

SCHEDULE 13G

Amendment No. 1
BLUEBIRD BIO INC
Common Stock
Cusip #09609G100

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Item 1: Reporting Person - FMR LLC
Item 4: Delaware
Item 5: 8,800
Item 6: 0
Item 7: 3,567,031
Item 8: 0
Item 9: 3,567,031
Item 11: 15.000%
Item 12: HC

Cusip #09609G100
Item 1: Reporting Person - Edward C. Johnson 3d
Item 4: United States of America
Item 5: 0
Item 6: 0
Item 7: 3,567,031
Item 8: 0
Item 9: 3,567,031
Item 11: 15.000%
Item 12: IN

SCHEDULE 13G - TO BE INCLUDED IN
STATEMENTS
FILED PURSUANT TO RULE 13d-1(b) or 13d-2(b)

Item 1(a). Name of Issuer:

BLUEBIRD BIO INC

Item 1(b). Name of Issuer's Principal Executive Offices:

840 MEMORIAL DR 4TH FL
CAMBRIDGE, MA 02139

Item 2(a). Name of Person Filing:

FMR LLC

Item 2(b). Address or Principal Business Office or, if None,
Residence:

245 Summer Street, Boston,
Massachusetts 02210

Item 2(c). Citizenship:

Not applicable

Item 2(d). Title of Class of Securities:

Common Stock

Item 2(e). CUSIP Number:

09609G100

Item 3. This statement is filed pursuant to Rule 13d-1(b) or 13d-2(b) and the person filing, FMR LLC, is a parent holding company in accordance with Section 240.13d-1(b)(ii)(G). (Note: See Item 7).

Item 4. Ownership

(a) Amount Beneficially Owned: 3,567,031

(b) Percent of Class: 15.000%

(c) Number of shares as to which such person has:

(i) sole power to vote or to direct the vote: 8,800

(ii) shared power to vote or to direct the vote: 0

(iii) sole power to dispose or to direct the disposition of: 3,567,031

(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.

Various persons have the right to receive or the power to direct the receipt of dividends from, or the proceeds from the sale of, the Common Stock of BLUEBIRD BIO INC. The interest of one person, Fidelity Growth Company Fund, an investment company registered under the Investment Company Act of 1940, in the Common Stock of BLUEBIRD BIO INC, amounted to 1,254,172 shares or 5.274% of the total outstanding Common Stock at December 31, 2013.

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

See attached Exhibit A.

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

Not applicable. See attached Exhibit A.

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 acquired in the

ordinary course of business and were not acquired for the purpose of and do not have the effect of changing or influencing the control of the issuer of such securities and were not acquired in connection with or as a participant in any transaction having such purpose or effect.

Signature

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.

February 13, 2014
Date

/s/ Scott C. Goebel
Signature

Scott C. Goebel
Duly authorized under Power of Attorney
effective as of June 1, 2008 by and on behalf of FMR LLC
and its direct and indirect subsidiaries

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Pursuant to the instructions in Item 7 of Schedule 13G, Fidelity Management & Research Company ("Fidelity"), 245 Summer Street, Boston, Massachusetts 02210, a wholly-owned subsidiary of FMR LLC and an investment adviser registered under Section 203 of the Investment Advisers Act of 1940, is the beneficial owner of 3,356,263 shares or 14.114% of the Common Stock outstanding of BLUEBIRD BIO INC ("the Company") as a result of acting as investment adviser to various investment companies registered under Section 8 of the Investment Company Act of 1940.

Edward C. Johnson 3d and FMR LLC, through its control of Fidelity, and the funds each has sole power to dispose of the 3,356,263 shares owned by the Funds.

Fidelity SelectCo, LLC ("SelectCo"), 1225 17th Street, Suite 1100, Denver, Colorado 80202, a wholly-owned subsidiary of FMR LLC and an investment adviser registered under Section 203 of the Investment Advisers Act of 1940, is the beneficial owner of 201,968 shares or 0.849% of the Common Stock outstanding of BLUEBIRD BIO INC ("the Company") as a result of acting as investment adviser to various investment companies registered under Section 8 of the Investment Company Act of 1940 (the "SelectCo Funds").

Edward C. Johnson 3d and FMR LLC, through its control of SelectCo, and the SelectCo Funds each has sole power to dispose of the 201,968 owned by the SelectCo Funds.

The ownership of one investment company, Fidelity Growth Company Fund, amounted to 1,254,172 shares or 5.274% of the Common Stock outstanding. Fidelity Growth Company Fund has its principal business office at 245 Summer Street, Boston, Massachusetts 02210.

Members of the family of Edward C. Johnson 3d, Chairman of FMR LLC, are the predominant owners, directly

or through trusts, of Series B voting common shares of FMR LLC, representing 49% of the voting power of FMR LLC. The Johnson family group and all other Series B shareholders have entered into a shareholders' voting agreement under which all Series B voting common shares will be voted in accordance with the majority vote of Series B voting common shares. Accordingly, through their ownership of voting common shares and the execution of the shareholders' voting agreement, members of the Johnson family may be deemed, under the Investment Company Act of 1940, to form a controlling group with respect to FMR LLC.

Neither FMR LLC nor Edward C. Johnson 3d, Chairman of FMR LLC, has the sole power to vote or direct the voting of the shares owned directly by the Fidelity Funds, which power resides with the Funds' Boards of Trustees. Fidelity carries out the voting of the shares under written guidelines established by the Funds' Boards of Trustees.

Pyramis Global Advisors Trust Company ("PGATC"), 900 Salem Street, Smithfield, Rhode Island, 02917, an indirect wholly-owned subsidiary of FMR LLC and a bank as defined in Section 3(a)(6) of the Securities Exchange Act of 1934, is the beneficial owner of 8,800 shares or 0.037% of the outstanding Common Stock of the BLUEBIRD BIO INC as a result of its serving as investment manager of institutional accounts owning such shares.

Edward C. Johnson 3d and FMR LLC, through its control of Pyramis Global Advisors Trust Company, each has sole dispositive power over 8,800 shares and sole power to vote or to direct the voting of 8,800 shares of Common Stock owned by the institutional accounts managed by PGATC as reported above.

SCHEDULE 13G - TO BE INCLUDED IN STATEMENTS

FILED PURSUANT TO RULE 13d-1(b) or 13d-2(b)
RULE 13d-1(f)(1) AGREEMENT

The undersigned persons, on February 13, 2014, agree and consent to the joint filing on their behalf of this Schedule 13G in connection with their beneficial ownership of the Common Stock of BLUEBIRD BIO INC at December 31, 2013.

FMR LLC

By /s/ Scott C. Goebel
Scott C. Goebel
Duly authorized under Power of Attorney effective as of June 1, 2008, by and on behalf of FMR LLC and its direct and indirect subsidiaries

Edward C. Johnson 3d

By /s/ Scott C. Goebel
Scott C. Goebel
Duly authorized under Power of Attorney effective as of June 1, 2008, by and on behalf of Edward C. Johnson 3d

Fidelity Management & Research Company

By /s/ Scott C. Goebel
Scott C. Goebel
Senior V.P. and General Counsel

Fidelity Growth Company Fund

By /s/ Scott C. Goebel
Scott C. Goebel
Secretary