

**UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION**  
Washington, D.C. 20549

**FORM S-8**  
**REGISTRATION STATEMENT**  
*UNDER*  
*THE SECURITIES ACT OF 1933*

**REGENXBIO Inc.**

(Exact name of registrant as specified in its charter)

**Delaware**  
(State or other jurisdiction of  
incorporation or organization)

**47-1851754**  
(I.R.S. Employer  
Identification No.)

**9600 Blackwell Road, Suite 210**  
**Rockville, Maryland 20850**  
(Address of Principal Executive Offices and Zip Code)

**2015 Equity Incentive Plan**  
**2015 Employee Stock Purchase Plan**  
(Full title of the plans)

**Vittal K. Vasista**  
**Chief Financial Officer**  
**REGENXBIO Inc.**  
**9600 Blackwell Road, Suite 210**  
**Rockville, Maryland 20850**  
(Name and address of agent for service)

**(240) 552-8181**  
(Telephone number, including area code, of agent for service)

*Copies to:*

**Kerry Shannon Burke**  
**Matthew C. Franker**  
**Covington & Burling LLP**  
**One CityCenter**  
**850 Tenth Street, N.W.**  
**Washington, D.C. 20001**  
**(202) 662-6000**

**Patrick J. Christmas**  
**Senior Vice President, Chief Legal Officer**  
**REGENXBIO Inc.**  
**9600 Blackwell Road, Suite 210**  
**Rockville, Maryland 20850**  
**(240) 552-8181**

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," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer  Accelerated filer   
Non-accelerated filer  Smaller reporting company   
Emerging growth company

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 the Securities Act.

**CALCULATION OF REGISTRATION FEE**

<b>Title of securities to be registered</b>	<b>Amount to be registered<sup>(1)</sup></b>	<b>Proposed maximum offering price per share</b>	<b>Proposed maximum aggregate offering price</b>	<b>Amount of registration fee</b>
Common Stock, par value \$0.0001 per share (2015 Equity Incentive Plan)	1,499,037	\$39.13 <sup>(2)</sup>	\$58,657,317.81 <sup>(2)</sup>	\$6,399.52
Common Stock, par value \$0.0001 per share (2015 Employee Stock Purchase Plan)	374,759	\$33.26 <sup>(3)</sup>	\$12,464,484.34 <sup>(3)</sup>	\$1,359.88
<b>Total</b>	<b>1,873,796</b>			<b>\$7,759.40</b>

- (1) Pursuant to Rule 416(a) under the Securities Act of 1933, as amended (the "Securities Act"), this Registration Statement shall also cover any additional shares of the registrant's Common Stock that become issuable in respect of such securities by reason of any stock dividend, stock split, recapitalization or other similar transaction.
- (2) Estimated solely for the purpose of calculating the amount of the registration fee pursuant to Rule 457(c) and Rule 457(h) under the Securities Act, and based upon the average of the high and low prices of the registrant's Common Stock as reported on The Nasdaq Global Select Market on February 23, 2021.
- (3) Estimated solely for the purpose of calculating the amount of the registration fee pursuant to Rule 457(c) and Rule 457(h) under the Securities Act, and based upon 85% of the average of the high and low prices of the registrant's Common Stock as reported on The Nasdaq Global Select Market on February 23, 2021. Pursuant to the 2015 Employee Stock Purchase Plan, the purchase price of each share of the registrant's Common Stock reserved for issuance thereunder will be the lower of 85% of the fair market value on (i) the first day of the offering period or (ii) the purchase date.

## EXPLANATORY NOTE

This Registration Statement on Form S-8 (the “Registration Statement”) is filed by REGENXBIO Inc. (the “Company”) for the purpose of registering additional shares of its common stock, par value \$0.0001 per share (the “Common Stock”), under the Company’s 2015 Equity Incentive Plan (the “Incentive Plan”) and the Company’s 2015 Employee Stock Purchase Plan (the “ESPP”).

The number of shares of Common Stock available for issuance under the Incentive Plan is subject to an automatic annual increase as of the first business day of the Company’s fiscal year equal to the lower of (a) 4.0% of the total number of shares of Common Stock outstanding on December 31 of the prior year or (b) a number of shares of Common Stock determined by the Company’s Board of Directors (the “Incentive Plan Provision”). Accordingly, the number of shares of Common Stock available for issuance under the Incentive Plan was increased by 1,499,037 shares effective January 4, 2021. This Registration Statement registers the 1,499,037 additional shares of Common Stock available for issuance under the Incentive Plan as a result of the Incentive Plan Provision.

The number of shares of Common Stock available for issuance under the ESPP is subject to an automatic annual increase as of the first business day of the Company’s fiscal year equal to the lower of (a) 1.0% of the total number of shares of Common Stock outstanding on the last business day of the prior fiscal year or (b) a number of shares of Common Stock determined by the Company’s Board of Directors (the “ESPP Provision”). Accordingly, the number of shares of Common Stock available for issuance under the ESPP was increased by 374,759 shares effective January 4, 2021. This Registration Statement registers the 374,759 additional shares of Common Stock available for issuance under the ESPP as a result of the ESPP Provision.

Of the 10,739,054 shares of Common Stock currently authorized by the Incentive Plan, (a) 2,952,100 shares of Common Stock were registered pursuant to the Company’s Registration Statement on Form S-8 filed on September 17, 2015 (Commission File No. 333-206984), (b) 1,052,538 shares of Common Stock were registered pursuant to the Company’s Registration Statement on Form S-8 filed on March 3, 2016 (Commission File No. 333-209899), (c) 1,059,065 shares of Common Stock were registered pursuant to the Company’s Registration Statement on Form S-8 filed on March 7, 2017 (Commission File No. 333-216508), (d) 1,251,810 shares of Common Stock were registered pursuant to the Company’s Registration Statement on Form S-8 filed on March 6, 2018 (Commission File No. 333-223466), (e) 1,444,808 shares of Common Stock were registered pursuant to the Company’s Registration Statement on Form S-8 filed on February 27, 2019 (Commission File No. 333-229910) and (f) 1,479,696 shares of Common Stock were registered pursuant to the Company’s Registration Statement on Form S-8 filed on February 26, 2020 (Commission File No. 333-236664) (collectively, the “Original Incentive Plan Registration Statements”).

Of the 998,683 shares of Common Stock currently authorized by the ESPP, (i) 254,000 shares of Common Stock were registered pursuant to the Company’s Registration Statement on Form S-8 filed on September 17, 2015 (Commission File No. 333-206984) and (ii) 369,924 shares of Common Stock were registered pursuant to the Company’s Registration Statement on Form S-8 filed on February 26, 2020 (Commission File No. 333-236664) (the “Original ESPP Registration Statements” and, together with the Original Incentive Plan Registration Statements, the “Original Registration Statements”).

Pursuant to General Instruction E to Form S-8 under the Securities Act of 1933, as amended, the contents of the Original Registration Statements, including any amendments thereto or filings incorporated therein by reference are incorporated herein by reference and made part of this Registration Statement. Any items in the Original Registration Statements not expressly changed hereby shall be as set forth in the Original Registration Statements.

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## PART II

### INFORMATION REQUIRED IN THE REGISTRATION STATEMENT

#### Item 3. Incorporation of Documents by Reference.

The following documents (File No. 001-37553) previously filed with the Securities and Exchange Commission (the "SEC") are hereby incorporated by reference:

- the Company's Annual Report on Form 10-K for the year ended December 31, 2020, filed with the SEC on March 1, 2021 (the "2020 Annual Report");
- the Company's definitive proxy statement on Schedule 14A for the 2020 Annual Meeting of Stockholders, filed with the SEC on April 8, 2020;
- all other reports filed with the SEC pursuant to Section 13(a) or Section 15(d) of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), since the end of the fiscal year covered by the Company's 2020 Annual Report; and
- the description of the Company's Common Stock contained in Exhibit 4.2 to the Company's Annual Report on Form 10-K for the year ended December 31, 2020, filed with the SEC on March 1, 2021, including any amendments or reports filed for the purposes of updating this description.

All reports and other documents subsequently filed by us pursuant to Sections 13(a), 13(c), 14 and 15(d) of the Exchange Act, prior to the filing of a post-effective amendment which indicates that all securities registered have been sold or which deregisters all securities then remaining unsold, shall be deemed to be incorporated by reference into this Registration Statement and to be a part hereof from the date of filing of such documents, except as to specific sections of such statements as set forth therein.

Unless expressly incorporated into this Registration Statement, a report furnished on Form 8-K (or any portion thereof so furnished) prior or subsequent to the date hereof shall not be incorporated by reference into this Registration Statement. Any statement contained in a document incorporated or deemed to be incorporated by reference herein shall be deemed to be modified or superseded for purposes of this Registration Statement to the extent that a statement contained in any subsequently filed document which also is deemed to be incorporated by reference herein modifies or supersedes such statement.

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**Item 8. Exhibits.**

<u>Exhibit No.</u>	<u>Description</u>
4.1*	<a href="#"><u>Restated Certificate of Incorporation (incorporated by reference from Exhibit 3.1 to the Company's Current Report on Form 8-K, filed with the SEC on September 22, 2015).</u></a>
4.2*	<a href="#"><u>Amended and Restated Bylaws (incorporated by reference from Exhibit 3.2 to the Company's Current Report on Form 8-K, filed with the SEC on September 22, 2015).</u></a>
4.3*	<a href="#"><u>Specimen stock certificate evidencing the shares of Common Stock (incorporated by reference from Exhibit 4.1 to the Company's Registration Statement on Form S-1, filed with the SEC on August 17, 2015).</u></a>
4.4*	<a href="#"><u>2015 Equity Incentive Plan (incorporated by reference from Exhibit 10.3 to Amendment No. 2 to the Company's Registration Statement on Form S-1, filed with the SEC on September 15, 2015).</u></a>
4.5*	<a href="#"><u>Form of Restricted Stock Unit Award Agreement for the 2015 Equity Incentive Plan (incorporated by reference from Exhibit 10.4 to the Company's Annual Report on Form 10-K for the year ended December 31, 2020, filed with the SEC on March 1, 2021).</u></a>
4.6*	<a href="#"><u>Form of Stock Option Award Agreement for the 2015 Equity Incentive Plan (incorporated by reference from Exhibit 10.5 to the Company's Annual Report on Form 10-K for the year ended December 31, 2020, filed with the SEC on March 1, 2021).</u></a>
4.7*	<a href="#"><u>2015 Employee Stock Purchase Plan (incorporated by reference from Exhibit 10.4 to Amendment No. 1 to the Company's Registration Statement on Form S-1, filed with the SEC on September 8, 2015).</u></a>
5.1	<a href="#"><u>Opinion and Consent of Covington &amp; Burling LLP.</u></a>
23.1	<a href="#"><u>Consent of PricewaterhouseCoopers LLP, Independent Registered Public Accounting Firm.</u></a>
23.2	<a href="#"><u>Consent of Covington &amp; Burling LLP (contained in Exhibit 5.1).</u></a>
24.1	<a href="#"><u>Power of Attorney (contained on signature page hereto).</u></a>

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\* Incorporated by reference

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## SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-8 and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Rockville, State of Maryland, on this 1st day of March, 2021.

### REGENXBIO INC.

By: /s/ Kenneth T. Mills  
Kenneth T. Mills  
President and Chief Executive Officer

### POWER OF ATTORNEY AND SIGNATURES

**KNOW ALL PERSONS BY THESE PRESENTS**, that each person whose signature appears below hereby constitutes and appoints Kenneth T. Mills and Patrick J. Christmas, and each of them, as his or her true and lawful attorneys-in-fact and agents with full power of substitution and resubstitution, for him or her in any and all capacities, to sign any and all amendments to this Registration Statement on Form S-8 (including post-effective amendments), 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 for 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 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.

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ Kenneth T. Mills</u> Kenneth T. Mills	President, Chief Executive Officer and Director (Principal Executive Officer)	March 1, 2021
<u>/s/ Vittal Vasista</u> Vittal Vasista	Chief Financial Officer (Principal Financial and Accounting Officer)	March 1, 2021
<u>/s/ Allan M. Fox</u> Allan M. Fox	Chairman of the Board of Directors	March 1, 2021
<u>/s/ Daniel J. Abdun-Nabi</u> Daniel J. Abdun-Nabi	Director	March 1, 2021
<u>/s/ Luke M. Beshar</u> Luke M. Beshar	Director	March 1, 2021
<u>/s/ Alexandra Glucksmann</u> Alexandra Glucksmann	Director	March 1, 2021
<u>/s/ A.N. "Jerry" Karabelas</u> A.N. "Jerry" Karabelas	Director	March 1, 2021
<u>/s/ David C. Stump</u> David C. Stump	Director	March 1, 2021
<u>/s/ Daniel Tassé</u> Daniel Tassé	Director	March 1, 2021

March 1, 2021

REGENXBIO Inc.  
9600 Blackwell Road, Suite 210  
Rockville, Maryland 20850

Ladies and Gentlemen:

We have acted as counsel to REGENXBIO Inc., a Delaware corporation (the “Company”), in connection with the registration by the Company under the Securities Act of 1933, as amended (the “Act”), of 1,873,796 shares of the Company’s common stock, par value \$0.0001 per share (the “Common Stock”), consisting of 1,499,037 shares of Common Stock (the “Incentive Plan Shares”) issuable under the Company’s 2015 Equity Incentive Plan (the “Incentive Plan”) and 374,759 shares of Common Stock (the “ESPP Shares,” and together with the Incentive Plan Shares, the “Shares”) issuable under the Company’s 2015 Employee Stock Purchase Plan (the “ESPP”), pursuant to the Registration Statement on Form S-8 filed with the Securities and Exchange Commission on the date hereof (such registration statement is referred to herein as the “Registration Statement”).

We have reviewed such corporate records, certificates and other documents, and such questions of law, as we have considered necessary or appropriate for the purposes of this opinion. We have assumed that all signatures are genuine, that all documents submitted to us as originals are authentic and that all copies of documents submitted to us conform to the originals.

We have relied as to certain matters on information obtained from public officials, officers of the Company and other sources believed by us to be responsible.

Based upon the foregoing, we are of the opinion that the Incentive Plan Shares and the ESPP Shares have been duly authorized and, when issued in accordance with the terms of the Incentive Plan and the ESPP, respectively, and any individual agreements relating to such Shares, the Shares will be validly issued, fully paid and nonassessable.

We are members of the bar of the District of Columbia. We do not express any opinion herein on any laws other than the General Corporation Law of the State of Delaware and reported judicial decisions interpreting these laws.

We hereby consent to the filing of this opinion as Exhibit 5.1 to the Registration Statement. 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.

Very truly yours,

/s/ Covington & Burling LLP

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We hereby consent to the incorporation by reference in this Registration Statement on Form S-8 of REGENXBIO Inc. of our report dated March 1, 2021, relating to the financial statements, and the effectiveness of internal control over financial reporting, which appears in REGENXBIO Inc.'s Annual Report on Form 10-K for the year ended December 31, 2020.

/s/ PricewaterhouseCoopers LLP  
Arlington, Virginia  
March 1, 2021