

bluebird bio, Inc.  
Form 3  
June 18, 2013

**FORM 3 UNITED STATES SECURITIES AND EXCHANGE COMMISSION**  
**Washington, D.C. 20549**

OMB APPROVAL

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**INITIAL STATEMENT OF BENEFICIAL OWNERSHIP OF SECURITIES**

Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934,  
Section 17(a) of the Public Utility Holding Company Act of 1935 or Section  
30(h) of the Investment Company Act of 1940

(Print or Type Responses)

|   |         |          |                                      |  |   |  |
|---|---------|----------|--------------------------------------|--|---|--|
| 1. Name and Address of Reporting Person * |         |          | 2. Date of Event Requiring Statement |  | 3. Issuer Name and Ticker or Trading Symbol   |  |
| Arch Venture Fund VII LP                  |         |          | (Month/Day/Year)                     |  | bluebird bio, Inc. [BLUE]   |  |
| (Last)                                    | (First) | (Middle) | 06/18/2013                           |  | 4. Relationship of Reporting Person(s) to Issuer  |  |
| 8725 WEST HIGGINS ROAD, SUITE 290         |         |          |                                      |  | 5. If Amendment, Date Original Filed(Month/Day/Year)  |  |
| (Street)                                  |         |          |                                      |  | (Check all applicable)  |  |
| CHICAGO, IL 60631                         |         |          |                                      |  | <input type="checkbox"/> Director <input checked="" type="checkbox"/> 10% Owner<br><input type="checkbox"/> Officer <input type="checkbox"/> Other<br>(give title below)    (specify below)                   |  |
| (City)                                    | (State) | (Zip)    |                                      |  | 6. Individual or Joint/Group Filing(Check Applicable Line)<br><input type="checkbox"/> Form filed by One Reporting Person<br><input checked="" type="checkbox"/> Form filed by More than One Reporting Person |  |

**Table I - Non-Derivative Securities Beneficially Owned**

|                                    |  |   |  |
|------------------------------------|--|---|--|
| 1. Title of Security<br>(Instr. 4) | 2. Amount of Securities Beneficially Owned<br>(Instr. 4) | 3. Ownership Form:<br>Direct (D)<br>or Indirect (I)<br>(Instr. 5) | 4. Nature of Indirect Beneficial Ownership<br>(Instr. 5) |
|------------------------------------|--|---|--|

Reminder: Report on a separate line for each class of securities beneficially owned directly or indirectly.

SEC 1473 (7-02)

**Persons who respond to the collection of information contained in this form are not required to respond unless the form displays a currently valid OMB control number.**

**Table II - Derivative Securities Beneficially Owned (e.g., puts, calls, warrants, options, convertible securities)**

|   |   |  |  |  |  |
|---|---|--|--|--|--|
| 1. Title of Derivative Security<br>(Instr. 4) | 2. Date Exercisable and Expiration Date<br>(Month/Day/Year) | 3. Title and Amount of Securities Underlying Derivative Security<br>(Instr. 4) | 4. Conversion or Exercise Price of Derivative Security | 5. Ownership Form of Derivative Security:<br>Direct (D)<br>or Indirect (I) | 6. Nature of Indirect Beneficial Ownership<br>(Instr. 5) |
|   | Date Exercisable    Expiration Date                         | Title    Amount or Number of Shares  |  |  |  |

(Instr. 5)

|                                      |       |       |              |           |        |           |   |
|--------------------------------------|-------|-------|--------------|-----------|--------|-----------|---|
| Series C Convertible Preferred Stock | Â (1) | Â (1) | Common Stock | 1,052,946 | \$ (1) | D (2) (3) | Â |
| Series D Convertible Preferred Stock | Â (4) | Â (4) | Common Stock | 740,642   | \$ (4) | D (2) (3) | Â |

## Reporting Owners

| Reporting Owner Name / Address  | Relationships |           |         |       |
|---|---------------|-----------|---------|-------|
|   | Director      | 10% Owner | Officer | Other |
| Arch Venture Fund VII LP<br>8725 WEST HIGGINS ROAD<br>SUITE 290<br>CHICAGO, IL 60631        | Â             | Â X       | Â       | Â     |
| ARCH Venture Partners VII, L.P.<br>8725 WEST HIGGINS ROAD<br>SUITE 290<br>CHICAGO, IL 60631 | Â             | Â X       | Â       | Â     |
| ARCH Venture Partners VII, LLC<br>8725 WEST HIGGINS ROAD<br>SUITE 290<br>CHICAGO, IL 60631  | Â             | Â X       | Â       | Â     |
| CRANDELL KEITH<br>8725 WEST HIGGINS ROAD<br>SUITE 290<br>CHICAGO, IL 60631                  | Â             | Â X       | Â       | Â     |
| BYBEE CLINTON<br>8725 WEST HIGGINS ROAD<br>SUITE 290<br>CHICAGO, IL 60631                   | Â             | Â X       | Â       | Â     |
| NELSEN ROBERT<br>8725 WEST HIGGINS ROAD<br>SUITE 290<br>CHICAGO, IL 60631                   | Â             | Â X       | Â       | Â     |

## Signatures

By: /s/ Mark McDonnell, as Attorney-in-Fact for Keith Crandell, Managing Director of the general partner of the general partner of ARCH Fund VII 06/18/2013

\*\*Signature of Reporting Person

Date

By: /s/ Mark McDonnell, as Attorney-in-Fact for Keith Crandell, Managing Director of the general partner of ARCH Partners VII 06/18/2013

\*\*Signature of Reporting Person

Date

By: /s/ Mark McDonnell, as Attorney-in-Fact for Keith Crandell, Managing Director of ARCH VII LLC 06/18/2013

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| <u>Signature of Reporting Person</u>                           | Date       |
|--|------------|
| By: /s/ Mark McDonnell, as Attorney-in-Fact for Keith Crandell | 06/18/2013 |
| <u>Signature of Reporting Person</u>                           | Date       |
| By: /s/ Mark McDonnell, as Attorney-in-Fact for Clinton Bybee  | 06/18/2013 |
| <u>Signature of Reporting Person</u>                           | Date       |
| By: /s/ Mark McDonnell, as Attorney-in-Fact for Robert Nelsen  | 06/18/2013 |
| <u>Signature of Reporting Person</u>                           | Date       |

## Explanation of Responses:

- \* If the form is filed by more than one reporting person, *see* Instruction 5(b)(v).
  - \*\* Intentional misstatements or omissions of facts constitute Federal Criminal Violations. *See* 18 U.S.C. 1001 and 15 U.S.C. 78ff(a).
- The Series C Convertible Preferred Stock is convertible into Common Stock on an 18.967-for-one basis into the number of shares of
- (1) Common Stock as shown in column 3 at any time at the holder's election, and automatically upon the closing of the Issuer's initial public offering, and has no expiration date.
  - (2) Beneficial ownership consists of: 1,793,588 shares of Common Stock issuable upon conversion of shares of Series C Convertible Preferred Stock and Series D Convertible Preferred Stock held by ARCH Venture Fund VII, L.P. ("ARCH Fund VII").
- The sole general partner of ARCH Fund VII is ARCH Venture Partners VII, L.P. ("ARCH Partners VII"), which may be deemed to be the beneficial owner of the shares held by ARCH Fund VII. The sole general partner of ARCH Partners VII is ARCH Venture Partners VII, LLC ("ARCH VII LLC"), which may be deemed to be the beneficial owner of the shares held by ARCH Fund VII. ARCH Partners VII
- (3) and ARCH VII LLC disclaim beneficial ownership of such shares, except to the extent of any pecuniary interest therein. The managing directors of ARCH VII LLC are Keith Crandell, Clinton Bybee and Robert Nelsen, and they may be deemed to beneficially own the shares held by ARCH Fund VII. Messrs. Crandell, Bybee and Nelsen disclaim beneficial ownership of such shares, except to the extent of any pecuniary interest therein.
- The Series D Convertible Preferred Stock is convertible into Common Stock on an 18.967-for-one basis into the number of shares of
- (4) Common Stock as shown in column 3 at any time at the holder's election, and automatically upon the closing of the Issuer's initial public offering, and has no expiration date.

Note: File three copies of this Form, one of which must be manually signed. If space is insufficient, *See* Instruction 6 for procedure. Potential persons who are to respond to the collection of information contained in this form are not required to respond unless the form displays a currently valid OMB number.