

REGENXBIO INC.
9712 MEDICAL CENTER DRIVE, SUITE 100
ROCKVILLE, MD 20850

September 14, 2015

VIA EDGAR

Securities and Exchange Commission
Division of Corporation Finance
100 F. Street, N.E.
Washington, D.C. 20549
Attention: Jeffrey P. Riedler
Preston Brewer
John Krug

Re: REGENXBIO Inc.
Registration Statement on Form S-1 (File No. 333-206430)
Request for Acceleration of Effective Date

Dear Mr. Riedler:

Pursuant to Rule 461 under the Securities Act of 1933, as amended, REGENXBIO Inc. (the "Registrant") hereby requests acceleration of the effective date of the above-referenced Registration Statement on Form S-1 (File No. 333-206430) (as amended, the "Registration Statement"), so that it may become effective at 5:00 p.m. Eastern Time on September 16, 2015, or as soon thereafter as practicable. By separate letter, the representatives of the underwriters of the issuance of the securities being registered join this request for acceleration.

The Registrant hereby acknowledges that:

- (i) should the Securities and Exchange Commission (the "Commission") or the staff, acting pursuant to delegated authority, declare the Registration Statement effective, it does not foreclose the Commission from taking any action with respect to the Registration Statement;
- (ii) the action of the Commission or the staff, acting pursuant to delegated authority, in declaring the Registration Statement effective, does not relieve the Registrant from its full responsibility for the adequacy and accuracy of the disclosure in the Registration Statement; and
- (iii) the Registrant may not assert staff comments and the declaration of effectiveness as a defense in any proceeding initiated by the Commission or any person under the federal securities laws of the United States.

[Signature Page Follows]

Please do not hesitate to contact our legal counsel, Albert Vanderlaan at (617) 648-9298 if you have any questions or would like additional information regarding this matter.

Sincerely,

REGENXBIO Inc.

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

cc: Jay K. Hachigian
Richard R. Hesp, Esq.
Keith J. Scherer, Esq.
Albert W. Vanderlaan, Esq.
Gunderson Dettmer Stough Villeneuve Franklin & Hachigian, LLP