of 46,511,628 shares of its common stock and to the incorporation by reference therein of our reports dated March 11, 2020, with respect to the consolidated financial statements of Verastem, Inc., and the effectiveness of internal control over financial reporting of Verastem, Inc., included in its Annual Report (Form 10-K) for the year ended December 31, 2019, filed with the Securities and Exchange Commission.

/s/ Ernst & Young LLP Boston, Massachusetts March 20, 2020