
**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549**

**FORM S-8
REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933**

bluebird bio, Inc.

(Exact Name of Registrant as Specified in its Charter)

Delaware
(State or Other Jurisdiction
of Incorporation or Organization)

13-3680878
(I.R.S. Employer
Identification No.)

bluebird bio, Inc.
455 Grand Union Boulevard
Somerville, MA 02145
(339) 499-9300
(Address of Principal Executive Offices)

2013 STOCK OPTION AND INCENTIVE PLAN
(Full Title of the Plan)

Andrew Obenshain
President and Chief Executive Officer
bluebird bio, Inc.
455 Grand Union Boulevard
Somerville, MA 02145
(339) 499-9300
(Name and Address of Agent For Service) (Telephone Number, Including Area Code, of Agent For Service)

Copy to:

Peter N. Handrinos, Esq.
Latham & Watkins LLP
200 Clarendon Street
Boston, Massachusetts 02116
(617) 948-6000

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, small reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "small reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer	<input type="checkbox"/>	Accelerated filer	<input type="checkbox"/>
Non-accelerated filer	<input checked="" type="checkbox"/>	Smaller reporting company	<input checked="" type="checkbox"/>
		Emerging growth company	<input type="checkbox"/>

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 7(a)(2)(B) of the Securities Act.

EXPLANATORY NOTE

This Registration Statement on Form S-8 is being filed for the purpose of registering an additional 3,316,932 shares of bluebird bio, Inc.'s (the "Registrant") common stock to be issued pursuant to the bluebird bio, Inc. 2013 Stock Option and Incentive Plan and for which a registration statement filed on Form S-8 by the Registrant is effective.

INCORPORATION BY REFERENCE OF CONTENTS OF REGISTRATION STATEMENTS ON FORM S-8

The information contained in the Registrant's registration statements on Form S-8 (SEC File Nos. [333-189560](#), [333-194340](#), [333-202283](#), [333-209715](#), [333-216179](#), [333-223132](#), [333-229768](#), [333-236490](#), [333-253398](#) and [333-263310](#)) relating to the 2013 Stock Option and Incentive Plan are hereby incorporated by reference.

Item 8. Exhibits.

<u>Exhibit No.</u>	<u>Description</u>
4.1	<u>Specimen common stock certificate (Incorporated by reference to Exhibit 4.1 to the registrant's Registration Statement on Form S-1, as amended, filed on June 4, 2013 (File No. 333-188605)).</u>
4.2	<u>Amended and Restated Certificate of Incorporation (Incorporated by reference to Exhibit 3.1 to the registrant's Current Report on Form 8-K filed June 24, 2013 (File No. 001-35966)).</u>
4.3	<u>Amended and Restated Bylaws (Incorporated by reference to Exhibit 3.2 to the registrant's Annual Report on Form 10-K filed February 23, 2021 (File No. 001-35966)).</u>
5.1*	<u>Opinion of Latham & Watkins LLP.</u>
23.1*	<u>Consent of Latham & Watkins LLP (included in Exhibit 5.1).</u>
23.2*	<u>Consent of Ernst & Young LLP.</u>
24.1*	<u>Power of attorney (included on signature page).</u>
99.1	<u>2013 Stock Option and Incentive Plan and forms of award agreement thereunder (Incorporated by reference to Exhibit 10.3 to the registrant's Registration Statement on Form S-1, as amended, filed on June 4, 2013 (File No. 333-188605)).</u>
107.1*	<u>Filing Fee Table.</u>

* Filed herewith.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, as amended, the registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-8 and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Somerville, Commonwealth of Massachusetts, on the 29th day of March, 2023.

bluebird bio, Inc.

By: /s/ Andrew Obenshain

Andrew Obenshain
President and Chief Executive Officer

POWER OF ATTORNEY

We, the undersigned officers and directors of bluebird bio, Inc., hereby severally constitute and appoint Andrew Obenshain and Christopher Krawtschuk, and each of them singly (with full power to each of them to act alone), our true and lawful attorneys-in-fact and agents, with full power of substitution and resubstitution in each of them for them and in their name, place and stead, and in any and all capacities, to sign for us and in our names in the capacities indicated below any and all amendments (including post-effective amendments) to this registration statement, and to file the same, with all exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite or necessary to be done in and about the premises, as full to all intents and purposes as they might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents or any of them, or their substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, as amended, this registration statement has been signed by the following persons in the capacities indicated below on the 29th day of March, 2023.

Name	Title
<u>/s/ Andrew Obenshain</u> Andrew Obenshain	President, Chief Executive Officer and Director (Principal Executive Officer)
<u>/s/ Christopher Krawtschuk</u> Christopher Krawtschuk	Chief Financial Officer (Principal Financial Officer and Principal Accounting Officer)
<u>/s/ Charlotte Jones-Burton, M.D.</u> Charlotte Jones-Burton, M.D.	Director
<u>/s/ Mark Vachon</u> Mark Vachon	Director
<u>/s/ John O. Agwunobi, M.D.</u> John O. Agwunobi, M.D.	Director
<u>/s/ Elisabeth Leiderman, M.D.</u> Elisabeth Leiderman, M.D.	Director
<u>/s/ Nick Leschly</u> Nick Leschly	Director
<u>/s/ Najoh Tita-Reid</u> Najoh Tita-Reid	Director

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LATHAM & WATKINS LLP

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March 29, 2023

bluebird bio, Inc.
 455 Grand Union Boulevard
 Somerville, Massachusetts 02145

Re: Registration Statement on Form S-8; 3,316,932 shares of Common Stock, par value \$0.01 per share, of bluebird bio, Inc.

To the addressee set forth above:

We have acted as special counsel to bluebird bio, Inc., a Delaware corporation (the "Company"), in connection with the preparation and filing by the Company with the Securities and Exchange Commission of a registration statement on Form S-8 (the "Registration Statement") under the Securities Act of 1933, as amended (the "Securities Act"), relating to the issuance of up to 3,316,932 shares (the "Shares") of the Company's common stock, par value \$0.01 per share (the "Common Stock"), which may be issued pursuant to the Company's 2013 Stock Option and Incentive Plan (the "2013 Plan"). This opinion is being furnished in connection with the requirements of Item 601(b)(5) of Regulation S-K under the Securities Act, and no opinion is expressed herein as to any matter pertaining to the contents of the Registration Statement or the prospectus forming a part thereof, other than as expressly stated herein with respect to the issuance of the Shares.

As such counsel, we have examined such matters of fact and questions of law as we have considered appropriate for purposes of this letter. With your consent, we have relied upon the foregoing and upon certificates and other assurances of officers of the Company and others as to factual matters without having independently verified such factual matters. We are opining herein only as to the General Corporation Law of the State of Delaware, as amended (the "DCGL"), and we express no opinion with respect to any other laws.

Subject to the foregoing and the other matters set forth herein, it is our opinion that, as of the date hereof, when the Shares shall have been duly registered on the books of the transfer agent and registrar therefor in the name or on behalf of the recipients thereof, and have been issued by the Company for legal consideration in excess of par value in the circumstances contemplated by the 2013 Plan, assuming in each case that the individual grants or awards under

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the 2013 Plan are duly authorized by all necessary corporate action and duly granted or awarded and exercised in accordance with the requirements of law and the 2013 Plan (and the agreements and awards duly adopted thereunder and in accordance therewith), the issue and sale of the Shares will have been duly authorized by all necessary corporate action of the Company, and the Shares will be validly issued, fully paid and nonassessable. In rendering the foregoing opinion, we have assumed that the Company will comply with all applicable notice requirements regarding uncertificated shares provided in the DGCL.

This opinion is for your benefit in connection with the Registration Statement and may be relied upon by you and by persons entitled to rely upon it pursuant to the applicable provisions of the Securities Act. We consent to your filing this opinion as an exhibit to the Registration Statement. In giving such consent, we do not thereby admit that we are in the category of persons whose consent is required under Section 7 of the Securities Act or the rules and regulations of the Securities and Exchange Commission thereunder.

Very truly yours,

/s/ Latham & Watkins LLP

Consent of Independent Registered Public Accounting Firm

We consent to the incorporation by reference in the Registration Statement (Form S-8) pertaining to the 2013 Stock Option and Incentive Plan of bluebird bio, Inc. of our report dated March 29, 2023, with respect to the consolidated financial statements of bluebird bio, Inc. included in its Annual Report (Form 10-K) for the year ended December 31, 2022, filed with the Securities and Exchange Commission.

/s/ Ernst & Young LLP

Boston, Massachusetts
March 29, 2023

Calculation of Filing Fee Tables

Form S-8
(Form Type)

bluebird bio, Inc.
(Exact Name of Registrant as Specified in its Charter)

Table 1—Newly Registered Securities

Security Type	Security Class Title	Fee Calculation Rule	Amount to be Registered (1)	Proposed Maximum Offering Price Per Unit	Maximum Aggregate Offering Price	Fee Rate	Amount of Registration Fee
Equity	Common stock, \$0.01 par value per share	Rule 457(c) and Rule 457(h)	3,316,932 (2)	\$4.30 (3)	\$14,262,807.60	\$110.20 per \$1,000,000	\$1,571.77
Total Offering Amounts					\$14,262,807.60		\$1,571.77
Total Fee Offsets (4)							\$0
Net Fee Due							\$1,571.77

- (1) In accordance with Rule 416 under the Securities Act of 1933, as amended, this registration statement shall be deemed to cover any additional securities that may from time to time be offered or issued to prevent dilution resulting from stock splits, stock dividends or similar transactions.
- (2) Consists of an additional 3,316,923 shares of common stock issuable under the 2013 Stock Option and Incentive Plan (the “2013 Plan”) pursuant to the terms of the 2013 Plan.
- (3) Estimated solely for the purpose of calculating the registration fee pursuant to Rules 457(c) and 457(h) of the Securities Act of 1933, as amended, and based upon the average of the high and low prices of bluebird bio, Inc.’s (the “Registrant”) common stock as reported on The Nasdaq Global Select Market on March 23, 2023.
- (4) The Registrant does not have any fee offsets.