

CALCULATION OF REGISTRATION FEE

Title of each class of securities to be registered	Amount to be Registered(1)	Proposed Maximum Offering Price Per Unit(2)	Proposed Maximum Aggregate Offering Price(2)	Amount of Registration Fee
Common Stock, \$0.0001 par value per share	800,000(3)	\$21.49	\$17,192,000.00	\$1,992.56

- (1) Pursuant to Rule 416 under the Securities Act of 1933, as amended (the "Securities Act"), this registration statement also covers any additional securities issuable in connection with any stock split, stock dividend, or similar transaction with respect to the securities being registered pursuant to this registration statement.
- (2) Estimated solely for purposes of calculating the registration fee pursuant to Rule 457(c) under the Securities Act, based on average of high and low price per share of the common stock as reported on the Nasdaq Global Select Market on March 6, 2017.
- (3) Consists of shares of common stock that may be issued by the registrant in satisfaction of contractual payment obligations of the registrant or payment obligations under outstanding notes of the registrant.

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 of 1933 or until the Registration Statement shall become effective on such date as the 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 named in this prospectus may not sell these securities until the registration statement filed with the Securities and Exchange Commission is effective. This prospectus is not an offer to sell these securities and the selling stockholders named in this prospectus are not soliciting offers to buy these securities in any jurisdiction where the offer or sale is not permitted.

Subject to completion, dated March 8, 2017

PROSPECTUS

Editas Medicine, Inc.

800,000 SHARES OF COMMON STOCK

This prospectus relates to the resale of up to 800,000 shares of our common stock by the selling stockholders listed on page 6, including their transferees, pledgees, or donees or other successors-in-interest. We are registering these shares on behalf of the selling stockholders, to be offered and sold by them from time to time.

We will not receive any proceeds from the sale of the shares.

The selling stockholders identified in this prospectus, or their transferees, pledgees, or donees or other successors-in-interest, may offer the shares from time to time through public or private transactions at prevailing market prices, at prices related to prevailing market prices, or at privately negotiated prices.

Our common stock is traded on the Nasdaq Global Select Market under the symbol "EDIT." On March 1, 2017, the closing sale price of the common stock on the Nasdaq Global Select Market was \$24.60 per share. You are urged to obtain current market quotations for our common stock.

Investing in our common stock involves a high degree of risk. See "Risk Factors" beginning on page 3.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

The date of this prospectus is _____, 2017.

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We have not authorized anyone to provide you with information different from that contained or incorporated by reference in this prospectus. The selling stockholders are offering to sell, and seeking offers to buy, shares of our common stock only in jurisdictions where offers and sales are permitted. The information contained in this prospectus is accurate only as of the date of this prospectus, regardless of the time of delivery of this prospectus or of any sale of common stock.

PROSPECTUS SUMMARY

This summary highlights important features of this offering and the information included or incorporated by reference in this prospectus. This summary does not contain all of the information that you should consider before investing in our common stock. You should read the entire prospectus carefully, especially the risks of investing in our common stock discussed under "Risk Factors."

Editas Medicine, Inc.

We are a leading genome editing company dedicated to treating patients with genetically defined diseases by correcting their disease-causing genes. We believe that we have entered a new era of genomic medicine as the growth of genomic information in recent decades has significantly expanded the understanding of genetically defined diseases. A new technology known as CRISPR (clustered, regularly interspaced short palindromic repeats) has the potential to achieve precise, directed changes in DNA. The confluence of these two streams of scientific endeavor, understanding genetic defects and having the tools to be able to address them, creates the opportunity for us to achieve a longstanding goal of medicine: to treat the root causes of diseases at the genetic level. Our mission is to translate the promise of our science into a broad class of transformative genomic medicines to benefit the greatest number of patients.

We are developing a proprietary genome editing platform based on CRISPR technology. CRISPR uses a protein-RNA complex composed of an enzyme, including either Cas9 (CRISPR associated protein 9) or Cpf1 (CRISPR from *Prevotella* and *Francisella* 1), bound to a guide RNA molecule designed to recognize a particular DNA sequence. Once the complex binds to the DNA sequence it was designed to recognize, the complex makes a specific cut in the DNA, ultimately triggering the cell's DNA repair machinery to change the targeted sequence. Our platform consists of four interrelated components: nuclease engineering, delivery, control and specificity, and directed editing. These components are designed to develop medicines that specifically address a wide variety of genetic targets, reach the site of disease safely and effectively, tightly and specifically control the editing process, and drive the right kind of genetic repair. Our preclinical drug discovery platform uses the flexibility of CRISPR technology to enable rapid reprogramming of the guide RNA complex with the potential to direct it to almost any site in the human genome. Using this platform, we aim to develop and advance a broad range of therapies for genetically defined diseases.

Our Corporate Information

Our executive offices are located at 11 Hurley Street, Cambridge, Massachusetts 02141, and our telephone number is (617) 401-9000. Our website address is www.editasmedicine.com. We have included our website address in this prospectus as an inactive textual reference only. Information contained on, or that can be accessed through, our website is not part of this prospectus.

In this prospectus, unless otherwise stated or the context otherwise requires, references to "Editas," "we," "us," "our," and similar references refer to Editas Medicine, Inc. and its consolidated subsidiary.

The Editas logo is our trademark. The other trademarks, trade names, and service marks appearing in this prospectus belong to their respective holders.

The Offering

Common Stock offered by selling stockholders

800,000 shares

Use of proceeds

We will not receive any proceeds from the sale of shares in this offering

Nasdaq Global Select Market symbol

EDIT

RISK FACTORS

Investing in our common stock involves a high degree of risk. You should carefully consider the risks and uncertainties described in our most recent Annual Report on Form 10-K, as revised or supplemented by our subsequent Quarterly Reports on Form 10-Q, which are incorporated by reference herein in their entirety, together with other information in this prospectus, the information and documents incorporated by reference in this prospectus, and in any free writing prospectus that we have authorized for use in connection with this offering. The risks and uncertainties described in our most recent Annual Report on Form 10-K, as revised or supplemented by our subsequent Quarterly Reports on Form 10-Q, are not the only ones facing our company. Additional risks and uncertainties may also impair our business operations. If any of the following risks actually occur, our business, financial condition or results of operations would likely suffer. In that case, the trading price of our common stock could fall, and you may lose all or part of the money you paid to buy our common stock.

SPECIAL NOTE REGARDING FORWARD-LOOKING INFORMATION

This prospectus and the information incorporated by reference in this prospectus include "forward-looking statements" within the meaning of Section 27A of the Securities Act of 1933, as amended, or the Securities Act, and Section 21E of the Securities Exchange Act of 1934, as amended, or the Exchange Act. All statements other than statements of historical facts included in this prospectus and the information incorporated by reference in this prospectus, including statements regarding our future results of operations and financial position, business strategy, and plans and objectives of management for future operations, are forward-looking statements. These statements involve known and unknown risks, uncertainties, and other important factors that may cause our actual results, performance, or achievements to be materially different from any future results, performance, or achievements expressed or implied by the forward-looking statements.

In some cases, you can identify forward-looking statements by terms such as "may," "should," "expects," "plans," "anticipates," "could," "intends," "target," "projects," "contemplates," "believes," "estimates," "predicts," "potential," or "continue" or the negative of these terms or other similar expressions. The forward-looking statements in this prospectus and the information incorporated by reference in this prospectus are only predictions. We have based these forward-looking statements largely on our current expectations and projections about future events and financial trends that we believe may affect our business, financial condition, results of operations, and prospects. These forward-looking statements are subject to a number of risks, uncertainties and assumptions. Because forward-looking statements are inherently subject to risks and uncertainties, some of which cannot be predicted or quantified, you should not rely on these forward-looking statements as predictions of future events. The events and circumstances reflected in our forward-looking statements may not be achieved or occur and actual results could differ materially from those projected in the forward-looking statements. See "Risk Factors" for more information. Except as required by applicable law, we do not plan to publicly update or revise any forward-looking statements contained or incorporated by reference herein.

USE OF PROCEEDS

We will not receive any proceeds from the sale of shares by the selling stockholders.

The selling stockholders will pay any underwriting discounts and commissions and expenses incurred by the selling stockholders for brokerage, accounting, tax, or legal services or any other expenses incurred by the selling stockholders in disposing of the shares. We will bear all other costs, fees and expenses incurred in effecting the registration of the shares covered by this prospectus, including, without limitation, all registration and filing fees, Nasdaq Global Select Market listing fees, and fees and expenses of our counsel and our accountants.

SELLING STOCKHOLDERS

The shares of common stock covered by this prospectus consist of 800,000 shares of common stock that may be issued by us in satisfaction of contractual payment obligations of ours or payment obligations under outstanding notes of ours. For additional information regarding the agreements and notes under which these payment obligations arise, see "—Description of Transactions with The Selling Stockholders" below. We are registering the shares of common stock in order to permit the selling stockholders to offer the shares for resale from time to time.

Except as set forth herein, the selling stockholders have not held any position or office with, and have not otherwise had a material relationship with, us or any of our subsidiaries within the past three years.

The following table sets forth, to our knowledge, information concerning the beneficial ownership of shares of our common stock by the selling stockholders as of March 7, 2017. The information in the table below with respect to the selling stockholders has been obtained from the respective selling stockholders.

Beneficial ownership is determined in accordance with the rules of the Securities and Exchange Commission, or SEC, and includes voting or investment power with respect to shares. Unless otherwise indicated below, to our knowledge, the selling stockholders named in the table have sole voting and investment power with respect to their respective shares of common stock. The inclusion of any shares in this table does not constitute an admission of beneficial ownership for the selling stockholders named below.

<u>Name of Selling Stockholder</u>	<u>Shares of Common Stock Beneficially Owned Prior to Offering</u>		<u>Number of Shares of Common Stock Being Offered</u>	<u>Shares of Common Stock to be Beneficially Owned After Offering(1)</u>	
	<u>Number(2)</u>	<u>Percentage(3)</u>		<u>Number</u>	<u>Percentage(3)</u>
The Broad Institute, Inc.	0	*		0	*
Wageningen University	0	*		0	*

* Less than one percent.

- (1) We do not know when or in what amounts the selling stockholders may offer shares for sale. The selling stockholders might not sell any or all of the shares covered by this prospectus. Because the selling stockholders may offer all or some of the shares pursuant to this offering, and because there are currently no agreements, arrangements, or understandings with respect to the sale of any of the shares, we cannot estimate the number of the shares that will be held by the selling stockholders after completion of the offering. However, for purposes of this table, we have assumed that, after completion of the offering, none of the shares covered by this prospectus will be held by the selling stockholders.
- (2) Does not include the shares of common stock covered by this prospectus because such shares may be issued at our option, subject to certain conditions, and, accordingly, the selling stockholders do not have the right to acquire beneficial ownership of such shares.
- (3) Based on 36,662,724 shares of our common stock outstanding on January 1, 2017.

Description of Transactions with the Selling Stockholders

In December 2016, we entered into a license agreement, or the Cpf1 License Agreement, with The Broad Institute, Inc., or Broad, for specified patent rights, or Cpf1 Patent Rights, related primarily to Cpf1 compositions of matter and their use for gene editing. Pursuant to the Cpf1 License Agreement, Broad, on behalf of itself, President and Fellows of Harvard College, or Harvard, the Massachusetts

Institute of Technology, or MIT, Wageningen University, or Wageningen, and the University of Tokyo granted us a license to the Cpf1 Patent Rights, subject to certain limitations and retained rights, in exchange for certain royalty, success, and milestone payments.

Under the Cpf1 License Agreement, we also paid Broad and Wageningen an aggregate upfront license fee in the mid seven digits and issued to Broad and Wageningen promissory notes, or Initial Promissory Notes, in an aggregate principal amount of \$10.0 million. The Initial Promissory Notes bear interest at 4.8% per annum. The Initial Promissory Notes are convertible, at our option, into shares of our common stock subject to certain conditions. We are registering these shares for resale by the selling stockholders under the registration statement of which this prospectus forms a part.

Broad and Wageningen are also entitled, collectively, to receive success payments in the event our market capitalization reaches specified thresholds. Success payments are payable by us in cash or in the form of promissory notes on substantially the same terms and conditions as the Initial Promissory Notes, except that the maturity date of such notes will, subject to certain exceptions, be 150 days following issuance. Any promissory notes we issue in satisfaction of success payments will be convertible, at our option, into shares of our common stock subject to certain conditions. The number of shares issued will be determined by the outstanding principal and interest due on the relevant promissory note and the market price of our common stock at the time of payment.

Previously, in October 2014, we entered into a license agreement with Broad and Harvard for specified patent rights, in December 2016, we amended and restated this license agreement, or the Cas9-I License Agreement, and in March 2017 we further amended the Cas9-I License Agreement. The licenses granted to us under the Cas9-I License Agreement include rights to certain patents solely owned by Harvard, certain patents co-owned by MIT and Broad, and certain patents co-owned by MIT, Broad, and Harvard, which we collectively refer to as the Cas9-I Patent Rights. Under the Cas9-I License Agreement, we have licensed patent rights directed, in part, to certain CRISPR (clustered, regularly interspaced short palindromic repeats)/Cas9 (CRISPR associated protein 9) and TALE (transcription activator-like effector)-related compositions of matter and their use for genome editing and to certain CRISPR/Cas9 and TALE-related delivery technologies. In December 2016, we entered into a license agreement, or the Cas9-II License Agreement, with Broad for specified patent rights, or the Cas9-II Patent Rights, related primarily to certain Cas9 compositions of matter and their use for gene editing. Pursuant to the Cas9-II License Agreement, Broad, on behalf of itself, MIT, Harvard, and the University of Iowa Research Foundation granted us a license to certain of the Cas9-II Patent Rights, subject to certain limitations and retained rights, on terms substantially similar to the licenses granted to us under Cpf1 License Agreement. Under both the Cas9-I License Agreement and Cas9-II License Agreement, we paid to Broad certain upfront cash payments, will pay to Broad certain annual license fees, and in the future may make additional milestone and success payments upon reaching goals and targets related to research and development, commercialization, and market capitalization, and will pay royalties on products based on the Cas9-I Patent Rights and Cas9-II Patent Rights.

In addition to the terms described above, the Cas9-I License Agreement, Cas9-II License Agreement, and Cpf1 License Agreement include, among other things, terms related to limitation of liability, confidentiality, and reimbursement of legal expenses for patent disputes. Under these terms, we have agreed to indemnify Broad and other parties to the agreements against certain liabilities arising under the agreements. The Cpf1 License Agreement, Cas9-I License Agreement, and Cas9-II License Agreement are described in greater detail in "Business—License Agreements" in our Annual Report on Form 10-K for the year ended December 31, 2016, which is incorporated by reference herein.

DESCRIPTION OF CAPITAL STOCK

The following description of our capital stock is intended as a summary only and therefore is not a complete description of our capital stock. This description is based upon, and is qualified by reference to, our restated certificate of incorporation, our amended and restated by-laws, and applicable provisions of Delaware corporate law. You should read our restated certificate of incorporation and amended and restated by-laws, which are filed as exhibits to the registration statement of which this prospectus forms a part, for the provisions that are important to you.

Our authorized capital stock consists of 195,000,000 shares of common stock, par value \$0.0001 per share, and 5,000,000 shares of preferred stock, par value \$0.0001 per share. As of January 1, 2017, 36,662,724 shares of common stock were outstanding, which were held of record by 38 stockholders (not including beneficial owners whose shares are held in street name), and no shares of preferred stock were outstanding.

Common Stock

Annual Meeting. Annual meetings of our stockholders are held on the date designated in accordance with our amended and restated by-laws. Written notice must be mailed to each stockholder entitled to vote not less than ten nor more than 60 days before the date of the meeting. The presence in person or by proxy of the holders of record of a majority of our issued and outstanding shares entitled to vote at such meeting constitutes a quorum for the transaction of business at meetings of the stockholders. Special meetings of the stockholders may be called for any purpose, and may be called only by the board of directors, the chairman of the board, or the chief executive officer, and business to be transacted at any special meeting is limited to matters related to the purpose or purposes stated in the notice of the meeting. Except as may be otherwise provided by applicable law, our restated certificate of incorporation, or our amended and restated by-laws, all elections of directors shall be decided by a plurality, and all other questions shall be decided by a majority, of the votes cast by stockholders entitled to vote thereon at a duly held meeting of stockholders at which a quorum is present.

Voting Rights. Each holder of common stock is entitled to one vote for each share held on all matters to be voted upon by stockholders.

Dividends. The holders of common stock, after any preferences of holders of any preferred stock, are entitled to proportionately receive dividends when and if declared by the board of directors out of legally available funds, subject to any preferential dividend or other rights of any series of preferred stock that we may designate and issue in the future.

Liquidation and Dissolution. If we are liquidated or dissolved, the holders of the common stock will be entitled to share in our assets available for distribution to stockholders in proportion to the amount of common stock they own. The amount available for common stockholders is calculated after payment of all debts and other liabilities. Holders of any preferred stock will receive a preferential share of our assets before the holders of the common stock receive any assets.

Other Rights. Holders of the common stock have no right to:

- convert the stock into any other security;
- have the stock redeemed;
- purchase additional stock; or
- maintain their proportionate ownership interest.

The common stock does not have cumulative voting rights. Holders of shares of the common stock are not required to make additional capital contributions. The rights, preferences and privileges of holders of common stock are subject to and may be adversely affected by the rights of the holders of shares of any series of preferred stock that we may designate and issue in the future.

Transfer Agent and Registrar. Computershare Trust Company, N.A. is transfer agent and registrar for our common stock.

Preferred Stock

We are authorized to issue "blank check" preferred stock, which may be issued in one or more series upon authorization of our board of directors. Our board of directors is authorized to fix the designation of the series, the number of authorized shares of the series, dividend rights and terms, conversion rights, voting rights, redemption rights and terms, liquidation preferences and any other rights, powers, preferences and limitations applicable to each series of preferred stock. The authorized shares of our preferred stock are available for issuance without further action by our stockholders, unless such action is required by applicable law or the rules of any stock exchange on which our securities may be listed. If the approval of our stockholders is not required for the issuance of shares of our preferred stock, our board may determine not to seek stockholder approval.

A series of our preferred stock could, depending on the terms of such series, impede the completion of a merger, tender offer or other takeover attempt. Our board of directors will make any determination to issue preferred shares based upon its judgment as to the best interests of our stockholders. Our directors, in so acting, could issue preferred stock having terms that could discourage an acquisition attempt through which an acquirer may be able to change the composition of our board of directors, including a tender offer or other transaction that some, or a majority, of our stockholders might believe to be in their best interests or in which stockholders might receive a premium for their stock over the then-current market price of the stock.

Registration Rights

We have entered into an amended and restated investors' rights agreement dated as of August 4, 2015, or the Investors' Rights Agreement, which provides certain holders of our common stock, including some of our directors and 5% stockholders and their respective affiliates and entities affiliated with our officers and directors, the right to require us to register these shares under the Securities Act of 1933, as amended, or the Securities Act, under specified circumstances as described below. After registration pursuant to these rights, these shares will become freely tradable without restriction under the Securities Act. As of March 3, 2017, approximately 15.3 million shares of our outstanding common stock are subject to registration rights under the Investors' Rights Agreement. The registration rights under the Investors' Rights Agreement terminate upon the earliest to occur of:

- the closing of a "Deemed Liquidation Event," as such term is defined in our restated certificate of incorporation;
- with respect to any holder party to the Investors' Rights Agreement, such time as Rule 144 promulgated by the SEC under the Securities Act, or another similar exemption under the Securities Act is available for the sale of all of the shares held by such holder without limitation during a three-month period without registration (and without the requirement for us to be in compliance with the current public information required under Rule 144(c)(1)); or
- February 8, 2021.

Demand Registration Rights. Subject to specified limitations set forth in the Investors' Rights Agreement, the holders of at least 30% of then outstanding registrable securities, as defined in the Investors' Rights Agreement, acting together, may demand in writing that we register their registrable

securities under the Securities Act so long as the total amount of registrable shares requested to be registered has an anticipated aggregate offering price to the public, net of selling expenses, of least \$10.0 million. We are not obligated to file a registration statement pursuant to this demand provision on more than two occasions, subject to specified exceptions.

In addition, at any time after we become eligible to file a registration statement on Form S-3 under the Securities Act, subject to specified limitations set forth in the Investors' Rights Agreement, the holders of at least 30% of the registrable securities then outstanding may demand in writing that we register on Form S-3 registrable shares held by them so long as the total amount of registrable shares requested to be registered has an anticipated aggregate offering price to the public, net of selling expenses, of at least \$5.0 million.

Incidental Registration Rights. If we propose to file a registration statement to register any of our securities under the Securities Act, either for our own account or for the account of any of our stockholders that are not holders of registrable shares, solely for cash and on a form that would also permit the registration of registrable shares, the holders of our registrable shares are entitled to notice of registration and, subject to specified exceptions set forth in the Investors' Rights Agreement, we will be required to register the registrable shares then held by them that they request that we register. The holders of registrable shares under the Investors' Rights Agreement have waived all incidental registration rights in connection with our registration of the securities registered under the registration statement of which this prospectus forms a part.

Expenses. Pursuant to the Investors' Rights Agreement, we are required to pay all registration expenses, including registration fees, printing expenses, fees and disbursements of our counsel and accountants, and reasonable fees and disbursements of one counsel representing the selling stockholders, other than any underwriting discounts and commissions, related to any demand or incidental registration. The Investors' Rights Agreement contains customary cross-indemnification provisions, pursuant to which we are obligated to indemnify the selling stockholders in the event of material misstatements or omissions in the registration statement attributable to us or any violation of specified securities laws by us, and they are obligated to indemnify us for material misstatements or omissions in the registration statement attributable to them or any violation of specified securities laws by them.

Provisions of Our Certificate of Incorporation and By-laws and Delaware Law That May Have Anti-Takeover Effects

Delaware law, our restated certificate of incorporation, and our amended and restated bylaws contain provisions that could have the effect of delaying, deferring or discouraging another party from acquiring control of us. These provisions, which are summarized below, are expected to discourage coercive takeover practices and inadequate takeover bids. These provisions are also designed to encourage persons seeking to acquire control of us to first negotiate with our board of directors.

Staggered Board; Removal of Directors. Our restated certificate of incorporation and amended and restated bylaws divide our board of directors into three classes with staggered three-year terms. In addition, a director may be removed only for cause and only by the affirmative vote of the holders of at least 75% of the votes that all of our stockholders would be entitled to cast in an annual election of directors. Any vacancy on our board of directors, including a vacancy resulting from an enlargement of our board of directors, may be filled only by vote of a majority of our directors then in office. The classification of our board of directors and the limitations on the removal of directors and filling of vacancies could make it more difficult for a third party to acquire, or discourage a third party from seeking to acquire, control of our company.

Stockholder Action by Written Consent; Special Meetings. Our restated certificate of incorporation provides that any action required or permitted to be taken by our stockholders must be effected at a duly called annual or special meeting of such holders and may not be effected by any consent in writing by such holders. Our restated certificate of incorporation and amended and restated bylaws also provide that, except as otherwise required by law, special meetings of our stockholders can only be called by the chairman of our board of directors, our Chief Executive Officer, or our board of directors.

Advance Notice Requirements for Stockholder Proposals. Our amended and restated bylaws establish an advance notice procedure for stockholder proposals to be brought before an annual meeting of stockholders, including proposed nominations of persons for election to our board of directors. Stockholders at an annual meeting may only consider proposals or nominations specified in the notice of meeting or brought before the meeting by or at the direction of our board of directors or by a stockholder of record on the record date for the meeting who is entitled to vote at the meeting and who has delivered timely written notice in proper form to our secretary of the stockholder's intention to bring such business before the meeting. These provisions could have the effect of delaying until the next stockholder meeting stockholder actions that are favored by the holders of a majority of our outstanding voting securities.

Delaware Business Combination Statute. We are subject to Section 203 of the General Corporation Law of the State of Delaware. Subject to certain exceptions, Section 203 prevents a publicly held Delaware corporation from engaging in a "business combination" with any "interested stockholder" for three years following the date that the person became an interested stockholder, unless the interested stockholder attained such status with the approval of our board of directors or unless the business combination is approved in a prescribed manner. A "business combination" includes, among other things, a merger or consolidation involving us and the "interested stockholder" and the sale of more than 10% of our assets. In general, an "interested stockholder" is any entity or person beneficially owning 15% or more of our outstanding voting stock and any entity or person affiliated with or controlling or controlled by such entity or person.

Amendment of Certificate of Incorporation and Bylaws. The General Corporation Law of the State of Delaware provides generally that the affirmative vote of a majority of the shares entitled to vote on any matter is required to amend a corporation's certificate of incorporation or bylaws, unless a corporation's certificate of incorporation or bylaws, as the case may be, requires a greater percentage. Our amended and restated bylaws may be amended or repealed by a majority vote of our board of directors or by the affirmative vote of the holders of at least 75% of the votes that all of our stockholders would be entitled to cast in any annual election of directors. In addition, the affirmative vote of the holders of at least 75% of the votes that all of our stockholders would be entitled to cast in any annual election of directors is required to amend or repeal or to adopt any provisions inconsistent with any of the provisions of our restated certificate of incorporation described above under "—Staggered Board; Removal of Directors" and "—Stockholder Action by Written Consent; Special Meetings."

Exclusive Forum Selection. Our restated certificate of incorporation provides that the Court of Chancery of the State of Delaware shall be the sole and exclusive forum for (1) any derivative action or proceeding brought on behalf of our company, (2) any action asserting a claim of breach of a fiduciary duty owed by any of our directors, officers, or other employees to our company or our stockholders, (3) any action asserting a claim against our company arising pursuant to any provision of the General Corporation Law of the State of Delaware or our restated certificate of incorporation or amended and restated bylaws, or (4) any action asserting a claim against our company governed by the internal affairs doctrine. Although our restated certificate of incorporation contains the choice of forum provision

described above, it is possible that a court could rule that such a provision is inapplicable for a particular claim or action or that such provision is unenforceable.

Blank Check Preferred Stock. Our restated certificate of incorporation provides for 5,000,000 authorized shares of preferred stock. The existence of authorized but unissued shares of preferred stock may enable our board of directors to render more difficult or to discourage an attempt to obtain control of our company by means of a merger, tender offer, proxy contest, or otherwise. For example, if in the due exercise of its fiduciary obligations, our board of directors were to determine that a takeover proposal is not in the best interests of our company, our board of directors could cause shares of preferred stock to be issued without stockholder approval in one or more private offerings or other transactions that might dilute the voting or other rights of the proposed acquiror or insurgent shareholder or shareholder group. In this regard, our restated certificate of incorporation grants our board of directors broad power to establish the rights and preferences of authorized and unissued shares of preferred stock. The issuance of shares of preferred stock could decrease the amount of earnings and assets available for distribution to holders of shares of common stock. The issuance may also adversely affect the rights and powers, including voting rights, of such holders and may have the effect of delaying, deterring, or preventing a change in control of the company. Our board of directors currently does not intend to seek shareholder approval prior to any issuance of shares of preferred stock, unless otherwise required by law.

Authorized But Unissued Shares. Our authorized but unissued shares of common stock and preferred stock are available for future issuance without stockholder approval, subject to any limitations imposed by the listing standards of the NASDAQ Global Select Market. These additional shares may be used for a variety of corporate finance transactions, acquisitions and employee benefit plans. The existence of authorized but unissued and unreserved common stock and preferred stock could make more difficult or discourage an attempt to obtain control of us by means of a proxy contest, tender offer, merger, or otherwise.

PLAN OF DISTRIBUTION

The shares covered by this prospectus may be offered and sold from time to time by the selling stockholders. The term "selling stockholders" includes transferees, pledgees, or donees or other successors-in-interest selling shares received after the date of this prospectus from the selling stockholders as a gift, pledge, partnership distribution or other non-sale related transfer. The selling stockholders will act independently of us in making decisions with respect to the timing, manner, and size of each sale. Such sales may be made on one or more exchanges or in the over-the-counter market or otherwise, at prices and under terms then prevailing or at prices related to the then current market price, or in negotiated transactions. The selling stockholders may sell their shares by one or more of, or a combination of, the following methods:

- purchases by a broker-dealer as principal and resale by such broker-dealer for its own account pursuant to this prospectus;
- ordinary brokerage transactions and transactions in which the broker solicits purchasers;
- block trades in which the broker-dealer so engaged will attempt to sell the shares as agent but may position and resell a portion of the block as principal to facilitate the transaction;
- over-the-counter distributions in accordance with the rules of the Nasdaq Global Select Market;
- privately negotiated transactions;
- options transactions;
- combinations of any of such methods; and
- any other method permitted by applicable law.

In addition, any shares that qualify for sale pursuant to Rule 144 may be sold under Rule 144 rather than pursuant to this prospectus.

To the extent required, this prospectus may be amended or supplemented from time to time to describe a specific plan of distribution. In connection with distributions of the shares or otherwise, the selling stockholders may enter into hedging transactions with broker-dealers or other financial institutions. In connection with such transactions, broker-dealers or other financial institutions may engage in short sales of the common stock in the course of hedging the positions they assume with the selling stockholders. The selling stockholders may also sell the common stock short and redeliver the shares to close out such short positions. The selling stockholders may also enter into option or other transactions with broker-dealers or other financial institutions that 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 selling stockholders may also pledge shares to a broker-dealer or other financial institution, and, upon a default, such broker-dealer or other financial institution may effect sales of the pledged shares pursuant to this prospectus (as supplemented or amended to reflect such transaction).

In effecting sales, broker-dealers or agents engaged by the selling stockholders may arrange for other broker-dealers to participate. Broker-dealers or agents may receive commissions, discounts, or concessions from the selling stockholders in amounts to be negotiated immediately prior to the sale.

In offering the shares covered by this prospectus, the selling stockholders and any broker-dealers who execute sales for the selling stockholders may be deemed to be "underwriters" within the meaning of the Securities Act in connection with such sales. Any profits realized by the selling stockholders and the compensation of any broker-dealer may be deemed to be underwriting discounts and commissions.

In order to comply with the securities laws of certain states, if applicable, the shares must be sold in such jurisdictions only through registered or licensed brokers or dealers. In addition, in certain states the shares may not be sold unless they have been registered or qualified for sale in the applicable state or an exemption from the registration or qualification requirement 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 respective affiliates. In addition, we will make copies of this prospectus 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.

At the time a particular offer of shares is made, if required, a prospectus supplement will be distributed that will set forth the number of shares being offered and the terms of the offering, including the name of any underwriter, dealer, or agent, the purchase price paid by any underwriter, any discount, commission, and other item constituting compensation, any discount, commission, or concession allowed or reallocated or paid to any dealer, and the proposed selling price to the public.

LEGAL MATTERS

The validity of the shares offered by this prospectus has been passed upon by Wilmer Cutler Pickering Hale and Dorr LLP.

EXPERTS

Ernst & Young LLP, independent registered public accounting firm, has audited our consolidated financial statements included in our Annual Report on Form 10-K for the year ended December 31, 2016, as set forth in their report, which is incorporated by reference in this prospectus and elsewhere in the registration statement. Our financial statements are incorporated by reference in reliance on Ernst & Young LLP's report, given on their authority as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

We file annual, quarterly and current reports, proxy statements and other information with the SEC. Our SEC filings are available to the public over the Internet at the SEC's website at <http://www.sec.gov>. Copies of certain information filed by us with the SEC are also available on our website at <http://www.editasmedicine.com>. Our website is not a part of this prospectus and is not incorporated by reference in this prospectus. You may also read and copy any document we file at the SEC's Public Reference Room, 100 F Street, N.E., Washington, D.C. 20549. Please call the SEC at 1-800-SEC-0330 for further information on the operation of the Public Reference Room.

This prospectus is part of a registration statement we filed with the SEC. This prospectus omits some information contained in the registration statement in accordance with SEC rules and regulations. You should review the information and exhibits in the registration statement for further information about us and the securities we are offering. Statements in this prospectus concerning any document we filed as an exhibit to the registration statement or that we otherwise filed with the SEC are not intended to be comprehensive and are qualified by reference to these filings. You should review the complete document to evaluate these statements.

INCORPORATION BY REFERENCE

The SEC allows us to incorporate by reference much of the information we file with the SEC, which means that we can disclose important information to you by referring you to those publicly available documents. The information that we incorporate by reference in this prospectus is considered to be part of this prospectus. Because we are incorporating by reference future filings with the SEC, this prospectus is continually updated and those future filings may modify or supersede some of the information included or incorporated in this prospectus. This means that you must look at all of the SEC filings that we incorporate by reference to determine if any of the statements in this prospectus or in any document previously incorporated by reference have been modified or superseded. This prospectus incorporates by reference the documents listed below (File No. 001-37687) and any future filings we make with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934, as amended, or the Exchange Act (in each case, other than those documents or the portions of those documents not deemed to be filed) between the date of the initial registration statement and the effectiveness of the registration statement and following the effectiveness of the registration statement until the offering of the securities under the registration statement is terminated or completed.

1. Our Annual Report on Form 10-K for the year ended December 31, 2016;
2. Our Current Reports on Form 8-K filed January 23, 2017, March 3, 2017, and March 7, 2017; and
3. The description of our common stock contained in our Registration Statement on Form 8-A filed on January 29, 2016, including any amendments or reports filed for the purpose of updating such description.

A statement contained in a document incorporated by reference into this prospectus shall be deemed to be modified or superseded for purposes of this prospectus to the extent that a statement contained in this prospectus, any prospectus supplement or in any other subsequently filed document which is also incorporated in this prospectus modifies or replaces such statement. Any statements so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this prospectus.

You may request a copy of these documents, which will be provided to you at no cost, by writing or telephoning us using the following contact information:

Editas Medicine, Inc.
Attn: Investor Relations
11 Hurley St.
Cambridge, MA 02141
(617) 401-9000

PART II**INFORMATION NOT REQUIRED IN PROSPECTUS****Item 14. Other Expenses of Issuance and Distribution.**

The following table sets forth the various expenses to be incurred in connection with the sale and distribution of the securities being registered hereby, all of which will be borne by Editas Medicine, Inc. (except any underwriting discounts and commissions and expenses incurred by the selling stockholders for brokerage, accounting, tax, or legal services or any other expenses incurred by the selling stockholders in disposing of the shares). All amounts shown are estimates except the SEC registration fee.

SEC registration fee	\$ 1,992.56
Legal fees and expenses	\$ 30,000.00
Accounting fees and expenses	\$ 15,000.00
Miscellaneous expenses	\$ 53,007.44
Total expenses	<u>\$ 100,000.00</u>

Item 15. Indemnification of Directors and Officers.

Section 102 of the General Corporation Law of the State of Delaware permits a corporation to eliminate the personal liability of directors of a corporation to the corporation 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 restated certificate of incorporation provides that no director of the Registrant shall be personally liable to it or its 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 General Corporation Law of the State of Delaware prohibits the elimination or limitation of liability of directors for breaches of fiduciary duty.

Section 145 of the General Corporation Law of the State of Delaware provides that a corporation has the power to indemnify a director, officer, employee, or agent of the corporation, or a person serving at the request of the corporation for another corporation, partnership, joint venture, trust, or other enterprise in related capacities against expenses (including attorneys' fees), judgments, fines, and amounts paid in settlement actually and reasonably incurred by the person in connection with an action, suit, or proceeding to which he or she was or is a party or is threatened to be made a party to any threatened, ending or completed action, suit, or proceeding 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, 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 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 indemnity for such expenses which the Court of Chancery or such other court shall deem proper.

Our restated 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 (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, a 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 restated certificate of incorporation 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, a 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, 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 in connection therewith. Expenses must be advanced to an Indemnitee under certain circumstances.

Our board of directors has approved a form of indemnification agreement that has been executed by each of our directors and executive officers. These indemnification agreements may require us, among other things, to indemnify these directors and executive officers for some expenses, including attorneys' fees, judgments, fines, and settlement amounts incurred by each of these directors in any action or proceeding arising out of his or her service as one of our directors or officers, or any of our subsidiaries or any other company or enterprise to which the person provides services at our request.

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

Item 16. Exhibits.

The exhibits listed in the Exhibit Index immediately preceding the exhibits are filed as part of this registration statement on Form S-3.

Item 17. Undertakings.

Item 512(a) of Regulation S-K. 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:
 - a. To include any prospectus required by Section 10(a)(3) of the Securities Act of 1933, as amended (the "Securities Act");
 - b. To reflect in the prospectus any facts or events arising after the effective date of this 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 this Registration Statement.

Notwithstanding the foregoing, any increase or decrease in the 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; and

- c. To include any material information with respect to the plan of distribution not previously disclosed in this Registration Statement or any material change to such information in this Registration Statement;

provided, however, that paragraphs (1)(a) and (1)(b) do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in periodic 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, as amended (the "Exchange Act"), that are incorporated by reference in this Registration Statement.

2. That, for the purposes of determining any liability under the Securities Act, each 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 the 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 to any purchaser:
 - a. 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
 - b. 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 relating to the securities in 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.

Item 512(b) of Regulation S-K. The Registrant hereby undertakes that, for purposes of determining any liability under the Securities Act, each filing of the Registrant's annual report pursuant

to Section 13(a) or 15(d) of the Exchange Act (and, where applicable, each filing of an employee benefit plan's annual report pursuant to Section 15(d) of the Exchange Act) that is incorporated by reference in this 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.

Item 512(h) of Regulation S-K. Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the Registrant pursuant to the indemnification provisions described herein, or otherwise, the Registrant has been advised that in the opinion of the Securities and Exchange 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 and will be governed by the final adjudication of such issue.

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ DOUGLAS G. COLE</u> Douglas G. Cole, M.D.	Director	March 8, 2017
<u>/s/ JOHN D. MENDLEIN</u> John D. Mendlein, Ph.D., J.D.	Director	March 8, 2017
<u>/s/ BORIS NIKOLIC</u> Boris Nikolic, M.D.	Director	March 8, 2017
<u>/s/ AKSHAY K. VAISHNAW</u> Akshay K. Vaishnaw, M.D., Ph.D.	Director	March 8, 2017

EXHIBIT INDEX

Exhibit Number	Description of Exhibit
4.1	Restated Certificate of Incorporation of the Registrant (incorporated by reference to Exhibit 3.1 to the Registrant's Current Report on Form 8-K filed on February 8, 2016)
4.2	Amended and Restated By-laws of the Registrant (incorporated by reference to Exhibit 3.2 to the Registrant's Current Report on Form 8-K filed on February 8, 2016)
4.3	Specimen Stock Certificate evidencing the shares of common stock (incorporated by reference to Exhibit 4.1 to the Registrant's Registration Statement on Form S-1 filed on January 4, 2016)
5.1	Opinion of Wilmer Cutler Pickering Hale and Dorr LLP
23.1	Consent of Ernst & Young LLP, independent registered accounting firm
23.2	Consent of Wilmer Cutler Pickering Hale and Dorr LLP (included in Exhibit 5.1)
24.1	Powers of Attorney (included in the signature pages to the Registration Statement)

March 8, 2017

+1 617 526 6000 (t)

+1 617 526 5000 (f)

Editas Medicine, Inc.
11 Hurley Street
Cambridge, MA 02141

Registration Statement on Form S-3

Ladies and Gentlemen:

This opinion is furnished to you in connection with a Registration Statement on Form S-3 (the "Registration Statement") filed with the Securities and Exchange Commission (the "Commission") under the Securities Act of 1933, as amended (the "Securities Act"), for the registration of 800,000 shares of Common Stock, \$0.0001 par value per share (the "Shares"), of Editas Medicine, Inc., a Delaware corporation (the "Company"), all of which are being sold by stockholders of the Company.

We are acting as counsel for the Company in connection with the registration for resale 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 minutes of meetings 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 By-Laws 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 General Corporation Law of the State of Delaware and the federal laws of the United States of America.

Our opinion below, insofar as it relates to the Shares being fully paid, is based solely on a certificate from the Chief Financial Officer of the Company confirming the Company's receipt of the consideration called for by the applicable resolutions authorizing the issuance of the Shares.

Based upon and subject to the foregoing, we are of the opinion that the Shares have been duly authorized for issuance and the Shares are validly issued, fully paid and nonassessable.

Wilmer Cutler Pickering Hale and Dorr LLP, 60 State Street, Boston, Massachusetts 02109

Beijing Berlin Boston Brussels Denver Frankfurt London Los Angeles New York Oxford Palo Alto Waltham Washington

WILMERHALE

March 8, 2017

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It is understood that this opinion is to be used only in connection with the offer and sale of the Shares while the Registration Statement is in effect.

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/ Rosemary G. Reilly
Rosemary G. Reilly, a Partner

Consent of Independent Registered Public Accounting Firm

We consent to the reference to our firm under the caption "Experts" in this Registration Statement (Form S-3) and related prospectus of Editas Medicine, Inc. for the registration of up to 800,000 shares of its common stock and to the incorporation by reference therein of our report dated March 3, 2017, with respect to the consolidated financial statements of Editas Medicine, Inc., included in its Annual Report (Form 10-K) for the year ended December 31, 2016, filed with the Securities and Exchange Commission.

/s/ Ernst & Young LLP

Boston, Massachusetts
March 3, 2017

QuickLinks

[Exhibit 23.1](#)

[Consent of Independent Registered Public Accounting Firm](#)