

UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
Washington, D.C. 20549  
SCHEDULE 13G

Under the Securities Exchange Act of 1934

(Amendment No. \_\_\_\_\_)\*

REGENXBIO Inc. (Name of Issuer)

Common Stock

(Title of Class of Securities)

75901B107 (CUSIP Number)

September 17, 2015

(Date of Event which Requires Filing of this Statement)

Check the appropriate box to designate the rule pursuant to which  
this Schedule is filed:

? Rule 13d-1(b)

? Rule 13d-1(c)

? Rule 13d-1(d)

\* The remainder of this cover page shall be filled out for a reporting person's initial filing on this form with respect to the subject class of securities, and for any subsequent amendment containing information which would alter disclosures provided in a prior cover page. The information required on the remainder of this cover page shall not be deemed to be "filed" for the purpose of Section 18 of the Securities Exchange Act of 1934 ("Act") or otherwise subject to the liabilities of that section of the Act but shall be subject to all other provisions of the Act (however, see the Notes).

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1.

NAMES OF REPORTING PERSONS

Brookside Capital Partners Fund, L.P.

2.

CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP

(see instructions)

(a) ?

(b) ?

3.

SEC USE ONLY

4.

CITIZENSHIP OR PLACE OF ORGANIZATION

Delaware

NUMBER OF  
SHARES  
BENEFICIALLY  
OWNED BY  
EACH  
REPORTING  
PERSON WITH

5.

SOLE VOTING POWER

1,759,961

6.

SHARED VOTING POWER

0

7.

SOLE DISPOSITIVE POWER

1,759,961

8.

SHARED DISPOSITIVE POWER

0

9.

AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON

1,759,961

10.

CHECK IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES  
(see instructions) ?

11.

PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9)

6.69%

12.

TYPE OF REPORTING PERSON (see instructions)

PN

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1.

NAMES OF REPORTING PERSONS

Brookside Capital Trading Fund, L.P.

2.

CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP  
(see instructions)

(a) ?

(b) ?

3.

SEC USE ONLY

4.

CITIZENSHIP OR PLACE OF ORGANIZATION

Delaware

NUMBER OF  
SHARES  
BENEFICIALLY  
OWNED BY  
EACH  
REPORTING  
PERSON WITH

5.

SOLE VOTING POWER

175,000

6.

SHARED VOTING POWER

0

7.

SOLE DISPOSITIVE POWER

175,000

8.

SHARED DISPOSITIVE POWER

0

9.

AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON

175,000

10.

CHECK IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES  
(see instructions) ?

11.

PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9)

0.67%

12.

TYPE OF REPORTING PERSON (see instructions)

PN

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Item 1.

(a)

Name of Issuer

The name of the issuer to which this filing on Schedule 13G

relates is REGENXBIO Inc. (the "Company")

(b)

Address of Issuer's Principal Executive Offices  
The principal executive offices of the Company are located at  
9712 Medical Center Drive, Suite 100, Rockville, MD  
20850.

Item 2.

(a)

Name of Person Filing  
This Statement is being filed on behalf the following (collectively,  
the "Reporting Persons"): (1) Brookside Capital Partners Fund, L.P.,  
a Delaware limited partnership ("Partners Fund"), whose sole general  
partner is Brookside Capital Investors, L.P., a Delaware limited  
partnership ("Brookside Investors"), whose sole general partner is  
Brookside Capital Management, LLC, a Delaware limited liability  
company ("Brookside Management"); and (2) Brookside Capital Trading  
Fund, L.P., a Delaware limited partnership ("Trading Fund"), whose  
sole general partner is Brookside Capital Investors II, L.P., a  
Delaware limited partnership ("Brookside Investors II"), whose  
sole general partner is Brookside Management.

The Reporting Persons have entered into a Joint Filing Agreement,  
dated September 24, 2015, a copy of which is filed with this Schedule  
13G as Exhibit A, pursuant to which the Reporting Persons have agreed  
to file this statement jointly in accordance with the provisions of  
Rule 13d-1(k) (1) under the Securities Exchange Act of 1934.

(b)

Address of the Principal Office or, if none, residence  
The principal business address of each of the Partners Fund, the  
Trading Fund, Brookside Investors, Brookside Investors II, and  
Brookside Management is John Hancock Tower, 200 Clarendon Street,  
Boston, MA 02116.

(c)

Citizenship  
Each of the Partners Fund, the Trading Fund, Brookside Investors,  
Brookside Investors II and Brookside Management is organized under  
the laws of the State of Delaware.

(d)

Title of Class of Securities  
The class of equity securities of the Company to which this filing on  
Schedule 13G relates is Common Stock ("Common Stock").

(e)

CUSIP Number  
The CUSIP number of the Company's Common Stock is 75901B107.

Item 3. If this statement is filed pursuant to 240.13d-1(b)  
or 240.13d-2(b) or (c), check whether the person filing is a:

(a)

?

Broker or dealer registered under section 15 of the Act  
(15 U.S.C. 78o).

(b)

?

Bank as defined in section 3(a)(6) of the Act (15 U.S.C. 78c).

(c)

?

Insurance company as defined in section 3(a)(19) of the Act  
(15 U.S.C. 78c).

(d)

?

Investment company registered under section 8 of the Investment  
Company Act of 1940 (15 U.S.C. 80a-8).

(e)

?

An investment adviser in accordance with 240.13d-1(b)(1)(ii)(E);

(f)

?

An employee benefit plan or endowment fund in accordance with  
240.13d-1(b)(1)(ii)(F);

(g)

?

A parent holding company or control person in accordance with  
240.13d-1(b)(1)(ii)(G);

(h)

?

A savings associations as defined in Section 3(b) of the Federal  
Deposit Insurance Act (12 U.S.C. 1813);

(i)

?

A church plan that is excluded from the definition of an investment  
company under section 3(c)(14) of the  
Investment Company Act of 1940 (15 U.S.C. 80a-3);

(j)

?

Group, in accordance with 240.13d-1(b)(1)(ii)(J).

[x] If this statement is filed pursuant to 240.13d-1(c), check this box.  
Item 4. Ownership.

Provide the following information regarding the aggregate number and  
percentage of the class of securities of the issuer identified in Item 1.

(a)

Amount beneficially owned: 1,934,961

(b)

Percent of class: 7.36% based upon 26,295,708 shares of  
Common Stock outstanding.

(c)

Number of shares as to which the person has: 1,934,961.

(i)

Sole power to vote or to direct the vote: 1,934,961.

(ii)

Shared power to vote or to direct the vote: 0.

(iii)

Sole power to dispose or to direct the disposition of: 1,934,961.

(iv)

Shared power to dispose or to direct the disposition of: 0.

Item 5. Ownership of Five Percent or Less of a Class.

Not applicable.

Item 6. Ownership of More than Five Percent on Behalf of Another Person.

Not applicable.

Item 7. Identification and Classification of the Subsidiary Which Acquired the Security Being Reported on By the Parent Holding Company.

Not applicable.

Item 8. Identification and Classification of Members of the Group.

Not applicable.

Item 9. Notice of Dissolution of Group.

Not applicable.

Item 10. Certification.

By signing below I certify that, to the best of my knowledge and belief, the securities referred to above were not acquired and are not held for the purpose of or with the effect of changing or influencing the control of the issuer of the securities and were not acquired and are not held in connection with or as a participant in any transaction having that purpose or effect.

CUSIP No. 75901B107

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After reasonable inquiry and to the best of my knowledge and belief, I certify that the information set forth in this statement is true, complete and correct.

Dated: September 24, 2015

BROOKSIDE CAPITAL PARTNERS FUND, L.P.

By: Brookside Capital Investors, L.P.,  
its general partner



By: Brookside Capital Management, LLC,  
its general partner

By:

Name: William E. Pappendick IV  
Title: Managing Director

BROOKSIDE CAPITAL TRADING FUND, L.P.

By: Brookside Capital Investors II, L.P.,  
its general partner

By: Brookside Capital Management, LLC,  
its general partner

By:

Name: William E. Pappendick IV  
Title: Managing Director

Exhibit A

AGREEMENT REGARDING THE JOINT FILING OF  
SCHEDULE 13G

The undersigned hereby agree as follows:

(i) The Statement on Schedule 13G, and any amendments thereto, to which this Agreement is annexed as Exhibit A is and will be filed on behalf of each of them in accordance with the provisions of Rule 13d-1(k)(1) under the Securities Exchange Act of 1934, as amended; and

(ii) Each of them is responsible for the timely filing of such Schedule 13G and any amendments thereto, and for the completeness and accuracy of the information concerning such person contained therein; but none of them is responsible for the completeness or accuracy of the information concerning the other persons making the filing, unless such person knows or has reason to believe that such information is inaccurate.

Dated: September 24, 2015

BROOKSIDE CAPITAL PARTNERS FUND, L.P.

By: Brookside Capital Investors, L.P.,  
its general partner

By: Brookside Capital Management, LLC,  
its general partner

By:

Name: William E. Pappendick IV  
Title: Managing Director

BROOKSIDE CAPITAL TRADING FUND, L.P.

By: Brookside Capital Investors II, L.P.,  
its general partner  
By: Brookside Capital Management, LLC,  
its general partner

By:  
Name: William E. Pappendick IV  
Title: Managing Director

The percentage of Common Stock reported owned by the Reporting Persons is based upon 26,295,708 shares of Common Stock outstanding, which is the total number of shares of Common Stock outstanding as of September 17, 2015, based on representations made in the Company's prospectus filed pursuant to Rule 424(b)(4) under the Securities Act of 1933 with the Securities and Exchange Commission on September 17, 2015. The percentage of Common Stock reported owned by the Reporting Persons is based upon 26,295,708 shares of Common Stock outstanding, which is the total number of shares of Common Stock outstanding as of September 17, 2015, based on representations made in the Company's prospectus filed pursuant to Rule 424(b)(4) under the Securities Act of 1933 with the Securities and Exchange Commission on September 17, 2015.

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