

bluebird bio, Inc.
Form SC 13G
February 12, 2014

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

SCHEDULE 13G

Under the Securities Exchange Act of 1934

(Amendment No. __)*

bluebird bio, Inc.
(Name of Issuer)

Common Stock, \$0.01 par value per share
(Title of Class of Securities)

09609G100
(CUSIP Number)

December 31, 2013
(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 the disclosures provided in a prior cover page.

The information required in 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).

- 1 NAMES OF REPORTING PERSONS
I.R.S. IDENTIFICATION NOS. OF ABOVE PERSONS (ENTITIES ONLY)

Third Rock Ventures, 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 limited partnership

5 SOLE VOTING POWER

NUMBER OF
SHARES

6 0
SHARED VOTING POWER

BENEFICIALLY

OWNED BY

7 3,313,974
SOLE DISPOSITIVE POWER

EACH

REPORTING

PERSON

8 0
SHARED DISPOSITIVE POWER

WITH

3,313,974

- 9 AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON

3,313,974

- 10 CHECK IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES (SEE INSTRUCTIONS)

- 11 PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9)

13.9%

- 12 TYPE OF REPORTING PERSON (SEE INSTRUCTIONS)

PN

- 1 NAMES OF REPORTING PERSONS
I.R.S. IDENTIFICATION NOS. OF ABOVE PERSONS (ENTITIES ONLY)

Third Rock Ventures GP, 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 limited partnership

5 SOLE VOTING POWER

NUMBER OF
SHARES

6 0
SHARED VOTING POWER

BENEFICIALLY

OWNED BY

7 3,313,974
SOLE DISPOSITIVE POWER

EACH

REPORTING

PERSON

8 0
SHARED DISPOSITIVE POWER

WITH

3,313,974

- 9 AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON

3,313,974

- 10 CHECK IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES (SEE INSTRUCTIONS)

- 11 PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9)

13.9%

- 12 TYPE OF REPORTING PERSON (SEE INSTRUCTIONS)

PN

- 1 NAMES OF REPORTING PERSONS
I.R.S. IDENTIFICATION NOS. OF ABOVE PERSONS (ENTITIES ONLY)

TRV GP, LLC

- 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 limited liability company

5 SOLE VOTING POWER

NUMBER OF
SHARES
BENEFICIALLY

6 0
SHARED VOTING POWER

OWNED BY

7 3,313,974
SOLE DISPOSITIVE POWER

EACH

REPORTING

PERSON

8 0
SHARED DISPOSITIVE POWER

WITH

3,313,974

- 9 AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON

3,313,974

- 10 CHECK IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES (SEE INSTRUCTIONS)

- 11 PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9)

13.9%

- 12 TYPE OF REPORTING PERSON (SEE INSTRUCTIONS)

OO

- 1 NAMES OF REPORTING PERSONS
I.R.S. IDENTIFICATION NOS. OF ABOVE PERSONS (ENTITIES ONLY)

Robert I. Tepper

- 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

United States

5 SOLE VOTING POWER

NUMBER OF
SHARES
BENEFICIALLY

6 0
SHARED VOTING POWER

OWNED BY
EACH
REPORTING
PERSON

7 3,313,974
SOLE DISPOSITIVE POWER

WITH

8 0
SHARED DISPOSITIVE POWER

3,313,974

- 9 AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON

3,313,974

- 10 CHECK IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES (SEE INSTRUCTIONS)

- 11 PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9)

13.9%

- 12 TYPE OF REPORTING PERSON (SEE INSTRUCTIONS)

IN

CUSIP No. 09609G100

13G

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Item 1(a). Name of Issuer:

bluebird bio, Inc.

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

840 Memorial Drive, 4th Floor, Cambridge, MA 02139.

Item 2(a). Names of Persons Filing:

This statement is being filed by Third Rock Ventures, L.P. ("TRV"); Third Rock Ventures GP, L.P. ("TRV GP"), which is the sole general partner of TRV; TRV GP, LLC ("TRV GP LLC"), which is the sole general partner of TRV GP; and Robert I. Tepper ("Tepper"), a managing member of TRV GP LLC. TRV, TRV GP, TRV GP LLC and Tepper are sometimes referred to collectively herein as the "Reporting Persons".

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

The address of the principal business office of each Reporting Person is Third Rock Ventures, LLC, 29 Newbury Street, 3rd Floor, Boston, MA 02116.

Item 2(c). Citizenship:

Each of TRV and TRV GP is a Delaware limited partnership. TRV GP LLC is a Delaware limited liability company. Tepper is a United States citizen.

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

Common Stock, \$0.01 par value ("Common Stock").

Item 2(e). CUSIP Number:

09609G100.

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:

Not applicable.

Item 4. Ownership.

- (a) Amount Beneficially Owned: TRV is the record owner of 3,313,974 shares of Common Stock as of December 31, 2013 (the "Shares"). As the sole general partner of TRV, TRV GP may be deemed to own beneficially the Shares. As the sole general partner of TRV GP, TRV GP LLC likewise may be deemed to own beneficially the Shares. As a managing member of TRV GP LLC, Tepper also may be deemed to own beneficially the Shares.
- (b) Percent of Class: See Line 11 of cover sheets. The percentages set forth on the cover sheet for each Reporting Person are calculated based on 23,780,211 shares of Common Stock reported by the Issuer to be outstanding as of October 31, 2013 on Form 10-Q as filed with the Securities and Exchange Commission on November 14, 2013.
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- (c) Number of shares as to which such person has:
- (i) sole power to vote or to direct the vote: See Line 5 of cover sheets.
 - (ii) shared power to vote or to direct the vote: See Line 6 of cover sheets.
 - (iii) sole power to dispose or to direct the disposition of: See Line 7 of cover sheets.
 - (iv) shared power to dispose or to direct the disposition of: See Line 8 of cover sheets.

Each Reporting Person disclaims beneficial ownership of such Securities except for the shares, if any, such Reporting Person holds of record.

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 or Control Person.

Not applicable.

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

Not applicable. The Reporting Persons expressly disclaim membership in a "group" as used in Rule 13d-5(b).

Item 9. Notice of Dissolution of Group.

Not applicable.

Item 10. Certification.

Not applicable. This Schedule 13G is not filed pursuant to Rule 13d-1(b) or Rule 13d-1(c).

Material to be Filed as Exhibits.

Exhibit 1 – Agreement regarding filing of joint Schedule 13G.

Exhibit 2 – Power of Attorney regarding filings under the Securities Exchange Act of 1934, as amended.
