

**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
(IRS Employer
Identification No.)

9712 Medical Center Drive, Suite 100
Rockville, MD 20850
(240) 552-8181
(Address of Principal Executive Offices)

**REGENXBIO INC. 2015 EQUITY INCENTIVE PLAN
REGENXBIO INC. 2014 STOCK PLAN
REGENXBIO INC. 2015 EMPLOYEE STOCK PURCHASE PLAN**
(Full title of plan)

Kenneth T. Mills
Chief Executive Officer
REGENXBIO Inc.
9712 Medical Center Drive, Suite 100
Rockville, MD 20850
(240) 552-8181
(Name and address of agent for service)

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

Please send copies of all communications to:

Jay K. Hachigian, Esq.
Richard R. Hesp, Esq.
Keith J. Scherer, Esq.
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One Marina Park Drive, Suite 900
Boston, MA 02210

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

Large accelerated filer
Non-accelerated filer

Accelerated filer
Smaller reporting company

CALCULATION OF REGISTRATION FEE

Title of Securities to be Registered	Amount to be	Proposed Maximum	Proposed Maximum	Amount of Registration Fee
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	Registered(1)	Offering Price Per Share	Aggregate Offering Price	
Common Stock, \$0.0001 par value per share, reserved for issuance pursuant to the 2015 Equity Incentive Plan	2,952,100(2)	\$22.00(5)	\$64,946,200	\$7,547
Common Stock, \$0.0001 par value per share, reserved for issuance pursuant to stock option awards outstanding under the 2014 Stock Plan	3,063,200(3)	\$1.86(6)	\$5,697,552	\$662
Common Stock, \$0.0001 par value per share, reserved for issuance pursuant to the 2015 Employee Stock Purchase Plan	254,000(4)	\$18.70(7)	\$4,749,800	\$552
TOTAL	6,269,300		\$75,393,552	\$8,761

(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 Registrant’s common stock that become issuable under the plans set forth herein as a result of any stock dividend, stock split, recapitalization, or other similar transaction effected without the receipt of consideration that results in an increase to the number of outstanding shares of Registrant’s common stock, as applicable.

(2) Represents 2,025,000 shares of common stock reserved for issuance under the REGENXBIO Inc. 2015 Equity Incentive Plan (the “2015 Equity Incentive Plan”), and includes 927,100 shares of common stock previously reserved but unissued under the REGENXBIO Inc. 2014 Stock Plan (the “2014 Stock Plan”) that are now available for issuance under the 2015 Equity Incentive Plan.

To the extent that shares previously issued pursuant to awards granted under the 2014 Stock Plan are reacquired by the Registrant, or if awards for any reason expire or are cancelled, such shares will become available for issuance under the 2015 Equity Incentive Plan, as will shares applied to pay the exercise or purchase price of an award or to satisfy tax withholding obligations related to any award, subject to certain limitations. See footnote 3 below.

In general, to the extent that any awards under the 2015 Equity Incentive Plan are forfeited or expire for any other reason before being exercised or settled in full, or if shares issued under the 2015 Equity Incentive Plan are reacquired by the Registrant pursuant to a forfeiture provision, repurchase right or for any other reason, those shares will again become available for issuance under the 2015 Equity Incentive Plan, as will shares applied to pay the exercise or purchase price of an award or to satisfy tax withholding obligations related to any award.

(3) Represents shares of common stock reserved for issuance pursuant to stock option awards outstanding under the 2014 Stock Plan as of the date of this Registration Statement. Any such shares of common stock that are subject to awards under the 2014 Stock Plan that otherwise would have been returned to the share reserve under the 2014 Stock Plan will become available for issuance under the 2015 Equity Incentive Plan. See footnote 2 above.

(4) Represents shares of common stock reserved for issuance under the REGENXBIO Inc. 2015 Employee Stock Purchase Plan.

(5) Estimated solely for the purpose of calculating the registration fee in accordance with Rule 457(h) under the Securities Act and based upon the initial public offering price of the Registrant’s common stock for the Registrant’s initial public offering pursuant to its Registration Statement on Form S-1 (File No. 333-206430) declared effective on September 16, 2015 (the “Initial Public Offering Price”).

(6) Estimated solely for the purpose of calculating the registration fee in accordance with Rule 457(h) under the Securities Act on the basis of the weighted average exercise price of \$1.86 per share of Registrant’s common stock (rounded up to the nearest hundredth).

(7) Estimated solely for the purpose of calculating the registration fee in accordance with Rule 457(h) under the Securities Act and based upon the Initial Public Offering Price, multiplied by 85%.

PART I

Information Required in the Section 10(a) Prospectus

The information specified in this Part I is omitted from this Registration Statement in accordance with Rule 428 under the Securities Act of 1933, as amended (“Securities Act”). In accordance with the rules and regulations of the Securities and Exchange Commission (the “SEC”) and the instructions to Form S-8, such documents are not being filed with the SEC either as part of this Registration Statement or as prospectuses or prospectus supplements pursuant to Rule 424 under the Securities Act.

PART II

Information Required in the Registration Statement

Item 3. Incorporation of Documents by Reference

REGENXBIO Inc. (the “Registrant”) hereby incorporates by reference into this Registration Statement the following documents previously filed with the SEC:

- (a) the Registrant’s prospectus filed on September 17, 2015 pursuant to Rule 424(b) under the Securities Act relating to the Registration Statements on Form S-1, as amended (File Nos. 333-206430 and 333-206981) (the “Form S-1”), which contains audited financial statements for the Registrant’s latest fiscal year for which such statements have been filed; and
- (b) The description of the Registrant’s common stock contained in the Registrant’s Registration Statement on Form 8-A (File No. 001-37553 filed with the SEC on September 9, 2015, including any amendments or reports filed for the purpose of updating such description.

All other reports and documents filed by the Registrant pursuant to Section 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934, as amended (the “Exchange Act”) subsequent to the filing of this Registration Statement and prior to the filing of a post-effective amendment which indicates that all securities offered hereby have been sold or which de-registers 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. The Registrant is not, however, incorporating any documents or information that the Registrant is deemed to furnish and not file in accordance with SEC rules. Any statement contained in a document incorporated or deemed incorporated by reference in this Registration Statement will be deemed modified or superseded for purposes of this Registration Statement to the extent that a statement contained in any subsequently filed document that also is deemed incorporated by reference in this Registration Statement modifies or supersedes that statement.

Item 4. Description of Securities

Not applicable.

Item 5. Interests of Named Experts and Counsel

Not applicable.

Item 6. Indemnification of Directors and Officers

Section 145 of the Delaware General Corporation Law authorizes a court to award, or a corporation’s board of directors to grant, indemnity to directors and officers under certain circumstances and subject to certain limitations. The terms of Section 145 of the Delaware General Corporation Law are sufficiently broad to permit indemnification under certain circumstances for liabilities, including reimbursement of expenses incurred, arising under the Securities Act.

As permitted by the Delaware General Corporation Law, our amended and restated certificate of incorporation and amended and restated bylaws contain provisions relating to the limitation of liability and indemnification of directors and officers. The amended and restated certificate of incorporation provides that our directors will not be personally liable to us or our stockholders for monetary damages for any breach of fiduciary duty as a director, except for liability:

- for any breach of the director’s duty of loyalty to us or our stockholders;

- for acts or omissions not in good faith or that involve intentional misconduct or a knowing violation of law;
- in respect of unlawful payments of dividends or unlawful stock repurchases or redemptions as provided in Section 174 of the Delaware General Corporation Law; or
- for any transaction from which the director derives any improper personal benefit.

Our amended and restated certificate of incorporation also provides that if Delaware law is amended after the approval by our stockholders of the certificate of incorporation to authorize corporate action further eliminating or limiting the personal liability of directors, then the liability of our directors will be eliminated or limited to the fullest extent permitted by Delaware law.

Our amended and restated bylaws provide that we will indemnify our directors and officers to the fullest extent permitted by Delaware law, as it now exists or may in the future be amended, against all expenses and liabilities reasonably incurred in connection with their service for or on our behalf. Our amended and restated bylaws provide that we shall advance the expenses incurred by a director or officer in advance of the final disposition of an action or proceeding, and permit us to secure insurance on behalf of any director, officer, employee, or other enterprise agent for any liability arising out of his action in that capacity, whether or not Delaware law would otherwise permit indemnification.

We have entered into indemnification agreements with each of our directors and executive officers and certain other key employees. The form of agreement provides that we will indemnify each of our directors, executive officers and such other key employees against any and all expenses incurred by that director, executive officer, or other key employee because of his status as one of our directors, executive officers or other key employees, to the fullest extent permitted by Delaware law, our amended and restated certificate of incorporation and our amended and restated bylaws. In addition, the form agreement provides that, to the fullest extent permitted by Delaware law, we will advance all expenses incurred by our directors, executive officers and other key employees in connection with a legal proceeding.

We maintain insurance policies that indemnify our directors and officers against various liabilities arising under the Exchange Act that might be incurred by any director or officer in his capacity as such.

Item 7. Exemption from Registration Claimed

Not applicable.

Item 8. Exhibits

The Exhibit Index immediately preceding the exhibits is incorporated in this Item 8 by reference.

Item 9. Undertakings

A. 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,
 - (ii) 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 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 SEC pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than a 20 percent change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective Registration Statement, and

(iii) 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 clauses A(1)(i) and A(1)(ii) above shall 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 SEC by the Registrant pursuant to Section 13 or Section 15(d) of the Exchange Act that are incorporated by reference in this Registration Statement;

- (2) that for the purpose of determining any liability under the Securities Act 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; and
- (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 Registrant's offering.

B. The undersigned 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 Section 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 herein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

C. Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers or controlling persons of the Registrant pursuant to the foregoing provisions or otherwise, the Registrant has been advised that, in the opinion of the SEC, 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.

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-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 17th day of September, 2015.

REGENXBIO INC.

By: /s/ Kenneth T. Mills

Kenneth T. Mills

Chief Executive Officer

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below hereby constitutes and appoints Kenneth T. Mills and Sara Garon Berl, and each of them, as his or her true and lawful attorney-in-fact and agent with full power of substitution, 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 SEC, granting unto said attorney-in-fact and agent 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 attorney-in-fact and agent, or his or her substitute, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, as amended, this Registration Statement has been signed below 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	Chief Executive Officer, President and Director (Principal Executive Officer)	September 17, 2015
<u>/s/ Vittal Vasista</u> Vittal Vasista	Chief Financial Officer (Principal Financial Officer)	September 17, 2015
<u>/s/ Donald J. Hayden, Jr.</u> Donald J. Hayden, Jr.	Chairman of the Board of Directors	September 17, 2015
<u>/s/ Luke M. Beshar</u> Luke M. Beshar	Director	September 17, 2015
<u>/s/ Edgar G. Engleman, M.D.</u> Edgar G. Engleman, M.D.	Director	September 17, 2015
<u>/s/ Allan M. Fox</u> Allan M. Fox	Director	September 17, 2015
<u>/s/ A.N. "Jerry" Karabelas, Ph.D.</u> A.N. "Jerry" Karabelas, Ph.D.	Director	September 17, 2015
<u>/s/ Camille Samuels</u> Camille Samuels	Director	September 17, 2015

EXHIBIT INDEX

Exhibit Number	Description	Incorporated by Reference				Filed Herewith
		Form	File No.	Exhibit	Filing Date	
4.1	Restated Certificate of Incorporation of the Registrant, as amended.	S-1	333-206430	3.1	8/17/2015	
4.2	Form of Amended and Restated Certificate of Incorporation of the Registrant, to be in effect upon the completion of the Registrant's public offering.	S-1	333-206430	3.2	8/17/2015	
4.3	Amended and Restated Bylaws of the Registrant.	S-1	333-206430	3.3	8/17/2015	
4.4	Form of Amended and Restated Bylaws of the Registrant, to be in effect upon the completion of the Registrant's public offering.	S-1	333-206430	3.4	8/17/2015	
4.6	Form of Registrant's Common Stock Certificate.	S-1	333-206430	4.1	8/17/2015	
5.1	Opinion and Consent of Gunderson Dettmer Stough Villeneuve Franklin & Hachigian, LLP.					X
23.1	Consent of PricewaterhouseCoopers, LLP, Independent Registered Public Accounting Firm.					X
23.2	Consent of Gunderson Dettmer Stough Villeneuve Franklin & Hachigian, LLP (contained in Exhibit 5.1).					X
24.1	Power of Attorney (contained in the signature page hereto).					X
99.1	2014 Stock Plan.	S-1	333-206430	10.2	8/17/2015	
99.2	2015 Equity Incentive Plan.	S-1/A	333-206430	10.3	9/15/2015	
99.3	2015 Employee Stock Purchase Plan.	S-1/A	333-206430	10.4	9/8/2015	

September 17, 2015

REGENXBIO Inc.
9712 Medical Center Drive, Suite 100
Rockville, MD 20850

Ladies and Gentlemen:

We refer to the registration statement on Form S-8 (the "Registration Statement") to be filed by REGENXBIO Inc., a Delaware corporation (the "Company"), with the Securities and Exchange Commission (the "Commission") in connection with the registration under the Securities Act of 1933, as amended (the "Act"), of an aggregate of 6,269,300 shares of the Company's common stock, \$0.0001 par value per share (the "Shares"), that are subject to issuance by the Company (i) upon the exercise or settlement of awards granted or to be granted under the Company's 2015 Equity Incentive Plan, (ii) the exercise of purchase rights to acquire shares of common stock granted or to be granted under the Company's 2015 Employee Stock Purchase Plan and (iii) the exercise of stock options granted under the Company's 2014 Stock Plan. The Company's 2015 Equity Incentive Plan, 2015 Employee Stock Purchase Plan and 2014 Stock Plan are collectively referred to in this letter as the "Plans."

In connection with this opinion, we have reviewed the actions proposed to be taken by you in connection with the issuance and sale of the Shares to be issued under the Plans. We have also examined and relied upon the Registration Statement and the originals or copies certified to our satisfaction of such other documents, records, certificates, memoranda and other instruments as in our judgment are necessary or appropriate to enable us to render the opinion expressed below. With your consent, we have relied upon certificates and other assurances of officers of the Company as to factual matters without having independently verified such factual matters. We have assumed the genuineness and authenticity of all documents submitted to us as originals, and the conformity to originals of all documents submitted to us as copies thereof and the due execution and delivery of all documents where due execution and delivery are a prerequisite to the effectiveness thereof.

This opinion is being furnished in connection with the requirements of Item 601(b)(5) of Regulation S-K under the Act, and no opinion is expressed herein as to any matter pertaining to the contents of the Registration Statement, other than as expressly stated herein with respect to the issue of the Shares. Our opinion is limited to the matters stated herein and no opinion is implied or may be inferred beyond the matters expressly stated. Our opinion herein is expressed solely with respect to the federal laws of the United States and the General Corporation Law of the State of Delaware (the "DGCL"). Our opinion is based on these laws as in effect on the date hereof, and we disclaim any obligation to advise you of facts, circumstances, events or developments which hereafter may be brought to our attention and which may alter, affect or modify the opinion expressed herein. We are not rendering any opinion as to compliance with any federal or state antifraud law, rule or regulation relating to securities, or to the sale or issuance thereof.

Based upon and subject to the foregoing, we advise you that, in our opinion, when the Shares have been issued and sold by the Company pursuant to the applicable provisions of the Plans and pursuant to the agreements which accompany the Plans, and in accordance with the Registration Statement, such Shares will be validly issued, fully paid and nonassessable.

We hereby consent to the filing of this opinion as an exhibit 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 or the rules and regulations of the Commission thereunder.

Very truly yours,

/s/ Gunderson Dettmer Stough Villeneuve Franklin & Hachigian, LLP

Gunderson Dettmer Stough Villeneuve Franklin & Hachigian, 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 our report dated July 1, 2015 relating to the financial statements of REGENXBIO Inc., which appears in the Prospectus dated September 17, 2015 filed by REGENXBIO Inc. pursuant to Rule 424(b) relating to the Registration Statement on Form S-1, as amended (No. 333-206430).

/s/ PricewaterhouseCoopers LLP

McLean, VA
September 17, 2015