

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

FORM 8-K

CURRENT REPORT

Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934

Date of Report (Date of earliest event reported): November 7, 2022

bluebird bio, Inc.

(Exact name of Registrant as Specified in Its Charter)

Delaware
(State or Other Jurisdiction
of Incorporation)

001-35966
(Commission File Number)

13-3680878
(IRS Employer
Identification No.)

**455 Grand Union Boulevard,
Somerville, MA**
(Address of Principal Executive Offices)

02145
(Zip Code)

(339) 499-9300
(Registrant's telephone number, including area code)

Not Applicable
(Former Name or Former Address, if Changed Since Last Report)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions (see General Instructions A.2. below):

- Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
- Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
- Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
- Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, \$0.01 par value per share	BLUE	The NASDAQ Stock Market LLC

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933 (§230.405 of this chapter) or Rule 12b-2 of the Securities Exchange Act of 1934 (§240.12b-2 of this chapter).

Emerging growth company

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 13(a) of the Exchange Act.

Item 2.02 Results of Operations and Financial Condition.

On November 7, 2022, bluebird bio, Inc. (the "Company" or "bluebird bio") announced its financial results for the three months ended September 30, 2022. A copy of the press release is being furnished as Exhibit 99.1 to this Current Report on Form 8-K.

The information in this Current Report on Form 8-K and Exhibit 99.1 attached hereto is intended to be furnished and shall not be deemed "filed" for purposes of Section 18 of the Securities Exchange Act of 1934 (the "Exchange Act") or otherwise subject to the liabilities of that section, nor shall it be deemed incorporated by reference in any filing under the Securities Act of 1933 or the Exchange Act, except as expressly set forth by specific reference in such filing.

Item 5.02 Departure of Directors or Certain Officers; Election of Directors; Appointment of Certain Officers; Compensatory Arrangements of Certain Officers.

On November 7, 2022, the Company announced that the Board of Directors of the Company appointed Christopher Krawtschuk to serve as the Company's Chief Financial Officer and Treasurer and designated Mr. Krawtschuk as the Company's principal financial officer and principal accounting officer. Mr. Krawtschuk's appointment will be effective immediately after the Company's Quarterly Report on Form 10-Q for the quarterly period ended September 30, 2022 is filed with the Securities and Exchange Commission.

On November 7, 2022, Katherine Breedis provided notice of her resignation as Interim Chief Financial Officer of the Company, effective immediately after the Company's Quarterly Report on Form 10-Q for the quarterly period ended September 30, 2022 is filed with the Securities and Exchange Commission. Ms. Breedis will continue to lead strategic finance initiatives for the Company and partner with Mr. Krawtschuk through a transition period; thereafter, Ms. Breedis will continue to serve as a strategic advisor.

Mr. Krawtschuk, age 48, served as the Chief Financial Officer of Jubilant Pharma from February 2021 to October 2022. Prior to that, Mr. Krawtschuk served as the U.S. Chief Financial Officer and Treasurer of Morphosys from December 2018 to January 2021, as North American Controller of Upfield Foods from April 2018 to December 2018, and as Vice President, Lead Divisional Controller, of Pfizer from May 2016 to March 2018. Mr. Krawtschuk received a B.S. in Accounting from William Paterson University and is a Certified Public Accountant.

In connection with Mr. Krawtschuk's appointment, the Company has entered into an employment agreement with Mr. Krawtschuk, dated as of October 17, 2022 (the "Employment Agreement"). Pursuant to the Employment Agreement, Mr. Krawtschuk shall be entitled to receive an annual base salary of \$460,000 and, pursuant to the Company's 2013 Stock Option and Incentive Plan and applicable forms of award agreement, an initial equity grant consisting of 100,000 stock options and restricted stock units with respect to 50,000 shares, in each case to be granted effective as of the first trading day of the month following the date on which Mr. Krawtschuk commences employment. The stock option award shall vest with respect to 25% of such stock options on the one-year anniversary of the vesting commencement date with the remaining 75% of such stock options vesting in thirty-six equal and cumulative installments on each monthly anniversary thereafter, and the restricted stock unit award shall vest with respect to 25% of such restricted stock units on each of the first four anniversaries of the vesting commencement date.

Mr. Krawtschuk shall also be eligible to receive an annual cash incentive bonus with a target bonus opportunity of 45% of his annual base salary. In the event of a termination of employment by the Company without Cause or by Mr. Krawtschuk for Good Reason (each as defined in the Employment Agreement), subject to his execution and non-revocation of separation agreement and release of claims and his continued compliance with the applicable restrictive covenants, Mr. Krawtschuk will be entitled to receive (i) an amount equal to one times his annual base salary, payable in ratable installments over 12 months, and (ii) a monthly COBRA subsidy for the continuation of group health coverage for 12 months or Mr. Krawtschuk's COBRA health continuation period, whichever ends earlier; provided, that if such termination occurs within 12 months of a Change in Control (as defined in the Employment Agreement), Mr. Krawtschuk will instead be entitled to (i) an amount equal to one times the sum of (A) his annual base salary and (B) his target annual bonus, payable in a lump sum, (ii) a monthly COBRA subsidy for the continuation of group health coverage for 12 months or Mr. Krawtschuk's COBRA health continuation period, whichever ends earlier, and (iii) acceleration of all equity awards granted after the date of the Employment Agreement.

The foregoing description of the Employment Agreement does not purport to be complete and is qualified in its entirety by reference to the actual Employment Agreement, a copy of which is attached hereto as Exhibit 10.1 and incorporated herein by reference.

Item 9.01 Financial Statements and Exhibits.

(d) Exhibits

Exhibit No.	Description
10.1	Employment Agreement, dated October 17, 2022, by and between bluebird bio, Inc. and Christopher Krawtschuk
99.1	Press release issued by bluebird bio, Inc. on November 7, 2022.
104	Cover Page Interactive Data File (embedded within the Inline XBRL document)

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

Date: November 7, 2022

bluebird bio, Inc.

By: /s/ Andrew Obenshain

Name: Andrew Obenshain

Title: President and Chief Executive Officer
(Principal Executive Officer and Duly Authorized Officer)

EMPLOYMENT AGREEMENT

This Employment Agreement (“**Agreement**”) is between bluebird bio, Inc., a Delaware corporation (the “**Company**”), and Christopher Krawtschuk (the “**Executive**”) and is made effective as of October 17, 2022 (the “**Effective Date**”).

WHEREAS, the Company desires to employ the Executive and the Executive desires to be employed by the Company on the terms and conditions contained herein.

NOW, THEREFORE, in consideration of the mutual covenants and agreements herein contained and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the parties agree as follows:

1. Employment.

(a) Term. The term of this Agreement shall commence on a date to be mutually agreed to by the Executive and the Company, on or before November 7, 2022, and shall continue until terminated in accordance with the provisions of Section 3 (the “**Term**”). The actual first day of Executive’s employment shall be referred to as the “**Start Date**”)

(b) Position and Duties. During the Term, the Executive shall serve as the Company’s Chief Financial Officer, and shall have such powers and duties as may from time to time be prescribed by the Chief Executive Officer, or other authorized executive, provided that such duties are consistent with the Executive’s position or other positions that they may hold from time to time. The Executive shall report to the Chief Executive Officer. The Executive shall devote their full working time and efforts to the business and affairs of the Company. Notwithstanding the foregoing, the Executive may serve on the board of directors of another company, with the prior written approval of the Company’s Board of Directors (the “**Board**”), and may engage in religious, charitable or other community activities as long as such services and activities do not pose a conflict of interest or interfere with the Executive’s performance of their duties to the Company as provided in this Agreement.

2. Compensation and Related Matters.

(a) Base Salary. The Executive’s base salary rate shall be \$460,000 per year. The Executive’s base salary shall be re-determined annually by the Board or the Compensation Committee of the Board of Directors (the “**Compensation Committee**”). The annual base salary rate in effect at any given time is referred to herein as “**Base Salary.**” The Executive’s Base Salary shall be payable in a manner that is consistent with the Company’s usual payroll practices for senior executives.

(b) Incentive Compensation. The Executive shall be eligible to receive cash incentive compensation as determined by the Board or the Compensation Committee from time to time. The Executive’s target annual incentive compensation shall be forty five percent (45%) of their Base Salary, although any the actual incentive compensation amount shall be discretionary. To earn incentive compensation, the Executive must be employed by the Company on the day such incentive compensation is paid.

(c) Equity. Subject to approval by the Board or the Compensation Committee, and as a material inducement to the Executive’s acceptance of employment with the Company, the Executive

shall be granted on the first trading day of the first calendar month following the Executive's Start Date: (i) an option to purchase 100,000 shares of Common Stock of the Company (the "**Option**"), and (ii) 50,000 restricted stock units (the "**RSUs**"). The Option shall have an exercise price equal to the closing price of the Company's common stock on the date of grant, and 25% shall vest and become exercisable on the first anniversary of the Start Date, and in equal monthly installments over the following three years, provided the Executive continues his employment through the applicable vesting date. The RSUs shall vest as follows, provided the Executive continues his employment through the applicable vesting date: 25% on the first anniversary of the date of grant, and in three equal annual installments for the following three years on the anniversaries of the date of grant. In the Company's sole discretion, the Option and the RSUs may be granted pursuant to the inducement grant exception set forth in NASDAQ Listing Rule 5635(c)(4).

(d) Expenses. The Executive shall be entitled to receive prompt reimbursement for all reasonable expenses incurred by then during the Term in performing services hereunder, in accordance with the policies and procedures then in effect and established by the Company for its senior executive officers.

(e) Other Benefits. During the Term, the Executive shall be eligible to participate in or receive benefits under the Company's employee benefit plans in effect from time to time, subject to the terms and conditions of such plans.

(f) Vacations. During the Term, the Executive shall be entitled to accrue paid vacation in accordance with the Company's applicable policy.

3. Termination. During the Term, the Executive's employment hereunder may be terminated without any breach of this Agreement under the following circumstances:

(a) Death. The Executive's employment hereunder shall terminate upon their death.

(b) Disability. The Company may terminate the Executive's employment if they are disabled and unable to perform the essential functions of the Executive's then existing position or positions under this Agreement with or without reasonable accommodation for a period of 180 days (which need not be consecutive) in any 12-month period. If any question shall arise as to whether during any period the Executive is disabled so as to be unable to perform the essential functions of the Executive's then existing position or positions with or without reasonable accommodation, the Executive may, and at the request of the Company shall, submit to the Company a certification in reasonable detail by a physician selected by the Company to whom the Executive or the Executive's guardian has no reasonable objection as to whether the Executive is so disabled or how long such disability is expected to continue, and such certification shall for the purposes of this Agreement be conclusive of the issue. The Executive shall cooperate with any reasonable request of the physician in connection with such certification. If such question shall arise and the Executive shall fail to submit such certification, the Company's determination of such issue shall be binding on the Executive. Nothing in this Section 3(b) shall be construed to waive the Executive's rights, if any, under existing law including, without limitation, the Family and Medical Leave Act of 1993, 29 U.S.C. §2601 *et seq.* and the Americans with Disabilities Act, 42 U.S.C. §12101 *et seq.*

(c) Termination by Company for Cause. The Company may terminate the Executive's employment hereunder for Cause. For purposes of this Agreement, "**Cause**" shall mean: (i) the Executive's dishonest statements or acts with respect to the Company, any affiliate of the Company or

any of the Company's current or prospective customers, suppliers, vendors or other third parties with which such entity does business; (ii) the Executive's commission of a felony or any misdemeanor involving moral turpitude, deceit, dishonesty or fraud; (iii) the Executive's failure to perform their assigned duties to the reasonable satisfaction of the Company, which failure, if curable, continues, in the reasonable judgment of the Company, after written notice given to the Executive by the Company; (iv) the Executive's gross negligence, willful misconduct or insubordination with respect to the Company or any affiliate of the Company; or (v) the Executive's violation of any provision of any agreement(s) between the Executive and the Company relating to noncompetition, nondisclosure and/or assignment of inventions.

(d) Termination Without Cause. The Company may terminate the Executive's employment hereunder at any time without Cause. Any termination by the Company of the Executive's employment under this Agreement which does not constitute a termination for Cause under Section 3(c) and does not result from the death or disability of the Executive under Section 3(a) or (b) shall be deemed a termination without Cause.

(e) Termination by the Executive. The Executive may terminate their employment hereunder at any time for any reason, including but not limited to Good Reason. For purposes of this Agreement, "**Good Reason**" shall mean that the Executive has complied with the "Good Reason Process" (hereinafter defined) following the occurrence of any of the following events without the Executive's express written consent: (i) a material diminution in the Executive's responsibilities, authority and function; (ii) a material reduction in the Executive's Base Salary except pursuant to a salary reduction program affecting substantially all of the employees of the Company, provided, that it does not adversely affect the Executive to a greater extent than other similarly situated employees and, provided further, that any reduction in the Executive's Base Salary of more than ten percent (10%) shall constitute Good Reason; (iii) a material change of more than 30 miles in the geographic location at which the Executive must provide services to the Company (except for required travel on Company business to an extent substantially consistent with the Executive's usual business travel obligations); or (iv) the material breach by the Company of the Company's agreements or equity incentive plan covering the Option or RSUs granted to the Executive in connection with their hire or any other material agreement between the Executive and the Company, if any, concerning the terms and conditions of the Executive's employment, benefits or compensation. "**Good Reason Process**" shall mean that (i) the Executive reasonably determines in good faith that a "Good Reason" condition has occurred; (ii) the Executive notifies the Company in writing of the first occurrence of the Good Reason condition within 60 days of the first occurrence of such condition; (iii) the Executive cooperates in good faith with the Company's efforts, for a period not less than 30 days following such notice (the "**Cure Period**") to remedy the condition; (iv) notwithstanding such efforts, the Good Reason condition continues to exist; and (v) the Executive terminates their employment within 60 days after the end of the Cure Period. If the Company cures the Good Reason condition during the Cure Period, Good Reason shall be deemed not to have occurred.

(f) Notice of Termination. Except for termination as specified in Section 3(a), any termination of the Executive's employment by the Company or any such termination by the Executive shall be communicated by written Notice of Termination to the other party hereto. For purposes of this Agreement, a "**Notice of Termination**" shall mean a notice which shall indicate the specific termination provision in this Agreement relied upon.

(g) Date of Termination. "**Date of Termination**" shall mean: (i) if the Executive's employment is terminated by their death, the date of their death; (ii) if the Executive's employment is terminated on account of disability under Section 3(b) or by the Company for Cause under Section 3(c),

the date on which Notice of Termination is given; (iii) if the Executive's employment is terminated by the Company under Section 3(d), the date on which a Notice of Termination is given; (iv) if the Executive's employment is terminated by the Executive under Section 3(e) without Good Reason, 30 days after the date on which a Notice of Termination is given, and (v) if the Executive's employment is terminated by the Executive under Section 3(e) with Good Reason, the date on which a Notice of Termination is given after the end of the Cure Period. Notwithstanding the foregoing, (A) in the event that the Executive gives a Notice of Termination to the Company, the Company may unilaterally accelerate the Date of Termination and such acceleration shall not result in a termination by the Company for purposes of this Agreement, and (B) in the event that the Company terminates the Executive's employment without Cause under Section 3(d), the Company may unilaterally accelerate the Date of Termination to any earlier effective date provided that the Company continues to pay the Executive the Base Salary for the 30-day period immediately following the date on which a Notice of Termination is given to the Executive.

4. Compensation Upon Termination.

(a) Termination Generally. If the Executive's employment with the Company is terminated for any reason, the Company shall pay or provide to the Executive (or to their authorized representative or estate) (i) any Base Salary earned through the Date of Termination, unpaid expense reimbursements, and unused vacation that accrued through the Date of Termination, such payments to be made on or before the time required by law but in no event more than 30 days after the Executive's Date of Termination; and (ii) any vested benefits the Executive may have under any employee benefit plan of the Company through the Date of Termination, which vested benefits shall be paid and/or provided in accordance with the terms of such employee benefit plans (collectively, the "**Accrued Benefit**").

(b) Termination by the Company Without Cause or by the Executive with Good Reason. During the Term, if the Executive's employment is terminated by the Company without Cause as provided in Section 3(d), or the Executive terminates their employment for Good Reason as provided in Section 3(e), then the Company shall pay the Executive their Accrued Benefit. In addition, subject to the Executive signing a separation agreement containing, among other provisions, a general release of claims in favor of the Company and related persons and entities, confidentiality, return of property and non-disparagement, in a form and manner satisfactory to the Company (the "**Separation Agreement and Release**") and the Separation Agreement and Release becoming fully effective, all within the time frame set forth in the Separation Agreement and Release:

(i) the Company shall pay the Executive an amount equal to one times the Executive's Base Salary (the "**Severance Amount**"); and

(ii) if the Executive was participating in the Company's group health plan immediately prior to the Date of Termination and elects COBRA health continuation, then the Company shall pay to the Executive a monthly cash payment for 12 months or the Executive's COBRA health continuation period, whichever ends earlier, in an amount equal to the monthly employer contribution that the Company would have made to provide health insurance to the Executive if the Executive had remained employed by the Company; and

(iii) the amounts payable under this Section 4(b) shall be paid out in substantially equal installments in accordance with the Company's payroll practice over 12 months commencing within 60 days after the Date of Termination; provided, however, that if the 60-day period begins in one calendar year and ends in a second calendar year, the Severance Amount shall begin to be paid in the second calendar year by the last day of such 60-day period;

provided, further, that the initial payment shall include a catch-up payment to cover amounts retroactive to the day immediately following the Date of Termination. Each payment pursuant to this Agreement is intended to constitute a separate payment for purposes of Treasury Regulation Section 1.409A-2(b)(2).

(iv) The receipt of any severance payments or benefits pursuant to Section 4 will be subject to Executive not violating the Restrictive Covenant Agreement referenced in Section 7 of this Agreement and attached hereto as Exhibit A, the terms of which are hereby incorporated by reference. In the event Executive breaches the Restrictive Covenant Agreement, in addition to all other legal and equitable remedies, the Company shall have the right to terminate or suspend all continuing payments and benefits to which Executive may otherwise be entitled pursuant to Section 4 without affecting the Executive's release or Executive's obligations under the Separation Agreement and Release.

5. Change in Control Payment. The provisions of this Section 5 set forth certain terms of an agreement reached between the Executive and the Company regarding the Executive's rights and obligations upon the occurrence of a Change in Control of the Company. These provisions are intended to assure and encourage in advance the Executive's continued attention and dedication to their assigned duties and their objectivity during the pendency and after the occurrence of any such event. These provisions shall apply in lieu of, and expressly supersede, the provisions of Section 4(b) regarding severance pay and benefits upon a termination of employment, if such termination of employment occurs within 12 months after the occurrence of the first event constituting a Change in Control. These provisions shall terminate and be of no further force or effect beginning 12 months after the occurrence of a Change in Control.

(a) Change in Control. During the Term, if within 12 months after a Change in Control, the Executive's employment is terminated by the Company without Cause as provided in Section 3(d) or the Executive terminates their employment for Good Reason as provided in Section 3(e), then, subject to the signing of the Separation Agreement and Release by the Executive and the Separation Agreement and Release becoming irrevocable, all within 60 days after the Date of Termination,

(i) the Company shall pay the Executive a lump sum in cash in an amount equal to one times the sum of (A) the Executive's current Base Salary (or the Executive's Base Salary in effect immediately prior to the Change in Control, if higher), plus (B) the Executive's Target Incentive Compensation. For purposes of this Agreement, "**Target Incentive Compensation**" shall mean the Executive's target annual incentive compensation as set forth in Section 2(b); and

(ii) notwithstanding anything to the contrary in any applicable option agreement or stock-based award agreement, all stock options and other stock-based awards granted to the Executive after the date of this Agreement shall immediately accelerate and become fully exercisable or nonforfeitable as of the Date of Termination. The treatment of stock options and other stock-based awards held by the Executive as of the date of this Agreement shall be governed by the terms of the applicable option agreement or other stock-based award agreement; and

(iii) if the Executive was participating in the Company's group health plan immediately prior to the Date of Termination and elects COBRA health continuation, then the Company shall pay to the Executive a monthly cash payment for 12 months or the Executive's

COBRA health continuation period, whichever ends earlier, in an amount equal to the monthly employer contribution that the Company would have made to provide health insurance to the Executive if the Executive had remained employed by the Company; and

(iv) The amounts payable under this Section 5(a) shall be paid or commence to be paid within 60 days after the Date of Termination; provided, however, that if the 60-day period begins in one calendar year and ends in a second calendar year, such payment shall be paid or commence to be paid in the second calendar year by the last day of such 60-day period.

(b) Additional Limitation.

(i) Anything in this Agreement to the contrary notwithstanding, in the event that the amount of any compensation, payment or distribution by the Company to or for the benefit of the Executive, whether paid or payable or distributed or distributable pursuant to the terms of this Agreement or otherwise, calculated in a manner consistent with Section 280G of the Internal Revenue Code of 1986, as amended (the “**Code**”) and the applicable regulations thereunder (the “**Severance Payments**”), would be subject to the excise tax imposed by Section 4999 of the Code, the following provisions shall apply:

(A) If the Severance Payments, reduced by the sum of (1) the Excise Tax and (2) the total of the federal, state, and local income and employment taxes payable by the Executive on the amount of the Severance Payments which are in excess of the Threshold Amount, are greater than or equal to the Threshold Amount, the Executive shall be entitled to the full benefits payable under this Agreement.

(B) If the Threshold Amount is less than (x) the Severance Payments, but greater than (y) the Severance Payments reduced by the sum of (1) the Excise Tax and (2) the total of the federal, state, and local income and employment taxes on the amount of the Severance Payments which are in excess of the Threshold Amount, then the Severance Payments shall be reduced (but not below zero) to the extent necessary so that the sum of all Severance Payments shall not exceed the Threshold Amount. In such event, the Severance Payments shall be reduced in the following order: (1) cash payments not subject to Section 409A of the Code; (2) cash payments subject to Section 409A of the Code; (3) equity-based payments and acceleration; and (4) non-cash forms of benefits. To the extent any payment is to be made over time (e.g., in installments, etc.), then the payments shall be reduced in reverse chronological order.

(ii) For the purposes of this Section 5(b), “**Threshold Amount**” shall mean three times the Executive’s “**base amount**” within the meaning of Section 280G(b)(3) of the Code and the regulations promulgated thereunder less one dollar (\$1.00); and “**Excise Tax**” shall mean the excise tax imposed by Section 4999 of the Code, and any interest or penalties incurred by the Executive with respect to such excise tax.

(iii) The determination as to which of the alternative provisions of Section 5(b)(i) shall apply to the Executive shall be made by a nationally recognized accounting firm selected by the Company (the “**Accounting Firm**”), which shall provide detailed supporting calculations both to the Company and the Executive within 15 business days of the Date of Termination, if applicable, or at such earlier time as is reasonably requested by the Company or the Executive. For purposes of determining which of the alternative provisions of Section 5(b)(i)

shall apply, the Executive shall be deemed to pay federal income taxes at the highest marginal rate of federal income taxation applicable to individuals for the calendar year in which the determination is to be made, and state and local income taxes at the highest marginal rates of individual taxation in the state and locality of the Executive's residence on the Date of Termination, net of the maximum reduction in federal income taxes which could be obtained from deduction of such state and local taxes. Any determination by the Accounting Firm shall be binding upon the Company and the Executive.

(b) Definitions. For purposes of this Section 5, the following terms shall have the following meanings:

“**Change in Control**” shall mean “**Sale Event**,” as such term is defined in the Company's 2013 Stock Option and Incentive Plan.

6. Section 409A.

(a) Anything in this Agreement to the contrary notwithstanding, if at the time of the Executive's separation from service within the meaning of Section 409A of the Code, the Company determines that the Executive is a “specified employee” within the meaning of Section 409A(a)(2)(B)(i) of the Code, then to the extent any payment or benefit that the Executive becomes entitled to under this Agreement on account of the Executive's separation from service would be considered deferred compensation otherwise subject to the 20 percent additional tax imposed pursuant to Section 409A(a) of the Code as a result of the application of Section 409A(a)(2)(B)(i) of the Code, such payment shall not be payable and such benefit shall not be provided until the date that is the earlier of (A) six months and one day after the Executive's separation from service, or (B) the Executive's death. If any such delayed cash payment is otherwise payable on an installment basis, the first payment shall include a catch-up payment covering amounts that would otherwise have been paid during the six-month period but for the application of this provision, and the balance of the installments shall be payable in accordance with their original schedule.

(b) All in-kind benefits provided and expenses eligible for reimbursement under this Agreement shall be provided by the Company or incurred by the Executive during the time periods set forth in this Agreement. All reimbursements shall be paid as soon as administratively practicable, but in no event shall any reimbursement be paid after the last day of the taxable year following the taxable year in which the expense was incurred. The amount of in-kind benefits provided or reimbursable expenses incurred in one taxable year shall not affect the in-kind benefits to be provided or the expenses eligible for reimbursement in any other taxable year (except for any lifetime or other aggregate limitation applicable to medical expenses). Such right to reimbursement or in-kind benefits is not subject to liquidation or exchange for another benefit.

(c) To the extent that any payment or benefit described in this Agreement constitutes “non-qualified deferred compensation” under Section 409A of the Code, and to the extent that such payment or benefit is payable upon the Executive's termination of employment, then such payments or benefits shall be payable only upon the Executive's “separation from service.” The determination of whether and when a separation from service has occurred shall be made in accordance with the presumptions set forth in Treasury Regulation Section 1.409A-1(h).

(d) The parties intend that this Agreement will be administered in accordance with Section 409A of the Code. To the extent that any provision of this Agreement is ambiguous as to its

compliance with Section 409A of the Code, the provision shall be read in such a manner so that all payments hereunder comply with Section 409A of the Code. Each payment pursuant to this Agreement is intended to constitute a separate payment for purposes of Treasury Regulation Section 1.409A-2(b)(2). The parties agree that this Agreement may be amended, as reasonably requested by either party, and as may be necessary to fully comply with Section 409A of the Code and all related rules and regulations in order to preserve the payments and benefits provided hereunder without additional cost to either party.

(e) The Company makes no representation or warranty and shall have no liability to the Executive or any other person if any provisions of this Agreement are determined to constitute deferred compensation subject to Section 409A of the Code but do not satisfy an exemption from, or the conditions of, such Section.

7. Confidential Information, Noncompetition and Cooperation. The Executive agrees to terms of the Assignment of Invention, Nondisclosure and Noncompetition Agreement (“**Restrictive Covenant Agreement**”) attached hereto, the terms of which are hereby incorporated by reference as material terms of this Agreement. Nothing in this Agreement or the Restrictive Covenant Agreement, and nothing in any policy or procedure, in any other confidentiality, employment, separation agreement or in any other document or communication from the Company limits the Executive’s ability to file a charge or complaint with any government agency concerning any acts or omissions that the Executive may believe constitute a possible violation of federal or state law or making other disclosures that are protected under the whistleblower provisions of applicable federal or state law regulation or affects the Executive’s ability to communicate with any government agency or otherwise participate in any investigation or proceeding that may be conducted by a government agency, including by providing documents or other information, without notice to the Company. In addition, for the avoidance of doubt, pursuant to the federal Defend Trade Secrets Act of 2016, the Executive shall not be held criminally or civilly liable under any federal or state trade secret law for the disclosure of a trade secret that (i) is made (A) in confidence to a federal, state, or local government official, either directly or indirectly, or to an attorney; and (B) solely for the purpose of reporting or investigating a suspected violation of law; or (ii) is made in a complaint or other document filed in a lawsuit or other proceeding, if such filing is made under seal.

8. Consent to Jurisdiction. The parties hereby consent to the jurisdiction of the Superior Court of the Commonwealth of Massachusetts and the United States District Court for the District of Massachusetts. Accordingly, with respect to any such court action, the Executive (a) submits to the personal jurisdiction of such courts; (b) consents to service of process; and (c) waives any other requirement (whether imposed by statute, rule of court, or otherwise) with respect to personal jurisdiction or service of process.

9. Integration. This Agreement constitutes the entire agreement between the parties with respect to the subject matter hereof and supersedes all prior agreements between the parties concerning such subject matter.

10. Withholding. All payments made by the Company to the Executive under this Agreement shall be net of any tax or other amounts required to be withheld by the Company under applicable law.

11. Successor to the Executive. This Agreement shall inure to the benefit of and be enforceable by the Executive’s personal representatives, executors, administrators, heirs, distributees, devisees and legatees. In the event of the Executive’s death after their termination of employment but prior to the completion by the Company of all payments due them under this Agreement, the Company

shall continue such payments to the Executive's beneficiary designated in writing to the Company prior to their death (or to their estate, if the Executive fails to make such designation).

12. Enforceability. If any portion or provision of this Agreement (including, without limitation, any portion or provision of any section of the Restrictive Covenant Agreement) shall to any extent be declared illegal or unenforceable by a court of competent jurisdiction, then the remainder of this Agreement, or the application of such portion or provision in circumstances other than those as to which it is so declared illegal or unenforceable, shall not be affected thereby, and each portion and provision of this Agreement shall be valid and enforceable to the fullest extent permitted by law.

13. Survival. The provisions of this Agreement shall survive the termination of this Agreement and/or the termination of the Executive's employment to the extent necessary to effectuate the terms contained herein.

14. Waiver. No waiver of any provision hereof shall be effective unless made in writing and signed by the waiving party. The failure of any party to require the performance of any term or obligation of this Agreement, or the waiver by any party of any breach of this Agreement, shall not prevent any subsequent enforcement of such term or obligation or be deemed a waiver of any subsequent breach.

15. Notices. Any notices, requests, demands and other communications provided for by this Agreement shall be sufficient if in writing and delivered in person or sent by a nationally recognized overnight courier service or by registered or certified mail, postage prepaid, return receipt requested, to the Executive at the last address the Executive has filed in writing with the Company or, in the case of the Company, at its main offices, attention of the Board.

16. Amendment. This Agreement may be amended or modified only by a written instrument signed by the Executive and by a duly authorized representative of the Company.

17. Governing Law. This is a Massachusetts contract and shall be construed under and be governed in all respects by the laws of the Commonwealth of Massachusetts, without giving effect to the conflict of laws principles of such Commonwealth. With respect to any disputes concerning federal law, such disputes shall be determined in accordance with the law as it would be interpreted and applied by the United States Court of Appeals for the First Circuit.

18. Counterparts. This Agreement may be executed in any number of counterparts, each of which when so executed and delivered shall be taken to be an original; but such counterparts shall together constitute one and the same document.

19. Successor to Company. The Company shall require any successor (whether direct or indirect, by purchase, merger, consolidation or otherwise) to all or substantially all of the business or assets of the Company expressly to assume and agree to perform this Agreement to the same extent that the Company would be required to perform it if no succession had taken place. Failure of the Company to obtain an assumption of this Agreement at or prior to the effectiveness of any succession shall be a material breach of this Agreement.

20. Gender Neutral. Wherever used herein, a pronoun in the masculine gender shall be considered as including the feminine gender unless the context clearly indicates otherwise.

Exhibit A

Restrictive Covenant Agreement

**ASSIGNMENT OF INVENTION, NONDISCLOSURE, NONCOMPETITION
AND NONSOLICITATION AGREEMENT**

This Agreement is made between bluebird bio, Inc., a Delaware corporation (including its subsidiaries and other affiliates and its and their successors and assigns, hereinafter referred to as “bluebird bio” or the “Company”), and **Christopher Krawtschuk** an employee or consultant of the Company (the “Service Provider”).

In consideration of the employment of the Service Provider by the Company, the Company’s promise to provide the Service Provider with items of bluebird bio Proprietary Information, specialized training and/or goodwill, and, as applicable, participation by the Service Provider in the Company’s Sale Event Severance Plan, as additional consideration for signing this agreement, the Company and the Service Provider agree as follows:

1. Noncompetition; Nonsolicitation.

a. During the term of Service Provider’s provision of services to the Company and for a period of (i) one year after the termination or cessation of such services for any reason or no reason (the “Last Date of Employment”), or (ii) two (2) years following the Last Date of Employment if he or she breaches his or her fiduciary duty to the Company or if he or she has unlawfully taken, physically or electronically, property belonging to the Company (in either case, the “Restricted Period”):

(I) Unless (A) the Company elects to terminate the Service Provider’s employment without Cause (as defined below) or the Service Provider has been laid off; or (B) the Company elects to waive the restrictions upon post-employment activities set forth in this Section 1.a.(I), then, the Company shall make payments to the Service Provider for the post-employment portion of the Restricted Period (but for not more than 12 months following the Last Date of Employment) at the rate of 50% of the highest annualized base salary paid to the Service Provider by the Company within the two-year period preceding the Last Date of Employment, which the Service Provider acknowledges and agrees is consideration mutually agreed upon by the Company and the Service Provider, and in exchange, the Service Provider shall not directly or indirectly, whether as owner, partner, shareholder, director, manager, consultant, agent, employee, co-venturer or otherwise, anywhere in the geographic areas in which, at any time during the two years that immediately preceded the Last Date of Employment (“Two Year Lookback”), the Service Provider provided services or had a material presence or influence, provide any of the types of services that the Service Provider provided to the Company during the Two Year Lookback, in connection with any business that develops, manufactures or markets any products, or performs any services, that are competitive with the products or services of the Company, or products or services that the Company or its affiliates has under development or that are the subject of active planning at any time during the Service Provider’s employment (“Restricted Activity”). For purposes of this Agreement, and notwithstanding anything to the contrary in any other agreement between the Company and the Service Provider, “Cause” shall mean a reasonable and good faith basis for the Company to be dissatisfied with the Service Provider’s job performance, conduct or behavior. The Service Provider acknowledges that this covenant is necessary because the Company’s legitimate business interests cannot be adequately protected solely by the other covenants in this Agreement. The Service Provider further acknowledges and agrees that any payments the Service Provider receives pursuant to this Section 1.a.(I)

shall reduce (and shall not be in addition to) any severance or separation pay that the Service Provider is otherwise entitled to receive from the Company pursuant to an agreement, plan or otherwise. Notwithstanding the foregoing, Service Provider shall have the right to own, for investment purposes, not more than one percent of the outstanding capital stock of a publicly held enterprise which competes with bluebird bio and nothing contained in this Section 1 shall prevent Service Provider from being employed by a university or nonprofit research institution.

(II) Service Provider will not solicit, entice or induce any employee or consultant of bluebird bio to terminate his or her employment or consultancy or engage in a Restricted Activity; and

(III) Service Provider will not solicit, entice or induce any vendor, customer or distributor of bluebird bio to terminate or materially diminish its relationship with bluebird bio.

b. Service Provider acknowledges and agrees that, in the event he/she breaches any of the terms described in Section 1.a.(II) or (III) above, the Restricted Period shall be tolled and shall not run during the time that Service Provider is in breach of such obligations; provided that, the Restricted Period shall begin to run again once Service Provider has ceased breaching the terms of Section 1.a.(II) or (III) and is otherwise in compliance with his/her obligations described therein.

c. Service Provider further acknowledges and agrees that (i) the types of employment which are prohibited by Section 1.a(I) are narrow and reasonable in relation to the skills which represent Service Provider's principal salable assets both to bluebird bio and to other prospective employers, and (ii) the geographical scope of the provisions of Section 1.a(I) is reasonable, legitimate and fair to Service Provider in light of the nature of the Company's business, the Company's need to market and sell its services and products in an appropriate manner and in light of the limited restrictions on the type of activity prohibited compared to the activities for which Service Provider is qualified to earn a livelihood.

d. Service Provider acknowledges and agrees that (i) the restrictions in Section 1.a are reasonable, legitimate, necessary and fair to Service Provider in light of the nature of the Company's business, the Company's need to market and sell its services and products in an appropriate manner and in light of the limited restrictions on the type of activity prohibited. Service Provider further acknowledges and agrees that any breach or threatened breach of this Agreement will cause irreparable injury to bluebird bio and that money damages may not provide an adequate remedy to bluebird bio. Service Provider therefore agrees that bluebird bio, in addition to any other remedies available to it, shall be entitled to preliminary and permanent injunctive relief against any breach or threatened breach by Service Provider of any of the provisions of this Agreement, without having to post bond. Service Provider further acknowledges that a court may render an award extending the Restricted Period as one of the remedies in the event of his or her violation of this Agreement. If the Service Provider violates this Agreement, in addition to all other remedies available to the Company at law (including, without limitation, the Company's right to discontinue any payments the Service Provider may receive pursuant to Section 1.a.(I)), in equity, and under contract, the Service Provider agrees that he or she is obligated to pay all of the Company's costs of enforcement of this Agreement, including reasonable attorneys' fees and expenses.

2. Confidential Information.

a. Service Provider acknowledges and agrees to abide by bluebird bio's Confidentiality and Trade Secret Policies.

b. Service Provider acknowledges that bluebird bio would be irreparably damaged if Service Provider's confidential knowledge of the business of bluebird bio was disclosed to or utilized on behalf of

others. Service Provider acknowledges that he or she has learned and will learn bluebird bio Proprietary Information, as defined in Section 2.b. hereof, relating to the business to be conducted by bluebird bio and its subsidiaries and joint ventures and partnerships to which bluebird bio may be a party (together, the “bluebird bio Entities”). Service Provider agrees that he or she will not, except in the normal and proper course of his or her employment or consultancy or as otherwise provided herein, disclose or use or enable anyone else to disclose or use, either during the term of this Agreement or subsequent thereto, any such bluebird bio Proprietary Information without prior written approval of bluebird bio. Service Provider further agrees to comply with all bluebird bio policies that govern the treatment of bluebird bio Proprietary Information and the reporting of any suspected violation of law, including but not limited to the Code of Business Conduct and Ethics, as such policies may be amended or revised from time to time. Service Provider acknowledges receipt of the following notice under 18 U.S.C § 1833(b)(1): “An individual shall not be held criminally or civilly liable under any Federal or State trade secret law for the disclosure of a trade secret that (A) is made (i) in confidence to a Federal, State, or local government official, either directly or indirectly, or to an attorney; and (ii) solely for the purpose of reporting or investigating a suspected violation of law; or (B) is made in a complaint or other document filed in a lawsuit or other proceeding, if such filing is made under seal.” In addition, nothing in this Agreement prohibits Service Provider from reporting an event that Service Provider reasonably and in good faith believes is a violation of law to the relevant law-enforcement agency (such as the Securities and Exchange Commission, Equal Employment Opportunity Commission, or Department of Labor), requires notice to or approval from the Company before doing so, or prohibits Service Provider from cooperating in an investigation conducted by such a government agency.

c. For the purpose of this Agreement, “bluebird bio Proprietary Information” shall mean all information, ideas, concepts, improvements, discoveries, and Inventions (defined in 3 a. below) that are both (i) disclosed or made known by bluebird bio to Service Provider, and (ii) identified as “proprietary” by bluebird bio to Service Provider (either orally or in writing) at the time of such disclosure or that should reasonably be known to be proprietary, including, but not limited to, the following types of information: corporate information, including contractual licensing arrangements, plans, strategies, tactics, policies, resolutions, and any litigation or negotiations; intellectual property, including patent applications, trademarks, trade secrets, and secret formulae; marketing information, including sales or product plans, strategies, tactics, methods, customers, prospects, or market research data; financial information, including cost and performance data, debt arrangements, equity structure, investors and holdings; operational information that relates to the technology that bluebird bio has or desires to develop or market, including control and inspection practices, manufacturing processes and methods, suppliers and parts; technical information, including machinery or device designs, drawings, specifications, processes, procedures, scientific or statistical data, research and development information, scientific protocols, clinical data and preclinical data. bluebird bio Proprietary Information does not include information lawfully acquired by a non-management employee about wages, hours or other terms and conditions of employment when used for purposes protected by §7 of the National Labor Relations Act such as joining or forming a union, engaging in collective bargaining, or engaging in other concerted activity for mutual aid or protection of laborers. For purpose of clarity, it shall still be a violation of this Agreement for a non-management employee to share Confidential Information with a competitor about other employees’ compensation and benefits which was obtained through the course of employment with the Company for purposes of assisting such competitor in soliciting Company employees.

d. Service Provider agrees that all documents of any nature provided by bluebird bio to Service Provider and pertaining to activities of any bluebird bio entity or to any bluebird bio Proprietary Information, in his or her possession now or at any time during the term of this Agreement, including without limitation memoranda, notebooks, notes, data sheets, records and blueprints, are and shall be the

property of bluebird bio, and that they and all copies of them shall be surrendered to bluebird bio upon the earlier of request by bluebird bio or termination of this Agreement.

e. Service Provider shall have none of the obligations set forth above with respect to bluebird bio Proprietary Information (i) that is publicly known or becomes publicly known through no breach of this Agreement by Service Provider, (ii) that is generally or readily obtainable by the public, or within the scientific field, (iii) that is known by Service Provider prior to its disclosure to Service Provider by bluebird bio, as shown by Service Provider's written records, (iv) that Service Provider received from a source that had the legal right to disclose the information to Service Provider, (v) that is required to be disclosed by law, government regulation or court order, or (vi) involves information lawfully acquired by a non-management employee about wages, hours or other terms and conditions of employment when used for purposes protected by §7 of the National Labor Relations Act. Further, nothing herein limits, restricts, or in any other way affects Service Provider communicating with the SEC, the DOL, or any governmental agency or entity, or communicating with any official or staff person of a governmental agency or entity, or cooperating with or participating in a legal proceeding concerning matters relevant to the governmental agency or entity.

3. Intellectual Property.

a. Service Provider hereby assigns and agrees to assign to bluebird bio his or her entire right, title and interest in and to all Inventions. "Inventions" means improvements, modifications, know-how, processes, secrets and discoveries made, possessed, discovered or conceived by him or her during the period in which the Service Provider has provided services to the Company (whether or not patentable, whether or not reduced to practice, whether or not made, possessed, discovered or conceived by him or her individually or jointly with any other person or persons, whether made or conceived on or off bluebird bio's premises, and whether made in or out of working hours), which shall specifically or generally relate to, be applicable to or concern (a) development of therapeutics utilizing ex vivo or in vivo nucleic acid (*e.g.*, gene) transfer utilizing viral vector or virus-based approaches (*e.g.*, lentivirus), (b) methods of manufacturing viral vectors or genetically modified cells for the development of therapeutics, (c) approaches to facilitate proper homing or engraftment of genetically modified cells (d) gene editing, (e) cancer therapy, (f) rare genetic disease therapy, and (g) any other project, field, or line of business in which bluebird bio is engaged (collectively, the "Field"), such Inventions and benefits hereof to immediately become the sole and absolute property of bluebird bio. In the event that any portion of this assignment is prohibited by the terms of a funding agreement under which the work resulting in any Invention was performed or the regulations of the institution where such work was performed (in the event such work was not performed by bluebird bio), Service Provider shall use his or her best efforts to obtain for bluebird bio a license or other consent to use such information on the most advantageous terms that are available to bluebird bio. Service Provider agrees that, upon the request of bluebird bio and at the expense of bluebird bio, Service Provider will execute such further assignments, documents, and other instruments as may be necessary or desirable fully and completely to assign all such Inventions to bluebird bio and to assist bluebird bio in applying for, obtaining, and enforcing patents or copyrights or other rights in the United States and in any foreign country with respect to any Invention. Service Provider shall keep and maintain adequate and current written records of all Inventions, in the form of notes, sketches, drawings or as may be specified by bluebird bio, which records shall be available to and remain the sole property of bluebird bio at all times. Service Provider acknowledges that bluebird bio from time to time may have agreements with other persons or with the United States Government, or agencies thereof, which impose obligations or restrictions on bluebird bio regarding Inventions made during the course of work under such agreements or regarding the confidential nature of such work. Service Provider agrees to be bound by all such obligations and restrictions which are made known to

Service Provider and to take all action necessary to discharge the obligations of bluebird bio under such agreements.

b. This Agreement's assignment provisions are limited to only those Inventions that can be lawfully assigned by an employee to an employer under applicable law in the state where Service Provider last regularly resided while employed by the Company. Service Provider hereby acknowledges that Service Provider has been notified of the following laws governing the assignment of inventions: Del. Code Title 19 § 805; Ill. 765 ILCS1060/1-3, "Employees Patent Act"; N. C. Gen. Stat. Article 10A, Chp 66, Comm. & Bus., § 66-57.1; Minn. Stat. 13A § 181.78; Kan. Stat. § 44-130; Utah Code §34-39-1 -- 34-39-3, "Employee Inventions Act"; Wash. Rev. Code, Title 49 RCW: Lab. Reg. Chpt. 49.44.140; for example, if Service Provider resides in California, the assignment is limited to comply with Cal. Lab. Code § 2870 which provides: (a) Any provision in an employment agreement which provides that an employee shall assign, or offer to assign, any of his or her rights in an invention to his or her employer shall not apply to an invention that the employee developed entirely on his or her own time without using the employer's equipment, supplies, facilities, or trade secret information except for those inventions that either: (1) Relate at the time of conception or reduction to practice of the invention to the employer's business, or actual or demonstrably anticipated research or development of the employer; or (2) Result from any work performed by the employee for the employer. Service Provider will not, without the Company's prior written consent, incorporate into any Company product or otherwise deliver to the Company any software code that is subject to any license that by its terms requires, or conditions the use or distribution of such code on, the disclosure, licensing or distribution of such Company product or any source code owned or licensed by the Company (e.g., software code licensed under the GNU GPL, LGPL or AGPL).

4. Publication.

Anything to the contrary herein notwithstanding, Service Provider may not publish any bluebird bio Proprietary Information or information regarding Inventions, (as defined above) of a scientific (as opposed to business or corporate) nature generated in the Field by Service Provider. Any clinical or research publication request must comport with bluebird bio's Scientific and Clinical Publication Review and Approval Process. In addition, Service Provider will cooperate with patent counsel for bluebird bio in effecting the intent of this Section by providing a copy of the text and/or data and any other information needed to file any patent applications or other appropriate materials to protect such information prior to any publication request.

5. Trade Secrets of Others/Obligations to Others.

Service Provider represents that his or her other performance of all the terms of this Agreement does not and will not breach any agreement to keep in confidence proprietary information, knowledge or data acquired by him or her in confidence or in trust prior to his or her engagement by bluebird bio, and Service Provider agrees that he or she will not disclose to bluebird bio, or induce bluebird bio to use, any confidential or proprietary information or material belonging to any other person. Service Provider agrees that he or she will not enter into any agreement, either written or oral, in conflict with his or her obligations under this Agreement.

6. Survival

The terms of this Agreement and Service Provider's obligations hereunder shall survive any termination of the Services Provider's employment, contractual or other business relationship with

bluebird bio, irrespective of the reason or reasons for such termination. Nothing in this Agreement shall eliminate, reduce, or otherwise remove any legal duties or obligations that Service Provider would otherwise have to the Company through common law or statute.

7. Agreement Enforceable Upon Material Job Change.

Service Provider acknowledges and agrees that if he or she should transfer between or among any affiliates of bluebird bio, wherever situated, or be promoted, demoted, reassigned to functions other than Service Provider's present functions, or have his/her job duties changed, altered or modified in any way, all terms of this Agreement shall continue to apply with full force.

8. Notice of Resignation.

If the Service Provider elects to resign from his or her employment with the Company, the Service Provider agrees to provide the Company with written notification of his or her resignation at least two (2) weeks prior to the intended resignation date. Such notice shall include information in reasonable detail about his or her post-employment job duties and other business activities, including the name and address of any subsequent employer and/or person or entity with whom or which he or she intends to engage in business activities during the Restricted Period and the nature of his or her job duties and other business activities. The Company may elect to waive all or part of the two (2) week notice period in its sole discretion.

9. Disclosure to Future Employers.

Service Provider agrees to provide, and the Company, in its discretion, may provide, a copy of this Agreement to any business or enterprise which Service Provider may directly or indirectly own, manage, operate, finance, join, control or in which Service Provider may participate in the ownership, management, operation, financing, or control, or with which Service Provider may be connected as an officer, director, employee, partner, principal, agent, representative, consultant or otherwise.

10. Modification.

This Agreement may not be changed, waived, modified, released, discharged, abandoned, or otherwise amended, in whole or in part, except by an instrument in writing signed by Service Provider and bluebird bio or as provided in Section 17 or Section 1(a)(I)(B), which waiver under Section 1(a)(I)(B) must be in writing. The failure of either party to require the performance of any term or obligation of this Agreement, or the waiver by either party of any breach of this Agreement, shall not prevent any subsequent enforcement of such term or obligation or be deemed a waiver of any subsequent breach.

11. Entire Agreement.

This Agreement constitutes the entire agreement and understanding between the parties hereto and supersedes any previous oral or written communications, representations, understandings, or agreements relating to the subject matter hereof; notwithstanding the foregoing, any Invention that was created prior to execution of this agreement shall also remain subject to the provisions of any intellectual property assignment provisions in existence between bluebird bio and Service Provider.

12. Successors and Assigns.

This Agreement shall be binding upon and inure to the benefit of the parties hereto and their respective successors and assigns (including, in the case of Service Provider, his or her heirs, executors, administrators and other legal representatives). Neither party hereto may assign any of its rights or obligations hereunder to any other person, except that bluebird bio may assign all of its rights and obligations under this Agreement to any person or entity controlled by, in control of, or under common control with, bluebird bio, or to any successor or assign of bluebird bio that employs Service Provider subsequent to his or her employment with bluebird bio.

13. Counterparts.

This Agreement may be signed in two counterparts, each of which shall be deemed an original and both of which shall together constitute one agreement.

14. Notices.

All notices, requests, consents and other communications required or permitted hereunder shall be in writing and shall be hand delivered or mailed by first-class mail postage prepaid, addressed as follows: If to bluebird bio, at bluebird bio, Inc., 455 Grand Union Boulevard, Somerville, MA 02145, Attention: Chief Legal Officer, or to such other address as may have been furnished to Service Provider by bluebird bio in writing as herein provided; or if to Service Provider, at the address set forth below his or her signature hereon, or to such other address as may have been furnished to bluebird bio by Service Provider as herein provided in writing. Any notice or other communication so addressed and so mailed shall be deemed to have been given when mailed, and if hand delivered shall be deemed to have been given when delivered.

15. Applicable Law.

This Agreement shall be deemed to have been made in the Commonwealth of Massachusetts, shall take effect as an instrument under seal within Massachusetts, and the validity, interpretation and performance of this Agreement shall be governed by, and construed in accordance with, the internal law of Massachusetts, without giving effect to conflict of law principles, and specifically excluding any conflict or choice of law rule or principle that might otherwise refer construction or interpretation of this Agreement to the substantive law of another jurisdiction. The parties acknowledge that the last act necessary to render this Agreement enforceable is its execution by the Company in Massachusetts, and that the Agreement shall be maintained in Massachusetts.

16. Jurisdiction, Venue, Service of Process and Jury Trial Waiver.

Any legal action or proceeding with respect to this Agreement must be brought in the courts of the Commonwealth of Massachusetts or in the United States District Court for the District of Massachusetts and shall be subject to the jurisdiction of such courts only. By execution and delivery of this Agreement, each of the parties hereto accepts for itself and in respect of its property, generally and unconditionally, the exclusive jurisdiction of the aforesaid courts and waive any objection to personal jurisdiction or venue in those courts; provided, however, the Company and the Service Provider agree that all civil actions relating to Section 1.a.(I) of this Agreement shall be brought in the county of Suffolk and that the superior court or the business litigation section of the superior court shall have exclusive jurisdiction. Any action, demand, claim or counterclaim arising under or relating to this Agreement will be resolved by a judge alone and each of the Company and the Service Provider waive any right to a jury trial thereof.

17. Severability.

The parties intend this Agreement to be enforced as written. However, (a) if any portion or provision of this Agreement is to any extent declared illegal or unenforceable by a duly-authorized court having jurisdiction, then the remainder of this Agreement, or the application of such portion or provision in circumstances other than those as to which it is so declared illegal or unenforceable, will not be affected thereby, and each portion and provision of this Agreement will be valid and enforceable to the fullest extent permitted by law, and (b) if any provision, or part thereof, is held to be unenforceable because of the duration of such provision or the geographic area covered thereby, the court making such determination will have the power to modify or reduce the scope, duration and/or geographic area of such provision, and/or to delete specific words and phrases (“blue-pencilling”), and in its modified, reduced or blue-pencilled form such provision will then be enforceable and will be enforced.

18. Use of Name or Affiliation.

bluebird bio shall not use Service Provider’s name or affiliation, in publicity, advertising, or securities offering materials without the prior written approval of Service Provider, provided that such approval shall not be unreasonably withheld in cases in which bluebird bio is required by applicable law to disclose Service Provider’s relationship with bluebird bio.

19. Employment At-Will.

This Agreement does not constitute a contract of employment for a definite period or imply that Service Provider’s employment or engagement with the Company shall continue for any definite period of time. Employment with the Company is at-will meaning that the Service Provider or the Company may end the employment relationship at any time with or without notice or cause.

THE SERVICE PROVIDER ACKNOWLEDGES THAT HE OR SHE HAS CAREFULLY READ THIS ASSIGNMENT OF INVENTION, NONDISCLOSURE, NONCOMPETITION AND NONSOLICITATION AGREEMENT AND **Appendix A** and UNDERSTANDS AND AGREES TO ALL OF THE PROVISIONS IN THIS AGREEMENT. FURTHERMORE, BY SIGNING BELOW, THE SERVICE PROVIDER CERTIFIES THAT (I) HE OR SHE WAS PROVIDED WITH THIS AGREEMENT BY THE EARLIER OF A FORMAL OFFER OF EMPLOYMENT OR TEN (10) BUSINESS DAYS BEFORE THE COMMENCEMENT OF HIS OR HER EMPLOYMENT, AND (II) HE OR SHE HAS BEEN ADVISED BY THE COMPANY THAT HE OR SHE HAS THE RIGHT TO CONSULT WITH COUNSEL PRIOR TO SIGNING THIS AGREEMENT.

bluebird bio, Inc.

By: /s/ Andrea Walton
Print Name: Andrea Walton
Title: Chief People & Culture Officer
Date: 17-Oct-2022

SERVICE PROVIDER

By: /s/ Christopher Krawtschuk
Print Name: Chistopher Krawtschuk
Date: 18-Oct-2022
Address: [on file with the Company]

Attachment: Appendix A

APPENDIX A

Alabama:

If Service Provider resides in Alabama, and is subject to Alabama law, then the following applies to Service Provider for as long as Service Provider is subject to Alabama law: (i) Paragraph 1(a) shall be further limited to the solicitation or hiring of employees or consultants of the Company who are engaged in a Sensitive Position for the Company. A person is in a "Sensitive Position" if he or she is uniquely essential to the management, organization, or service of the Company's business; and (ii) Paragraph 1(a)(ii) shall be limited to solicitation of current customers, vendors, or distributors of the Company (i.e., past or inactive customers, vendors, or distributors are not covered by the provision).

Arizona:

If Service Provider resides in Arizona and is subject to Arizona law, then the following applies to Service Provider for as long as Service Provider is subject to Arizona law: the restrictions in Paragraph 1(a)(ii) shall be limited to the geographic region that Service Provider worked in, serviced, managed and/or supervised on behalf of the Company within the one (1) year period immediately preceding the termination of his employment.

California:

If Service Provider resides in California and is subject to California law, then the following applies to Service Provider for so long as Service Provider is subject to California law: (a) Paragraph 1(a)(ii) shall be limited to situations where Service Provider is aided in his or her conduct by the use or disclosure of the Company's trade secrets (as defined by applicable law); and (b) Paragraphs 14 and 15 shall not apply.

Louisiana:

If Service Provider resides in Louisiana and is subject to Louisiana law, then the following applies to Service Provider for as long as Service Provider is subject to Louisiana law: the restrictions in Paragraph 1(a)(ii) shall be limited to the following parishes in Louisiana and counties outside Louisiana: _____ [each individual Parish and/or County must be named].

Montana:

If Service Provider resides in Montana and is subject to Montana law, then the following applies to Service Provider for as long as Service Provider is subject to Montana law: the last sentence of Paragraph 18 shall not apply.

Nebraska:

If Service Provider resides in Nebraska and is subject to Nebraska law, then the following applies to Service Provider for so long as Service Provider is subject to Nebraska law: Paragraph 1(a)(ii) is further limited to the solicitation of customers, vendors, or distributors, with which Service Provider did business on behalf of the Company and had personal business-related contact during the one (1) year period immediately preceding Service Provider's termination.

Nevada:

If Service Provider resides in Nevada and is subject to Nevada law, then the following applies to Service Provider for so long as Service Provider is subject to Nevada law: Paragraph 1(a)(ii) does not preclude Service Provider from providing services to any former customer of the Company if: (a) Service Provider did not solicit the former customer; (b) the customer voluntarily chose to leave and seek services from Service Provider; and (c) Service Provider is otherwise complying with the limitations in this Agreement as to time and scope of activity to be restrained.

New York:

If Service Provider resides in New York and is subject to New York law, then the following applies to Service Provider for so long as Service Provider is subject to New York law: Paragraph 1(a)(ii) shall be modified so that it excludes those customers who became a customer of Company as a result of Service Provider's independent contact and business development efforts with the customer prior to and independent from his/her employment with Company.

North Carolina:

If Service Provider resides in North Carolina and is subject to the laws of North Carolina, then the following applies to Service Provider for so long as Service Provider is subject to North Carolina law: the one (1) year look back period referenced in Paragraph 1(a) shall be calculated looking back one (1) year from the date of enforcement and not from the date employment ends.

North Dakota:

If Service Provider resides in North Dakota and is subject to North Dakota law, then the following applies to Service Provider for so long as Service Provider is subject to North Dakota law: Paragraph 1(a)(ii) shall be limited to situations where Service Provider is aided in his or her conduct by the use or disclosure of the Company's trade secrets (as defined by applicable law).

Wisconsin:

If Service Provider resides in Wisconsin and is subject to Wisconsin law, then the following applies to Service Provider for so long as Service Provider is subject to Wisconsin law: (a) Paragraph 9(g) shall not apply; and (b) Paragraph 5(b) shall be further limited to the solicitation or hiring of employees, independent contractors, sales agents, or sales associates of the Company who are engaged in a Sensitive Position for the Company. "Sensitive Position" refers to an employee of the Company who is in a management, supervisory, sales, research and development, or similar role where the employee is provided Confidential Information or is involved in business dealings with the Company's customers.

bluebird bio Reports Third Quarter 2022 Financial Results and Highlights Operational Progress

– Commercial launch of ZYNTEGLO® (betibeglogene autotemcel) underway; on track for first apheresis in the fourth quarter of 2022 –

– Chris Krawtschuk appointed chief financial officer –

– Ended quarter with \$186M in cash and cash equivalents, marketable securities and restricted cash –

SOMERVILLE, Mass. – November 7, 2022 – bluebird bio, Inc. (NASDAQ: BLUE) (“bluebird bio” or the “Company”) today reported financial results and business highlights for the third quarter ended September 30, 2022 and shared recent operational progress.

"The third quarter officially launched bluebird bio as a commercial gene therapy company, following FDA approvals of ZYNTEGLO for beta-thalassemia and SKYSONA for cerebral adrenoleukodystrophy," said Andrew Obenshain, CEO bluebird bio. "Positive momentum continues to build through the ZYNTEGLO launch and we are on track to complete our first cell collection this quarter. Additionally, we are readying SKYSONA for commercial availability and are on track to file our biologics licensing application for lovo-cel for sickle cell disease in Q1 2023. As a result of milestones in the quarter, we are adjusting our fourth quarter 2022 financial guidance to account for post-marketing commitment expenses and increased investment in current and upcoming launches, which will enable the Company to fully benefit from its first-in-class position. Today, we are also very pleased to welcome Chris Krawtschuk as bluebird's next chief financial officer. Chris brings significant experience leading and advising financial and capital strategies for a multitude of commercial organizations and will play a critical role in our financing strategy and the evolution of bluebird's balance sheet as a commercial company."

RECENT HIGHLIGHTS

ZYNTEGLO FDA APPROVAL AND COMMERCIAL LAUNCH PROGRESS

- On August 17, 2022, the U.S. Food and Drug Administration (FDA) approved ZYNTEGLO® (betibeglogene autotemcel), the first one-time gene therapy custom-designed to treat the underlying genetic cause of beta-thalassemia in adult and pediatric patients who require regular red blood cell (RBC) transfusions.
- Following approval, the Company has made significant progress on its first US commercial launch and remains on track for first apheresis (cell collection) in the fourth quarter of this year. Two months post approval, 27 patients have initiated benefits verification and approximately one-third of those patients have progressed to prior authorization. While we anticipate that not all patients will proceed with treatment, these early indicators demonstrate significant demand across a rare disease population. Of note, the process to initiate gene therapy treatment once a patient and their provider have decided it is right for them may take several weeks as the patient completes the consent process, benefits verification and prior authorization.
- bluebird has completed activation of all wave one qualified treatment centers (QTCs) and the Company's QTC network is on track to reach low double digits by the end of the year, as previously guided. In addition to the Company's planned list of QTCs, bluebird has received

inbound requests for inclusion in its QTC network from more than 30 adult and pediatric institutions, demonstrating eagerness to treat. bluebird's hemoglobinopathies QTC footprint is expected to scale to 40-50 centers by the end of 2023 and is designed to maximize the beta-thalassemia launch and prepare for the potential future launch of lovo-cel for sickle cell disease (SCD), pending regulatory approval.

- To date, the Company has signed outcomes-based agreements with pharmacy benefit managers (PBMs) representing more than 40 national and regional plans. Additionally, to date 12 payers have issued medical coverage policies that are favorably aligned to ZYNTEGLO's clinical evidence base.

SKYSONA FDA APPROVAL AND COMMERCIAL LAUNCH PROGRESS

- On September 16, 2022, the U.S. FDA granted Accelerated Approval for SKYSONA® (elivaldogene autotemcel) to slow the progression of neurologic dysfunction in boys 4-17 years of age with early, active cerebral adrenoleukodystrophy (CALD).
- Concurrent with the FDA approval, the previous clinical hold on the eli-cel clinical development program was lifted.
- Since approval, bluebird has activated three QTCs to treat patients with CALD. The Company anticipates commercial readiness for SKYSONA in the fourth quarter of 2022.

BETA-THALASSEMIA AND SICKLE CELL DISEASE DATA AT ASH 2022

Updates on the Company's beta-thalassemia and sickle cell disease clinical development programs will be presented at the 64th American Society of Hematology (ASH) Annual Meeting and Exposition, taking place December 10-13, 2022 at the Ernest N. Morial Convention Center in New Orleans, Louisiana.

• BETA-THALASSEMIA DATA

- **Poster (#2348):** Long Term Outcomes of 63 Patients with Transfusion-Dependent β -Thalassemia (TDT) Followed Up to 7 Years Post-Treatment with betibeglogene autotemcel (beti-cel) Gene Therapy and Exploratory Analysis of Predictors of Successful Treatment Outcomes in Phase 3 Trials
- Presenting Author: Mark C. Walters, MD, Medical Director, Jordan Family Center for BMT & Cellular Therapies Research, UCSF Benioff Children's Hospital Oakland, Oakland, CA
- Date/Time: Sunday, December 11, 2022, 6:00 PM - 8:00 PM
- **Poster (#3665):** Long-Term Patient-Reported Outcomes Following Treatment with Betibeglogene Autotemcel in Patients with Transfusion-Dependent β -Thalassemia
- Presenting Author: Professor Franco Locatelli, Director, Department of Pediatric Hematology and Oncology, Ospedale Pediatrico Bambino Gesù, Rome, Italy
- Date/Time: Monday, December 12, 2022, 6:00 PM - 8:00 PM

• SICKLE CELL DISEASE DATA

- **Oral Presentation (#11):** lovo-cel (bb1111) Gene Therapy for Sickle Cell Disease: Updated Clinical Results and Investigations into Two Cases of Anemia from Group C of the Phase 1/2 HGB-206 Study

- Presenting Author: Mark C. Walters, MD, Medical Director, Jordan Family Center for BMT & Cellular Therapies Research, UCSF Benioff Children's Hospital Oakland, Oakland, CA
- Date/Time: Saturday, December 11, 2022, 10:30 AM

Abstracts are now live on the [ASH website](#).

MANAGEMENT UPDATE

- Effective today, following the filing of the Company's 10-Q with the SEC, Chris Krawtschuk has been appointed Chief Financial Officer (CFO). Chris joins bluebird from Jubilant Pharma, a global integrated pharmaceutical company, where he was CFO. He brings over 25 years of experience in finance, accounting, tax, strategy, business development, and capital allocation for commercial execution. Prior to Jubilant, Chris was the CFO of MorphoSys US and VP Global Lead Business Unit Controller at Pfizer. Earlier in his career Chris spent 15 years at PwC, finishing his tenure as Managing Director in PwC's Capital Markets and Accounting Advisory practice.

Interim CFO Katherine Breedis will continue to lead strategic finance initiatives for bluebird and partner with Chris through a transition period; thereafter, she will continue to serve as a strategic advisor.

NEW LABORATORY SPACE

- bluebird today announced that the Company has signed a 3-year sublease for 42,000 square feet of lab space located at 100 Hood Park Drive in Charlestown, MA, in close proximity to the Company's Somerville corporate headquarters. bluebird expects to move all lab birds from its Cambridge location and assume occupancy of the Charlestown space by mid-2023. The new lab space is expected to result in approximately \$3 million in annual cost savings beginning in 2024.

UPCOMING ANTICIPATED MILESTONES

COMMERCIAL

- **ZYNTEGLO:** Consistent with previous guidance, the Company anticipates the first commercial ZYNTEGLO infusion in Q1 2023. The Company will realize revenue upon infusion.
- **SKYSONA:** bluebird anticipates commercial readiness for SKYSONA in the fourth quarter of 2022.

REGULATORY

- **LOVO-CEL:** The Company expects to complete vector and drug product analytical comparability for the lovo-cel BLA in the fourth quarter of 2022 and remains on track to submit its BLA for lovo-cel in Q1 2023.
- **LOVO-CEL:** The Company remains in active communication with the FDA to resolve the lovo-cel partial clinical hold and resume enrollment and treatment of patients under the age of 18.

THIRD QUARTER 2022 FINANCIAL RESULTS

- **Cash Position:** The Company's cash and cash equivalents and marketable securities balance was approximately \$141 million as of September 30, 2022. In addition, the Company ended the quarter with \$45 million in restricted cash. As a result of increased investment in current and upcoming launches, as well as post-marketing commitments related to the FDA approvals of ZYNTEGLO and SKYSONA, bluebird is adjusting its fourth quarter 2022 projected cash burn to

between \$75 million to \$80 million. bluebird anticipates providing full year 2023 guidance in early next year.

As of September 30, 2022, the Company has raised approximately \$54.1 million in net proceeds through its At-the-Market (ATM) equity facility. Of this \$54.1 million, \$46.1 million in net proceeds were realized in the third quarter. The Company expects its cash, cash equivalents and marketable securities, together with the anticipated release of \$40 million of the Company's restricted cash in the fourth quarter of 2022, will be sufficient to meet bluebird's planned operating expenses and capital expenditure requirements into the second quarter of 2023.

This quarter the Company received two Priority Review Vouchers (PRVs) following the FDA approvals of ZYNTEGLO and SKYSONA and is exploring options to monetize both PRVs. Concurrently, the Company is exploring additional financing opportunities, including public or private equity and debt financings.

- **Revenues:** Total revenue was \$0.1 million for the three months ended September 30, 2022, compared to \$1.0 million for the three months ended September 30, 2021.
- **R&D Expenses:** Research and development expenses from continuing operations were \$53.1 million for the three months ended September 30, 2022, compared to \$73.7 million for the three months ended September 30, 2021. The decrease of \$20.6 million was primarily due to decreased employee compensation, benefits, other head-count related expenses, information technology and facility-related costs, clinical trial costs, and material production costs. These decreased costs were partially offset by increased platform costs.
- **SG&A Expenses:** Selling, general and administrative expenses from continuing operations were \$33.4 million for the three months ended September 30, 2022, compared to \$42.2 million for the three months ended September 30, 2021. The decrease of \$8.8 million was primarily due to decreased employee compensation, benefit, and other head-count related expenses and decreased commercial readiness activities due to the Company's decision to focus its efforts on the U.S. market. These decreased costs were partially offset by increased information technology and facility-related costs, primarily attributed to rent expense due to the addition of the Company's office leases in Cambridge and Somerville, Massachusetts. Cambridge rent expense was offset by \$7.5 million in sublease rental income generated for the three months ended September 30, 2022, captured in "other income" on the Company's income statement.
- **Net Loss:** Net loss from continuing operations was \$76.5 million for the three months ended September 30, 2022, compared to \$216.8 million for the three months ended September 30, 2021.

About bluebird bio, Inc.

bluebird bio is pursuing curative gene therapies to give patients and their families more bluebird days.

With a dedicated focus on severe genetic diseases, bluebird has industry-leading programs for sickle cell disease, β -thalassemia and cerebral adrenoleukodystrophy and is advancing research to apply new technologies to these and other diseases. We custom design each of our therapies to address the underlying cause of disease and have developed in-depth and effective analytical methods to understand the safety of our lentiviral vector technologies and drive the field of gene therapy forward.



Founded in 2010, bluebird has the largest and deepest ex-vivo gene therapy data set in the world—setting the standard for the industry. Today, bluebird continues to forge new paths, combining our real-world experience with a deep commitment to patient communities and a people-centric culture that attracts and grows a diverse flock of dedicated birds.

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Forward-Looking Statements

This press release contains “forward-looking statements” within the meaning of the Private Securities Litigation Reform Act of 1995. All statements that are not statements of historical facts are, or may be deemed to be, forward-looking statements, including our statements regarding the Company’s financial condition, results of operations, and anticipated cash burn for the fourth quarter of 2022, as well as statements regarding the Company’s plans and expectations for operations including expected timing relating to its regulatory approvals, commercial launches including the initiation of patient apheresis, anticipated QTC footprint, plans for future regulatory submissions, expectations regarding the timing of completion of vector and drug product analytical comparability for lovo-cel, expectations regarding the monetization of any Priority Review Vouchers, our expectations regarding the timing for a potential BLA submission for lovo-cel, expectations regarding our Charlestown, MA sublease, including anticipated savings; potential financing opportunities and upcoming events and presentations. Such forward-looking statements are based on historical performance and current expectations and projections about our future financial results, goals, plans and objectives and involve inherent risks, assumptions and uncertainties, including internal or external factors that could delay, divert or change any of them in the next several years, that are difficult to predict, may be beyond our control and could cause our future financial results, goals, plans and objectives to differ materially from those expressed in, or implied by, the statements. No forward-looking statement can be guaranteed. Forward-looking statements in this press release should be evaluated together with the many risks and uncertainties that affect bluebird bio’s business, particularly those identified in the risk factors discussion in bluebird bio’s Annual Report on Form 10-K, as updated by our subsequent Quarterly Reports on Form 10-Q, Current Reports on Form 8-K and other filings with the Securities and Exchange Commission. These risks include, but are not limited to: the risk that we may not realize expected cost savings from the restructuring, including the anticipated decrease in operational expenses, at the levels we expect; we may encounter additional delays in the development of our programs, including the imposition of new clinical holds or delays in resolving existing clinical holds, that may impact our ability to meet our expected timelines and increase our costs; the internal and external costs required for our ongoing and planned activities, and the resulting impact on expense and use of cash, has been, and may in the future be, higher than expected which has caused us, and may in the future cause us to use cash more quickly than we expect or change or curtail some of our plans or both; our expectations as to expenses, cash usage and cash needs may prove not to be correct for other reasons such as changes in plans or actual events being different than our assumptions; the risk that the efficacy and safety results from our prior and ongoing clinical trials will not continue or be seen in additional patients treated with our product candidates; the risk that additional insertional oncogenic or other reportable events associated with lentiviral vector, drug product, or myeloablation will be discovered or reported over time; the risk that our eli-cel, beti-cel and lovo-cel programs may be subject to further delays in their development, including but not limited to the imposition of new clinical holds; the risk that any one or more of our products or product candidates, including eli-cel and, beti-cel or lovo-cel, will not be successfully developed, approved or commercialized, as applicable. The forward-looking statements included in this document are made only as of the date of this document and except as otherwise required by applicable law, bluebird bio undertakes no obligation



to publicly update or revise any forward-looking statement, whether as a result of new information, future events, changed circumstances or otherwise.

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bluebird bio, Inc.
Condensed Consolidated Statements of Operations
(in thousands, except per share data)
(unaudited)

	For the three months ended September 30,		For the nine months ended September 30,	
	2022	2021	2022	2021
Revenue:				
Product revenue	\$—	\$768	\$2,739	\$1,492
Other revenue	71	251	795	564
Total revenues	71	1,019	3,534	2,056
Operating expenses:				
Research and development	53,149	73,679	194,864	240,561
Selling, general and administrative	33,402	42,229	106,201	156,763
Cost of product revenue	—	19,385	10,056	35,176
Restructuring expenses	(1,699)	20,175	4,940	24,800
Total operating expenses	84,852	155,468	316,061	457,300
Loss from operations	(84,781)	(154,449)	(312,527)	(455,244)
Interest income, net	383	160	663	733
Other (expense) income, net	7,885	1,342	13,061	24,369
Loss before income taxes	(76,513)	(152,947)	(298,803)	(430,142)
Income tax (expense) benefit	(7)	113	(7)	(169)
Net loss from continuing operations	(76,520)	(152,834)	(298,810)	(430,311)
Net loss from discontinued operations	—	(63,982)	—	(234,015)
Net loss	\$(76,520)	\$(216,816)	\$(298,810)	\$(664,326)
Net loss per share from continuing operations - basic and diluted	\$(0.94)	\$(2.23)	\$(3.91)	\$(6.36)
Net loss per share from discontinued operations - basic and diluted	\$—	\$(0.93)	\$—	\$(3.46)
Net loss per share - basic and diluted	\$(0.94)	\$(3.16)	\$(3.91)	\$(9.81)
Weighted-average number of common shares used in computing net loss per share - basic and diluted:	81,543	68,621	76,361	67,701
Other comprehensive (loss) income:				
Other comprehensive (loss) income, net of tax benefit (expense) of \$0.0 million for the three and nine months ended September 30, 2022 and 2021	(214)	(129)	(1,719)	(401)
Total other comprehensive (loss) income	(214)	(129)	(1,719)	(401)
Comprehensive loss	\$(76,734)	\$(216,945)	\$(300,529)	\$(664,727)

bluebird bio, Inc.
Condensed Consolidated Balance Sheet Data
(in thousands)
(unaudited)

	As of September 30, 2022		As of December 31, 2021	
Cash, cash equivalents and marketable securities	\$	141,040	\$	396,617
Total assets	\$	520,098	\$	593,795
Total liabilities	\$	361,241	\$	219,518
Total stockholders' equity	\$	158,857	\$	374,277