

**FORM 4****UNITED STATES SECURITIES AND EXCHANGE COMMISSION**

Washington, D.C. 20549

**OMB APPROVAL**

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☐ Check this box if no longer subject to Section 16. Form 4 or Form 5 obligations may continue. See Instruction 1(b).

**STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP**

Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934  
 or Section 30(h) of the Investment Company Act of 1940

1. Name and Address of Reporting Person*			2. Issuer Name and Ticker or Trading Symbol		5. Relationship of Reporting Person(s) to Issuer (Check all applicable)	
<u>Walsh Jeffrey T.</u>  (Last) (First) (Middle) <u>C/O BLUEBIRD BIO, INC.</u> <u>60 BINNEY STREET</u>  (Street) <u>CAMBRIDGE MA 02142</u>  (City) (State) (Zip)			<u>bluebird bio, Inc. [ BLUE ]</u>  3. Date of Earliest Transaction (Month/Day/Year) <u>05/10/2017</u>  4. If Amendment, Date of Original Filed (Month/Day/Year)		Director 10% Owner <input checked="" type="checkbox"/> Officer (give title below) <input checked="" type="checkbox"/> Other (specify below) <u>Chief Financial / and Strategy Officer</u>  6. Individual or Joint/Group Filing (Check Applicable Line) <input checked="" type="checkbox"/> Form filed by One Reporting Person Form filed by More than One Reporting Person	

**Table I - Non-Derivative Securities Acquired, Disposed of, or Beneficially Owned**

1. Title of Security (Instr. 3)	2. Transaction Date (Month/Day/Year)	2A. Deemed Execution Date, if any (Month/Day/Year)	3. Transaction Code (Instr. 8)		4. Securities Acquired (A) or Disposed Of (D) (Instr. 3, 4 and 5)			5. Amount of Securities Beneficially Owned Following Reported Transaction(s) (Instr. 3 and 4)	6. Ownership Form: Direct (D) or Indirect (I) (Instr. 4)	7. Nature of Indirect Beneficial Ownership (Instr. 4)
			Code	V	Amount	(A) or (D)	Price			
Common Stock	05/10/2017		M		1,250	A	\$5.5004	28,555	D	
Common Stock	05/10/2017		S <sup>(1)</sup>		1,247	D	\$88.7715 <sup>(2)</sup>	27,308	D	
Common Stock	05/10/2017		S <sup>(1)</sup>		3	D	\$89.4333 <sup>(3)</sup>	27,305	D	

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

1. Title of Derivative Security (Instr. 3)	2. Conversion or Exercise Price of Derivative Security	3. Transaction Date (Month/Day/Year)	3A. Deemed Execution Date, if any (Month/Day/Year)	4. Transaction Code (Instr. 8)		5. Number of Derivative Securities Acquired (A) or Disposed of (D) (Instr. 3, 4 and 5)	6. Date Exercisable and Expiration Date (Month/Day/Year)		7. Title and Amount of Securities Underlying Derivative Security (Instr. 3 and 4)	8. Price of Derivative Security (Instr. 5)	9. Number of derivative Securities Beneficially Owned Following Reported Transaction(s) (Instr. 4)	10. Ownership Form: Direct (D) or Indirect (I) (Instr. 4)	11. Nature of Indirect Beneficial Ownership (Instr. 4)
				Code	V		Date Exercisable	Expiration Date					
Stock Option (right to buy)	\$5.5004	05/10/2017		M		1,250	(4)	01/16/2023	Common Stock	1,250	\$0.00	89,385	D

**Explanation of Responses:**

1. The sales reported in this Form 4 were effected pursuant to a Rule 10b5-1 trading plan adopted by the reporting person on December 23, 2016.
2. The range of prices for the transaction reported on this line was \$88.15 to \$88.95. The average weighted price was \$88.7715. The reporting person will provide, upon request by the SEC, the issuer or a security holder of the issuer, full information regarding the number of shares sold at each separate price.
3. The range of prices for the transaction reported on this line was \$89.40 to \$89.45. The average weighted price was \$89.4333. The reporting person will provide, upon request by the SEC, the issuer or a security holder of the issuer, full information regarding the number of shares sold at each separate price.
4. This option to purchase shares of our common stock granted on January 16, 2013 with performance-based vesting criteria that were met as of May 1, 2013. The shares underlying these options vested as follows: 25% vested on May 1, 2014, with the remainder of the shares vesting in equal monthly installments over the following three years.

**Remarks:**

/s/ Jason F. Cole, Attorney-in-Fact 05/12/2017

\*\* Signature of Reporting Person Date

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

\* If the form is filed by more than one reporting person, see Instruction 4 (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).

Note: File three copies of this Form, one of which must be manually signed. If space is insufficient, see Instruction 6 for procedure.

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