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

# FORM 10-Q

**(Mark One)**

☒ **QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

**For the quarterly period ended March 31, 2019**

**OR**

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

**For the transition period from _____ to _____**

**Commission File Number 001-37687**

# EDITAS MEDICINE, INC.
**(Exact name of registrant as specified in its charter)**

| **Delaware** | **46-4097528** |
|---|---|
| **(State or other jurisdiction of incorporation or organization)** | **(I.R.S. Employer Identification No.)** |
| **11 Hurley Street Cambridge, Massachusetts** | **02141** |
| **(Address of principal executive offices)** | **(Zip Code)** |

**(617) 401-9000**
**(Registrant's telephone number, including area code)**

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§ 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☒ No ☐

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

| | | | |
|---|---|---|---|
| Large accelerated filer | ☒ | Accelerated filer | ☐ |
| Non-accelerated filer | ☐ | Smaller reporting company | ☐ |
| | | 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.☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ☐ No ☒

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, $0.0001 par value per share | EDIT | The Nasdaq Stock Market LLC |

The number of shares of Common Stock outstanding as of May 3, 2019 was 49,222,986.

**Editas Medicine, Inc.**
**TABLE OF CONTENTS**

## PART I. FINANCIAL INFORMATION

### Item 1. Financial Statements.

**Editas Medicine, Inc.**
**Condensed Consolidated Balance Sheets**
**(unaudited)**
**(amounts in thousands, except share and per share data)**

| | March 31, 2019 | December 31, 2018 |
|---|---|---|
| **ASSETS** | | |
| Current assets: | | |
| Cash and cash equivalents | $ 157,932 | $ 134,776 |
| Marketable securities | 184,133 | 234,179 |
| Accounts receivable | — | 30 |
| Prepaid expenses and other current assets | 5,002 | 5,791 |
| Total current assets | 347,067 | 374,776 |
| Property and equipment, net | 7,991 | 40,232 |
| Right-of-use asset | 18,480 | — |
| Restricted cash and other non-current assets | 5,378 | 5,378 |
| Total assets | $ 378,916 | $ 420,386 |
| **LIABILITIES AND STOCKHOLDERS' EQUITY** | | |
| Current liabilities: | | |
| Accounts payable | $ 6,557 | $ 5,327 |
| Accrued expenses | 5,642 | 12,813 |
| Deferred revenue, current | 23,400 | 15,712 |
| Operating lease liability | 3,519 | — |
| Other current liabilities | 1,911 | 2,048 |
| Total current liabilities | 41,029 | 35,900 |
| Operating lease liability, net of current portion | 14,859 | — |
| Deferred revenue, net of current portion | 105,865 | 115,614 |
| Construction financing lease obligation, net of current portion | — | 32,417 |
| Other non-current liabilities | 1 | 293 |
| Total liabilities | 161,754 | 184,224 |
| Commitments and contingencies (see note 7) | | |
| Stockholders' equity | | |
| Preferred stock, $0.0001 par value per share: 5,000,000 shares authorized; no shares issued or outstanding | — | — |
| Common stock, $0.0001 par value per share: 195,000,000 shares authorized; 49,175,122 and 49,028,907 shares issued, and 48,923,122 and 48,758,951 shares outstanding at March 31, 2019 and December 31, 2018, respectively | 5 | 5 |
| Additional paid-in capital | 661,852 | 652,464 |
| Accumulated other comprehensive income (loss) | 29 | (29) |
| Accumulated deficit | (444,724) | (416,278) |
| Total stockholders' equity | 217,162 | 236,162 |
| Total liabilities and stockholders' equity | $ 378,916 | $ 420,386 |

The accompanying notes are an integral part of the condensed consolidated financial statements.

**Editas Medicine, Inc.**
**Condensed Consolidated Statements of Operations**
**(unaudited)**
**(amounts in thousands, except per share and share data)**

| | Three Months Ended March 31, | |
|---|---|---|
| | 2019 | 2018 |
| Collaboration and other research and development revenues | $ 2,069 | $ 3,927 |
| Operating expenses: | | |
| Research and development | 15,842 | 21,300 |
| General and administrative | 17,489 | 14,186 |
| Total operating expenses | 33,331 | 35,486 |
| Operating loss | (31,262) | (31,559) |
| Other income, net: | | |
| Other (expense) income, net | (44) | 182 |
| Interest income, net | 2,057 | 438 |
| Total other income, net | 2,013 | 620 |
| Net loss | $ (29,249) | $ (30,939) |
| Net loss per share attributable to common stockholders, basic and diluted | $ (0.60) | $ (0.67) |
| Weighted-average common shares outstanding, basic and diluted | 48,838,229 | 45,992,008 |

The accompanying notes are an integral part of the condensed consolidated financial statements.

**Editas Medicine, Inc.**
**Condensed Consolidated Statements of Comprehensive Loss**
**(unaudited)**
**(amounts in thousands)**

| | Three Months Ended March 31, | |
|---|---|---|
| | 2019 | 2018 |
| Net loss | $ (29,249) | $ (30,939) |
| Other comprehensive income (loss): | | |
| Unrealized gain (loss) on marketable debt securities | 58 | 24 |
| Comprehensive loss | $ (29,191) | $ (30,915) |

The accompanying notes are an integral part of the condensed consolidated financial statements.

**Editas Medicine, Inc.**
**Condensed Consolidated Statements of Stockholders' Equity**
**(unaudited)**
**(amounts in thousands)**

| | Common Stock | | Additional Paid-In Capital | Accumulated Other Comprehensive (Loss) Income | Other Accumulated Deficit | Total Stockholders' Equity |
|---|---|---|---|---|---|---|
| | Shares | Amount | | | | |
| **Balance at December 31, 2018** | 48,758,951 | $ 5 | $ 652,464 | $ (29) | $ (416,278) | $ 236,162 |
| Cumulative effect adjustment for adoption of new accounting guidance | — | — | — | — | 803 | 803 |
| Exercise of stock options | 146,171 | — | 1,533 | — | — | 1,533 |
| Vesting of founder shares | 18,000 | — | 410 | — | — | 410 |
| Stock-based compensation expense | — | — | 7,445 | — | — | 7,445 |
| Unrealized gain on marketable securities | — | — | — | 58 | — | 58 |
| Net loss | — | — | — | — | (29,249) | (29,249) |
| **Balance at March 31, 2019** | 48,923,122 | $ 5 | $ 661,852 | $ 29 | $ (444,724) | $ 217,162 |

| | Common Stock | | Additional Paid-In Capital | Accumulated Other Comprehensive (Loss) | Other Accumulated Deficit | Total Stockholders' Equity |
|---|---|---|---|---|---|---|
| | Shares | Amount | | | | |
| **Balance at December 31, 2017** | 44,507,960 | $ 4 | $ 514,002 | $ (76) | $ (305,850) | $ 208,080 |
| Cumulative effect adjustment for adoption of new accounting guidance | — | — | — | — | (474) | (474) |
| Issuance of common stock for repayment of notes payable | 1,735,114 | — | 58,023 | — | — | 58,023 |
| Issuance of common stock for asset purchase agreement | 56,099 | — | 1,942 | — | — | 1,942 |
| Exercise of stock options | 305,408 | — | 4,328 | — | — | 4,328 |
| Vesting of restricted common stock and common stock subject to repurchase | 89,114 | — | 2 | — | — | 2 |
| Vesting of founder shares | 18,000 | — | 650 | — | — | 650 |
| Stock-based compensation expense | — | — | 5,878 | — | — | 5,878 |
| Unrealized gain on marketable securities | — | — | — | 24 | — | 24 |
| Net loss | — | — | — | — | (30,939) | (30,939) |
| **Balance at March 31, 2018** | 46,711,695 | $ 4 | $ 584,825 | $ (52) | $ (337,263) | $ 247,514 |

**Editas Medicine, Inc.**
**Condensed Consolidated Statements of Cash Flows**
**(unaudited)**
**(amounts in thousands)**

| | Three Months Ended March 31, | |
|---|---|---|
| | 2019 | 2018 |
| **Cash flow from operating activities** | | |
| Net loss | $ (29,249) | $ (30,939) |
| Adjustments to reconcile net loss to net cash used in operating activities: | | |
| Stock-based compensation expense | 7,855 | 6,528 |
| Depreciation | 628 | 751 |
| Non-cash research and development expense | — | 1,942 |
| Other non-cash items, net | (1,181) | (430) |
| Changes in operating assets and liabilities: | | |
| Accounts receivable | 30 | (252) |
| Prepaid expenses and other current assets | 789 | (761) |
| Right-of-use asset | 981 | — |
| Accounts payable | 626 | 5,095 |
| Accrued expenses | (6,923) | (1,252) |
| Deferred revenue | (2,061) | (3,142) |
| Operating lease liability | (1,379) | — |
| Other current and non-current liabilities | 881 | — |
| Net cash used in operating activities | (29,003) | (22,460) |
| **Cash flow from investing activities** | | |
| Purchases of property and equipment | (718) | (1,011) |
| Proceeds from the sale of equipment | 36 | 5 |
| Purchases of marketable securities | (74,692) | (52,674) |
| Proceeds from maturities of marketable securities | 126,000 | 94,500 |
| Net cash provided by investing activities | 50,626 | 40,820 |
| **Cash flow from financing activities** | | |
| Proceeds from offering of common stock, net of issuance costs | — | 48,474 |
| Proceeds from exercise of stock options | 1,533 | 4,410 |
| Payments on construction financing lease obligation | — | (203) |
| Net cash provided by financing activities | 1,533 | 52,681 |
| Net increase in cash and cash equivalents | 23,156 | 71,041 |
| Cash, cash equivalents and restricted cash, beginning of period | 136,395 | 148,249 |
| Cash, cash equivalents and restricted cash, end of period | $ 159,551 | $ 219,290 |
| **Supplemental disclosure of cash and non-cash activities:** | | |
| Fixed asset additions included in accounts payable and accrued expenses | $ 356 | $ 129 |
| Cash paid in connection with operating lease liabilities | 1,724 | — |
| Right-of-use assets obtained in exchange of operating lease obligations | 19,461 | — |
| Reclassification of liability for common stock subject to repurchase | — | 3 |
| Issuance of common stock for settlement of success payments (see note 7) | — | 9,530 |
| Adjustment to deferred revenue for revenue adoption | — | 474 |
| Offering costs included in accounts payable and accrued expenses | — | 19 |

The accompanying notes are an integral part of the condensed consolidated financial statements.

**Editas Medicine, Inc.**
**Notes to Condensed Consolidated Financial Statements**
**(unaudited)**

## 1. Nature of Business

Editas Medicine, Inc. (the "Company") is a leading, clinical stage genome editing company dedicated to developing potentially transformative genomic medicines to treat a broad range of serious diseases. The Company was incorporated in the state of Delaware in September 2013. Its principal offices are in Cambridge, Massachusetts.

Since its inception, the Company has devoted substantially all of its efforts to business planning, research and development, recruiting management and technical staff, and raising capital. The Company has primarily financed its operations through various equity financings, payments received under a research collaboration with Juno Therapeutics, Inc., a Celgene company that is a wholly-owned subsidiary of Celgene Corporation ("Juno Therapeutics"), and payments received under a strategic alliance and option agreement with Allergan Pharmaceuticals International Limited ("Allergan").

The Company is subject to risks common to companies in the biotechnology industry, including but not limited to, risks of failure of preclinical studies and clinical trials, the need to obtain marketing approval for any drug product candidate that it may identify and develop, the need to successfully commercialize and gain market acceptance of its product candidates, dependence on key personnel, protection of proprietary technology, compliance with government regulations, development by competitors of technological innovations and ability to transition from pilot-scale manufacturing to large-scale production of products.

***Liquidity***

As of March 31, 2019, the Company has raised an aggregate of $328.3 million in net proceeds through the sale of shares of its common stock in public offerings. The Company has incurred annual net operating losses in every year since its inception. The Company expects that its existing cash, cash equivalents and marketable securities at March 31, 2019 and anticipated interest income will enable it to fund its operating expenses and capital expenditure requirements for at least the next 24 months following the date of this Quarterly Report on Form 10-Q. The Company had an accumulated deficit of $444.7 million at March 31, 2019, and will require substantial additional capital to fund its operations. The Company has never generated any product revenue. There can be no assurance that the Company will be able to obtain additional debt or equity financing or generate product revenue or revenues from collaborative partners, on terms acceptable to the Company, on a timely basis or at all. The failure of the Company to obtain sufficient funds on acceptable terms when needed could have a material adverse effect on the Company's business, results of operations, and financial condition.

## 2. Summary of Significant Accounting Policies

***Unaudited Interim Financial Information***

The condensed consolidated financial statements of the Company included herein have been prepared, without audit, pursuant to the rules and regulations of the Securities and Exchange Commission (the "SEC"). Certain information and footnote disclosures normally included in financial statements prepared in accordance with accounting principles generally accepted in the United States of America ("GAAP") have been condensed or omitted from this report, as is permitted by such rules and regulations. Accordingly, these condensed consolidated financial statements should be read in conjunction with the financial statements and notes thereto included in the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2018 (the "Annual Report").

The unaudited condensed consolidated financial statements include the accounts of Editas Medicine, Inc. and its wholly owned subsidiary, Editas Securities Corporation. All intercompany transactions and balances of the subsidiary have been eliminated in consolidation. In the opinion of management, the information furnished reflects all adjustments, all of which are of a normal and recurring nature, necessary for a fair presentation of the results for the reported interim periods. The Company considers events or transactions that occur after the balance sheet date but before the financial statements are issued to provide additional evidence relative to certain estimates or to identify matters that require additional disclosure. The three months ended March 31, 2019 and 2018 are referred to as the first quarter of 2019 and 2018, respectively. The results of operations for interim periods are not necessarily indicative of results to be expected for the full year or any other interim period.

***Use of Estimates***

The preparation of condensed consolidated financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the amounts reported in the consolidated financial statements and accompanying notes. On an ongoing basis, the Company's management evaluates its estimates, which include, but are not limited to, estimates related to revenue recognition, accrued expenses, stock-based compensation expense and deferred tax valuation allowances. The Company bases its estimates on historical experience and other market-specific or relevant assumptions that it believes to be reasonable under the circumstances. Actual results may differ from those estimates or assumptions.

***Summary of Significant Accounting Policies***

The Company's significant accounting policies are described in Note 2, "Summary of significant accounting policies," to the consolidated financial statements included in the Annual Report. There have been no material changes to the significant accounting policies previously disclosed in the Annual Report other than as noted below.

***Recent Accounting Pronouncements –Adopted***

*Leases*

During the first quarter of 2019, the Company adopted Accounting Standards Update ("ASU") No. 2016-02, *Leases* (Topic 842) ("ASC 842"), which amends a number of aspects of lease accounting and requires entities to recognize right-of-use assets and liabilities on the balance sheet.

At the inception of an arrangement the Company determines whether the arrangement contains a lease. If a lease is identified in an arrangement, the Company recognizes a right-of-use asset and liability on its balance sheet and determines whether the lease should be classified as a finance or operating lease. The Company does not recognize assets or liabilities for leases with lease terms of less than 12 months. Lease payments for short-term leases are recorded to operating expense on a straight-line basis over the lease term and variable lease payments are recorded in the period in which the obligation for those payments is incurred.

A lease qualifies as a finance lease if any of the following criteria are met at the inception of the lease: (i) there

is a transfer of ownership of the leased asset to the Company by the end of the lease term, (ii) the Company holds an option to purchase the leased asset that it is reasonably certain to exercise, (iii) the lease term is for a major part of the remaining economic life of the leased asset, (iv) the present value of the sum of lease payments equals or exceeds substantially all of the fair value of the leased asset, and (v) the nature of the leased asset is specialized to the point that it is expected to provide the lessor no alternative use at the end of the lease term. All other leases are recorded as operating leases.

Finance and operating lease assets and liabilities are recognized at the lease commencement date based on the present value of the lease payments over the lease term using the discount rate implicit in the lease. If the rate is not readily determinable, the Company utilizes its incremental borrowing rate at the lease commencement date. Operating lease assets are further adjusted for prepaid or accrued lease payments. Operating lease payments are expensed using the straight-line method as an operating expense over the lease term. Finance lease assets are amortized to depreciation expense using the straight-line method over the shorter of the useful life of the related asset or the lease term. Finance lease payments are bifurcated into (i) a portion that is recorded as imputed interest expense and (ii) a portion that reduces the finance liability associated with the lease.

The Company does not separate lease and non-lease components when determining which lease payments to include in the calculation of its lease assets and liabilities. Variable lease payments are expensed as incurred. If a lease includes an option to extend or terminate the lease, the Company reflects the option in the lease term if it is reasonably certain it will exercise the option.

The Company elected the modified-retrospective transition method, pursuant to which the Company recognized a cumulative-effect adjustment of $0.8 million to the opening balance of accumulated deficit on January 1, 2019 associated with de-recognizing the net asset balance recorded in property and equipment, net and the offsetting construction financing lease liability related to the Company's headquarters which was previously accounted for under the built-to-suit guidance in Accounting Standards Codification ("ASC") 840, *Leases* ("ASC 840"). This resulted in a reversal of $32.6 million from total assets and $33.4 million from total liabilities. All prior period balances are presented in accordance with ASC 840. As of January 1, 2019, the Company recorded a right-of-use asset of $19.5 million and lease liability of $19.7 million associated with the adoption of ASC 842. In addition, the Company elected to adopt the package of three practical expedients for leases that commenced prior to January 1, 2019, allowing it not to reassess (i) whether any expired or existing contracts contain leases, (ii) the lease classification for any expired or existing leases and (iii) the initial indirect costs for any existing leases. The Company did not elect the hindsight practical expedient which allows the Company to reassess the lease term as it was not relevant to the Company's leases.

As of March 31, 2019, the Company had only operating leases and has recorded the $18.4 million asset balance and $18.5 million liability balance in right-of-use assets and operating lease liabilities, respectively, in the condensed consolidated balance sheet as of March 31, 2019. The Company has finalized changes to its controls to support lease accounting and related disclosures under the new standard.

*Stock-Based Compensation*

During the first quarter of 2019, the Company adopted ASU No. 2018-07, *Compensation – Stock Compensation: Improvements to Nonemployee Share-Based Payment Accounting* ("ASU 2018-07"), which simplified the accounting for share-based payments to non-employees by aligning it with the accounting for share-based payments to employees, with certain exceptions. The new guidance expands the scope of ASC 718, *Compensation – Stock Compensation* ("ASC 718"), which supersedes the guidance in ASC 505-50, *Equity-Based Payments to Non-Employees* ("ASC 505-50"). In accordance with the new guidance, the Company will account for share-based payments to non-employees by recognizing stock-based compensation expense equal to the grant date fair value of the share-based payment ratably over the requisite service period. The Company estimates the grant date fair value for each stock option using the Black-Scholes option-pricing model. For restricted stock awards and restricted stock unit awards, the Company estimates the value of each award using intrinsic value, which is based on the value of the underlying common stock less any purchase price. On the date of adoption, the Company estimated the fair value for all unvested non-employee stock options and restricted shares. The unvested stock-based compensation will be recorded over the remaining requisite service period.

***Recent Accounting Pronouncements – Issued But Not Yet Adopted***

In August 2018, the FASB issued ASU No. 2018-13, *Disclosure Framework - Changes to the Disclosure Requirements for Fair Value Measurement* ("ASU 2018-13"), which modifies certain disclosure requirements on fair value measurements. The amendments regarding changes in unrealized gains and losses, the range and weighted average of significant unobservable inputs used to develop Level 3 fair value measurements and the narrative description of measurement uncertainty are required to be applied prospectively for only the most recent interim or annual period presented in the initial fiscal year of adoption. All other amendments are required to be applied retrospectively to all periods presented upon their effective date. ASU 2018-13 is effective for fiscal years beginning after December 15, 2019 and interim periods within those years. The Company does not anticipate a material impact to disclosures as a result of the adoption of ASU 2018-13.

### 3. Cash Equivalents, Marketable Securities and Equity Securities

Cash equivalents, marketable securities and equity securities consisted of the following at March 31, 2019 (in thousands):

| March 31, 2019 | Amortized Cost | Gross Unrealized Gains | Gross Unrealized Losses | Fair Value |
|---|---|---|---|---|
| Cash equivalents and marketable securities: | | | | |
| Money market funds | $ 157,711 | $ — | $ — | $ 157,711 |
| U.S. Treasuries | 149,296 | 24 | — | 149,320 |
| Government agency securities | 34,808 | 5 | — | 34,813 |
| Equity securities included in other non-current assets: | | | | |
| Corporate equity securities | 3,667 | — | — | 3,667 |
| Total | $ 345,482 | $ 29 | $ — | $ 345,511 |

Cash equivalents, marketable securities and equity securities consisted of the following at December 31, 2018 (in thousands):

| December 31, 2018 | Amortized Cost | Gross Unrealized Gains | Gross Unrealized Losses | Fair Value |
|---|---|---|---|---|
| Cash equivalents and marketable securities: | | | | |
| Money market funds | $ 130,049 | $ — | $ — | $ 130,049 |
| U.S. Treasuries | 208,754 | — | (24) | 208,730 |
| Government agency securities | 29,940 | — | (5) | 29,935 |
| Equity securities included in other non-current assets: | | | | |
| Corporate equity securities | 3,667 | — | — | 3,667 |
| Total | $ 372,410 | $ — | $ (29) | $ 372,381 |

At March 31, 2019, the Company held 2 securities that were in an unrealized loss position. The aggregate fair value of securities held by the Company in an unrealized loss position for less than 12 months at March 31, 2019 was $11.0 million, and there were no securities held by the Company in an unrealized loss position for more than 12 months. Pursuant to the adoption of ASU No. 2016-01, *Recognition and Measurement of Financial Assets and Financial Liabilities*, the Company records changes in the fair value of its investments in corporate equity securities to "Other income (expense), net" in the Company's condensed consolidated statements of operations. The Company records unrealized gains (losses) on available-for-sale debt securities as a component of accumulated other comprehensive income (loss) until such gains and losses are realized.

As of March 31, 2019, the Company did not intend to sell, and was not more likely than not required to sell, the debt securities in an unrealized loss position before recovery of their amortized cost bases. Furthermore, the Company has determined that there were no material changes in the credit risk of the debt securities. As a result, the Company determined it did not hold any marketable securities with any other-than-temporary impairment as of March 31, 2019.

There were no realized gains or losses on available-for-sale securities during the three months ended March 31, 2019 or 2018.

**4. Fair Value Measurements**

Assets measured at fair value on a recurring basis as of March 31, 2019 were as follows (in thousands):

| Financial Assets | March 31, 2019 | Quoted Prices in Active Markets for Identical Assets (Level 1) | Significant Other Observable Inputs (Level 2) | Significant Unobservable Inputs (Level 3) |
|---|---|---|---|---|
| Cash equivalents: | | | | |
| Money market funds | $ 157,711 | $ 157,711 | $ — | $ — |
| Marketable securities: | | | | |
| U.S. Treasuries | 149,320 | 149,320 | — | — |
| Government agency securities | 34,813 | 34,813 | — | — |
| Restricted cash and other non-current assets: | | | | |
| Corporate equity securities | 3,667 | — | 3,667 | — |
| Money market funds | 1,619 | 1,619 | — | — |
| Total financial assets | $ 347,130 | $ 343,463 | $ 3,667 | $ — |

Assets measured at fair value on a recurring basis as of December 31, 2018 were as follows (in thousands):

| Financial Assets | December 31, 2018 | Quoted Prices in Active Markets for Identical Assets (Level 1) | Significant Other Observable Inputs (Level 2) | Significant Unobservable Inputs (Level 3) |
|---|---|---|---|---|
| Cash equivalents: | | | | |
| Money market funds | $ 130,049 | $ 130,049 | $ — | $ — |
| U.S. Treasuries | 4,487 | 4,487 | — | — |
| Marketable securities: | | | | |
| U.S. Treasuries | 204,243 | 204,243 | — | — |
| Government agency securities | 29,935 | 29,935 | — | — |
| Restricted cash and other non-current assets: | | | | |
| Corporate equity securities | 3,667 | — | 3,667 | — |
| Money market funds | 1,619 | 1,619 | — | — |
| Total financial assets | $ 374,000 | $ 370,333 | $ 3,667 | $ — |

There were no transfers between fair value measurement levels during the three months ended March 31, 2019.

**5. Accrued Expenses**

Accrued expenses consisted of the following (in thousands):

| | As of | |
|---|---|---|
| | March 31, 2019 | December 31, 2018 |
| Intellectual property and patent related fees | $ 1,697 | $ 1,939 |
| Employee related expenses | 1,558 | 5,201 |
| Professional service expenses | 1,469 | 1,044 |
| Process and platform development expenses | 498 | 475 |
| Other expenses | 420 | 404 |
| Sublicensing and success payment expenses | — | 3,750 |
| Total | $ 5,642 | $ 12,813 |

**6. Property and Equipment, net**

Property and equipment, net consisted of the following (in thousands):

| | As of | |
|---|---|---|
| | March 31, 2019 | December 31, 2018 |
| Laboratory equipment | $ 11,768 | $ 10,892 |
| Computer equipment | 733 | 733 |
| Leasehold improvements | 323 | 289 |
| Furniture and office equipment | 166 | 166 |
| Software | 118 | 118 |
| Building | — | 35,167 |
| Total property and equipment | 13,108 | 47,365 |
| Less: accumulated depreciation | (5,117) | (7,133) |
| Property and equipment, net | $ 7,991 | $ 40,232 |

For additional information related to the removal of the building asset in the first quarter of 2019, refer to Footnote 7.

**7. Commitments and Contingencies**

***Leases***

In 2016, the Company entered into a lease agreement for 59,783 square feet of office and laboratory space located on Hurley Street in Cambridge, Massachusetts. The term of the lease began on October 1, 2016 and continues until October 2023. The Company has the option to extend the lease for an additional five-year term at market-based rates. The base rent payments commenced in November 2016 and continue through the term of the lease and are subject to increases over the term of the lease. The Company subleased approximately 10,000 square feet of the Hurley Street premises pursuant to a sublease, which commenced in February 2017 and terminated in June 2018.

In accordance with ASC 840, for accounting purposes, the Company was deemed the owner of the building during the construction period due to the fact that the Company was involved in the construction project, including having responsibilities for cost overruns for planned tenant improvements that did not qualify as “normal tenant improvements” under the lease accounting guidance. Throughout the construction period, the Company recorded the project construction costs incurred as an asset, along with a corresponding construction financing lease obligation, on its balance sheet for the total amount of the project costs incurred whether funded by the Company or the landlord. Construction was completed in October 2016, and the Company considered the requirements for sale-leaseback accounting treatment, which included an evaluation of whether all risks of ownership had transferred back to the landlord, as evidenced by a lack of continuing involvement in the leased property. The Company determined that the arrangement did not qualify for sale-leaseback accounting treatment, the building asset would remain on the Company’s balance sheet at its historical cost, and such asset would be depreciated over its estimated useful life of 30 years. The Company bifurcates its future lease payments pursuant to the Hurley Street lease into (i) a portion that is allocated to the building and (ii) a portion that is allocated to the land on which the building is located, which is recorded as rental expense. Although the Company did not begin making lease payments pursuant to the Hurley Street lease until November 2016, the portion of the lease obligation allocated to the land is treated for accounting purposes as an operating lease that commenced upon execution of the Hurley Street lease in February 2016.

In the first quarter of 2019, the Company adopted ASC 842 and derecognized the balances relating to the building, accumulated depreciation and the corresponding construction financing lease as summarized in the table below (in thousands). In applying the ASC 842 transition guidance, the Company determined that the lease should be classified as an operating lease and recorded a right-of-use asset and lease liability on the effective date, accordingly.

| | As of January 1, 2019 |
|---|---|
| Property and equipment, net | $ 32,627 |
| Other current liabilities | $ (1,014) |
| Construction financing lease obligation, net of current portion | $ (32,417) |
| Accumulated deficit | $ 803 |

The Company has two other operating leases for laboratory space. One of those leases commenced in April 2017, was amended in April 2018 and continues until March 2021. The second lease commenced in January 2018 and continues until June 2021. Base rent payments commenced at the beginning of each lease term and continues through the term of the respective lease. Base rent is also subject to increases over the term of the lease. In prior periods, the Company accounted for these leases as operating leases under ASC 840 and recognized straight-line rent expense over the remaining non-cancellable lease terms. As part of its adoption of ASC 842, effective January 1, 2019, the Company elected to apply the package of practical expedients which, among other things, allowed the Company to carry forward its existing lease classification under ASC 840. Additionally, the Company recorded right-of-use assets and lease liabilities for these operating leases on the effective date.

The Company's leases are included on its condensed consolidated balance sheet as follows (in thousands):

| | As of | |
|---|---|---|
| | March 31, 2019 | January 1, 2019 |
| Right-of-use asset | $ 18,480 | $ 19,461 |
| Lease liability, current | $ (3,519) | $ (3,848) |
| Lease liability, noncurrent | $ (14,859) | $ (15,909) |

The following table contains a summary of the operating lease costs recognized under ASC 842 and other information pertaining to the Company's operating leases during the three months ended March 31, 2019 (in thousands):

| | Three Months Ended March 31, 2019 |
|---|---|
| Operating lease costs | $ 1,421 |
| Variable lease costs | $ 267 |
| Total lease costs | $ 1,688 |

Maturities of the Company's lease liabilities in accordance with ASC 842 as of March 31, 2019 were as follows (in thousands):

| **Maturity of lease liabilities:** | Three Months Ended March 31, 2019 |
|---|---|
| 2019 | $ 3,658 |
| 2020 | $ 5,620 |
| 2021 | $ 4,761 |
| 2022 | $ 4,470 |
| 2023 | $ 3,802 |
| Thereafter | $ — |
| Total minimum lease payments | $ 22,311 |
| Less: imputed interest | $ (3,933) |
| Total operating lease liabilities at March 31, 2019 | $ 18,378 |

The above table excludes $0.6 million of legally binding minimum lease payments for leases executed but not yet commenced as of March 31, 2019. Commencement is expected in the second quarter of 2019.

The weighted-average remaining lease terms are 4.2 years and the weighted-average discount rate is 9.27%

***Licensor Expense Reimbursement***

The Company is obligated to reimburse The Broad Institute, Inc. ("Broad") and the President and Fellows of Harvard College ("Harvard") for expenses incurred by each of them associated with the prosecution and maintenance of the patent rights that the Company licenses from them pursuant to the license agreement by and among the Company, Broad and Harvard, including the interference and opposition proceedings involving patents licensed to the Company under the license agreement, and other license agreements between the Company and Broad. As such, the Company anticipates that it has a substantial commitment in connection with these proceedings until such time as these proceedings have been resolved, but the amount of such commitment is not determinable. During the three months ended March 31, 2019 and 2018, the Company recognized $3.4 million and $4.6 million in expense for such reimbursement, respectively.

***Success Payments***

In 2016, the Company entered into patent license agreements with each of The General Hospital Corporation, d/b/a Massachusetts General Hospital ("MGH"), and Broad (collectively, the "2016 License Agreements"). Pursuant to the terms of the 2016 License Agreements, the Company is required to make certain success payments to MGH, Broad and Wageningen University ("Wageningen" and such payments, collectively, the "Success Payments"), payable in cash or, at the Company's election, common stock in the case of MGH or, in the case of Broad and Wageningen, promissory notes payable in cash or, at the Company's election subject to certain conditions, common stock of the Company. The Success Payments are payable, if and when, the Company's market capitalization reaches specified thresholds for a specific period of time or upon a sale of the Company for consideration in excess of those thresholds, as discussed more fully in Note 8 (collectively, the "Payment Conditions").

The Success Payments were historically accounted for under the provisions of ASC 505-50. During the first quarter of 2019, the Company adopted ASU 2018-07, which expands the scope of ASC 718 and superseded ASC 505-50. In accordance with ASC 718, the Company will recognize a Success Payment when it becomes probable that the Payment Conditions will be met. However, the Company has the right to terminate any of the 2016 License Agreements at will upon written notice. Absent any of the Payment Conditions being achieved prior to termination, the Company would not be obligated to pay any Success Payments. As such, the Company will recognize the expense and liability associated with each Success Payment when it is probable that the amounts will become due. The Company records this expense as a research and development expense in its statements of operations.

The Company triggered the first Success Payment under one of the 2016 License Agreements during the first quarter of 2017 when the Company's average market capitalization over a specified period of time reached $750.0 million. In March 2017, the Company issued promissory notes for an aggregate principal amount of $5.0 million to Broad and Wageningen and the Company settled such notes in August 2017. The Company triggered another Success Payment under one of the 2016 License Agreements during the fourth quarter of 2017 when the Company's average market capitalization over a specified period of time reached $1.0 billion. In December 2017, the Company issued promissory notes for an aggregate principal amount of $7.5 million to Broad and settled such notes in January 2018.

The Company triggered a Success Payment under the MGH license agreement during the fourth quarter of 2017 when the Company's market capitalization reached $1.0 billion. In January 2018, the Company settled this liability through the issuance of 80,000 shares of its common stock to MGH.

The Success Payments issued to Broad and Wageningen are discussed more fully within the Notes Payable section below.

***Research Funding Payments***

In June 2018, the Company entered into a sponsored research agreement (the "Sponsored Research

Agreement") with Broad, which is described more fully in Note 8. Pursuant to the terms of the Sponsored Research Agreement, the Company is required to make certain research funding payments to Broad, payable by promissory note, cash or common stock. Under the Sponsored Research Agreement, the Company is obligated to make payments of research funding to Broad in the event the Company's market capitalization reaches specified thresholds ranging from a mid-nine digit dollar amount to a low-eleven digit dollar amount ("Market Cap Research Funding") or a Company sale for consideration ranging from a mid-nine digit dollar amount to a low-eleven digit dollar amount ("Company Sale Research Funding" and, collectively with the Market Cap Research Funding, the "Research Funding Payments"). In connection with entering into the Sponsored Research Agreement, the Company confirmed that the first two Research Funding Payments of $5.0 million and $7.5 million were due and payable to Broad (the "Initial Research Payments"). In June 2018, the Company issued promissory notes for an aggregate principal balance of $12.5 million to Broad, which were settled by the issuance of shares of common stock, and are described more fully in the Notes Payable section.

Other than the Initial Research Payments, the Company is not required to make additional Research Funding Payments if the Company, whether directly or through its affiliates or sublicensees, is not researching, developing, or commercializing products based on or incorporating inventions developed under the Sponsored Research Agreement and exclusively licensed to the Company from Broad or based on or incorporating CRISPR technology owned, co-owned, or controlled by Broad and otherwise licensed to the Company, subject to certain exclusions. The Research Funding Payments were historically accounted for under the provisions of ASC Topic 505-50. During the first quarter of 2019, the Company adopted ASU 2018-07, which expands the scope of ASC 718 and superseded ASC 505-50. Under ASC 718, the Company will recognize the expenses and liability associated with each Research Funding Payment when it is probable that the amounts will become due. The Company records this expense as a research and development expense in its statements of operations.

***Notes Payable***

In December 2016, in connection with the Company's entry into the Cpf1 license agreement with Broad (the "Cpf1 License Agreement"), one of the 2016 License Agreements, the Company issued promissory notes in an aggregate principal amount of $10.0 million to Broad and Wageningen (the "Initial Notes"). Outstanding principal and accrued interest on the Initial Notes were due and payable on the earlier of December 2017 or a specified period of time following a Company sale or change of control event. The Initial Notes accrued interest at a rate of 4.8% per annum. The Company fully settled the outstanding principal and accrued interest on the Initial Notes by paying $0.2 million in cash to Wageningen in August 2017 and issuing 108,104 shares and 371,166 shares of common stock to Broad in August 2017 and September 2017, respectively.

In March 2017, a $5.0 million Success Payment under the Cpf1 License Agreement became due upon the market capitalization of the Company's common stock reaching $750 million. The Company issued a promissory note to each of Broad and Wageningen in an aggregate original principal amount of $5.0 million (collectively, the "March Success Payment Notes"). Outstanding principal and accrued interest on the March Success Payment Notes were due and payable in August 2017. The March Success Payment Notes were subject to the same interest and terms as the Initial Notes, other than the maturity date. The Company settled the outstanding principal and accrued interest on the March Success Payment Notes in August 2017 by paying $0.4 million in cash to Wageningen and issuing 271,347 shares of common stock to Broad in August 2017. In September 2017, Wageningen designated Broad as the recipient of any future promissory notes that are owed to Wageningen pursuant to the Cpf1 License Agreement.

In December 2017, $7.5 million in Success Payments under the Cpf1 License Agreement and the Cas9-II license agreement with Broad (the "Cas9-II License Agreement"), one of the 2016 License Agreements, became due upon the Company's market capitalization reaching $1.0 billion. The Company issued promissory notes to Broad in an aggregate original principal amount of $7.5 million (collectively, the "December Success Payment Notes"). Outstanding principal and accrued interest on the December Success Payment Notes were due and payable in May 2018. The December Success Payment Notes were subject to the same interest and terms as the Initial Notes, other than the maturity date. The Company fully settled the outstanding principal and accrued interest on the December Success Payment Notes by issuing 225,909 shares of common stock to Broad in January 2018.

In June 2018, in connection with the Company's entry into the Sponsored Research Agreement and the trigger

of the Initial Research Payments, the Company issued promissory notes in an aggregate principal amount of $12.5 million to Broad (the "Initial Research Notes") bearing interest at a rate of 4.8% annum, except with respect to $7.5 million of the principal, which would not start accruing interest until November 2018. The Company fully settled the outstanding principal and accrued interest on the Initial Research Notes by issuing 330,617 shares of common stock to Broad in June 2018.

***Litigation***

The Company is not a party to any litigation and did not have contingency reserves established for any litigation liabilities as of March 31, 2019 or December 31, 2018.

**8. Significant Agreements**

***Revenue***

As of March 31, 2019, the Company's contract liabilities were primarily related to the Company's collaboration with Juno Therapeutics and strategic alliance with Allergan. The following table presents changes in the Company's accounts receivable and contract liabilities for the three months ended March 31, 2019 (in thousands):

| | Balance at December 31, 2018 | Additions | Deductions | Balance at March 31, 2019 |
|---|---|---|---|---|
| Accounts receivable | $ 30 | $ — | $ (30) | $ — |
| Contract liabilities: | | | | |
| Deferred revenue | $ (131,326) | $ — | $ 2,061 | $ (129,265) |

During the three months ended March 31, 2019, the Company recognized revenue as a result of the following (in thousands):

| | Three Months Ended March 31, 2019 |
|---|---|
| **Revenue recognized in the period from:** | |
| Amounts included in deferred revenue at the beginning of the period | $ 2,061 |
| Performance obligations satisfied in previous periods | $ — |

***Juno Therapeutics Collaboration Agreement***

*Summary of Agreement*

In May 2015, the Company entered into a collaboration and license agreement (the "Collaboration Agreement") with Juno Therapeutics and in May 2018 the Company and Juno Therapeutics entered into an amended and restated collaboration and license agreement (the Collaboration Agreement, as amended and restated, the "Amended Collaboration Agreement"). The collaboration is focused on the research and development of engineered T cells with chimeric antigen receptors ("CARs") and T cell receptors ("TCRs") that have been genetically modified to recognize and kill other cells. Pursuant to the Collaboration Agreement, the parties were pursuing the research and development of CAR and TCR engineered T cell products utilizing the Company's genome editing technologies with Juno Therapeutics' CAR and TCR technologies across three research areas, which was increased to four research areas under the Amended Collaboration Agreement.

The collaborative program of research to be undertaken by the parties pursuant to the Amended Collaboration Agreement will be conducted in accordance with a mutually agreed upon research plan which outlines each party's research and development responsibilities across the four research areas. The Company's research and development responsibilities under the research plan are related to generating genome editing reagents that modify gene targets selected by Juno Therapeutics. Juno Therapeutics is responsible for evaluating and selecting for further research and development CAR and TCR engineered T cell products modified with the Company's genome editing reagents. Except with respect to the Company's obligations under the mutually agreed upon research plan, Juno Therapeutics has sole responsibility, at its own cost, for the worldwide research, development, manufacturing and commercialization of

products within each of the four research areas for the diagnosis, treatment or prevention of any cancer in humans through the use of engineered T cells, excluding the diagnosis, treatment or prevention of medullary cystic kidney disease 1 (the "Exclusive Field").

The initial term of the research program commenced on May 26, 2015 and continues for five years ending on May 26, 2020 (the "Initial Research Program Term"). Juno Therapeutics may extend the Initial Research Program Term for up to two additional one year periods upon the payment of extension fees for each one year extension period, assuming the Company has agreed to the extension request(s) (together, the initial term and any extension period(s) are referred to as the "Research Program Term"). The Research Program Term and the optional extensions were not changed by the Amended Collaboration Agreement.

Under the terms of the Collaboration Agreement, the Company granted to Juno Therapeutics during the Research Program Term a nonexclusive, worldwide, royalty free, non-sublicensable license under certain of the intellectual property controlled by the Company solely for the purpose of conducting the following activities required under the specified research under the Collaboration Agreement: (i) conduct activities assigned to Juno Therapeutics under the research plan, (ii) conduct activities assigned to the Company under the research plan that the Company fails or refuses to conduct in a timely manner, (iii) research, evaluate and conduct preclinical testing and development of certain engineered T cells relating to the three research areas that were originally the subject of the arrangement and (iv) evaluate the data developed in the conduct of activities under the research plan. Pursuant to the terms of the Amended Collaboration Agreement, the license rights granted to Juno Therapeutics were expanded to include, during the Research Program Term, a nonexclusive, worldwide, royalty free, non-sublicensable license under certain of the intellectual property controlled by the Company to: (i) research, evaluate and conduct preclinical testing and development of certain engineered T cells relating to the fourth research area and (ii) research, develop and use certain research tools (together, the initial research license granted per the terms of the Collaboration Agreement and the incremental research license granted per the terms of the Amended Collaboration Agreement, the "Research License").

As it relates to two of the three research areas that were originally the subject of the arrangement, under the terms of the Collaboration Agreement, the Company granted to Juno Therapeutics an exclusive, milestone and royalty bearing, sublicensable license under certain of the intellectual property controlled by the Company to research, develop, make and have made, use, offer for sale, sell, import and export selected CAR and TCR engineered T cell products in the Exclusive Field on a worldwide basis, specifically as it relates to certain targets selected by Juno Therapeutics pursuant to the research program. Furthermore, as it relates to the same two research areas, under the terms of the Collaboration Agreement, the Company granted to Juno Therapeutics a non-exclusive, milestone and royalty bearing, sublicensable license under certain of the intellectual property controlled by the Company to use genome editing reagents generated under the research program that are used in the creation of certain CAR or TCR engineered T cell products on which Juno Therapeutics has filed an investigational new drug ("IND") application in the Exclusive Field for the treatment or prevention of a cancer in humans to research, develop, make and have made, use, offer for sale, sell, import and export those CAR or TCR engineered T cell products in all fields outside of the Exclusive Field (the "Non-Exclusive Field") on a worldwide basis, specifically as it relates to certain targets selected by Juno Therapeutics pursuant to the research program (together, the license in the Exclusive Field and the license in the Non-Exclusive Field are referred to as the "Development and Commercialization License" for each particular research area). Additionally, as it relates to the third research area that was originally the subject of the arrangement, under the terms of the Collaboration Agreement, the Company granted to Juno Therapeutics a milestone and royalty bearing, sublicensable license under certain of the intellectual property controlled by the Company to research, develop, make and have made, use, offer for sale, sell, import or export selected CAR and TCR engineered T cell products that utilize the genome editing reagents generated under the research program associated with those CAR and TCR engineered T cell products in the Exclusive Field on a worldwide basis, specifically as it relates to certain products selected by Juno Therapeutics pursuant to the research program. The license associated with the third research area is exclusive as it relates to CAR or TCR engineered T cell products directed to certain targets as selected by Juno Therapeutics, but is otherwise non-exclusive (referred to as the "Development and Commercialization License" for the third research area). Pursuant to the terms of the Amended Collaboration Agreement, as it relates to the fourth area of research that was added to the collaboration, the Company granted to Juno Therapeutics a milestone and royalty bearing, sublicensable license under certain of the intellectual property controlled by the Company to research, develop, make and have made, use, offer for sale, sell, import or export selected CAR and TCR engineered T cell products that utilize the genome editing reagents

generated under the research program associated with those CAR and TCR engineered T cell products in the Exclusive Field on a worldwide basis, specifically as it relates to certain products selected by Juno Therapeutics pursuant to the research program. The license associated with the fourth research area is exclusive as it relates to CAR or TCR engineered T cell products directed to certain targets as selected by Juno Therapeutics, but is otherwise non-exclusive (referred to as the "Development and Commercialization License" for the fourth research area).

The Amended Collaboration Agreement is being managed on an overall basis by a project leader from each of the Company and Juno Therapeutics. The project leaders serve as the contact point between the parties with respect to the research program and are primarily responsible for facilitating the flow of information, interaction, and collaboration between the parties. In addition, the research and development activities under the Amended Collaboration Agreement during the Research Program Term are governed by a joint research committee ("JRC") formed by an equal number of representatives from the Company and Juno Therapeutics. The JRC oversees, reviews and recommends the direction of the research program. Among other responsibilities, the JRC monitors and reports research progress and ensures open and frequent exchange between the parties regarding research program activities. The Amended Collaboration Agreement did not alter the governance provisions in the Collaboration Agreement.

Under the terms of the Collaboration Agreement, the Company received a $25.0 million up-front, non-refundable, non-creditable cash payment. In connection with the entry into the Amended Collaboration Agreement, the Company received an additional $5.0 million up-front, non-refundable, non-creditable cash payment. Moreover, the Company became entitled to receive two $2.5 million milestones related to technical progress in one of the research areas upon the execution of the Amended Collaboration Agreement. In addition, Juno Therapeutics is obligated to pay to the Company an aggregate of up to $22.0 million in research and development funding over the Initial Research Program Term across the four research areas consisting primarily of funding for up to a specified maximum number of full time equivalents personnel each year over the Initial Research Program Term across four research areas. Consistent with the terms of the Collaboration Agreement, under the terms of the Amended Collaboration Agreement, there is no incremental compensation due to the Company with respect to the Development and Commercialization License granted to Juno Therapeutics associated with the first target or product, as applicable, designated by Juno Therapeutics within each of the four research areas. However, for two of the three research areas that were originally the subject of the arrangement, Juno Therapeutics continues to have the option to purchase up to three additional Development and Commercialization Licenses associated with other gene targets for an additional fee of approximately $2.5 million per target. In addition, Juno Therapeutics is required to make certain milestone payments to the Company upon the achievement of specified development, regulatory and commercial events. More specifically, for the first product to achieve the associated event in each of the three research areas that were originally the subject of the arrangement, the Company is eligible to receive up to $77.5 million in development milestone payments and up to $80.0 million in regulatory milestone payments, while the Company is eligible to receive up to $80.0 million in development milestone payments and up to $80.0 million in regulatory milestone payments for the first product to achieve the associated event in the fourth area of research that was added to the collaboration. In addition, the Company is eligible to receive additional development and regulatory milestone payments for subsequent products developed within each of the four research areas. Moreover, the Company is eligible for up to $75.0 million in commercial milestone payments associated with aggregate sales of all products within each of the four research areas. Development milestone payments are generally triggered upon the achievement of certain specified development criteria or upon initiation of a defined phase of clinical research for a product candidate. Regulatory milestone payments are triggered upon approval to market a product candidate by the United States Food and Drug Administration ("FDA") or other global regulatory authorities. Commercial milestone payments are triggered when an approved pharmaceutical product reaches certain defined levels of net sales by the licensee. The milestone payments and related triggering events associated with the three research areas that were originally the subject of the Collaboration Agreement were not modified in the Amended Collaboration Agreement.

In addition, to the extent any of the product candidates covered by the licenses conveyed to Juno Therapeutics under the Amended Collaboration Agreement are commercialized, the Company would be entitled to receive tiered royalty payments of low double digits based on a percentage of net sales. Similar to the milestones, pursuant to the Amended Collaboration Agreement, the Company is eligible to receive an independent royalty stream associated with the fourth area of research that was added to the collaboration. Royalty payments are subject to certain reductions, including for any royalty payments required to be made by Juno Therapeutics related to a third-party's intellectual

property rights, subject to an aggregate minimum floor. Royalties are due on a licensed product-by-licensed product and country-by-country basis from the date of the first commercial sale of each product in a country until the later of: (i) the tenth anniversary of the first commercial sale of such licensed product in such country and (ii) the expiration date in such country of the last to expire valid claim within the licensed intellectual property covering the manufacture, use or sale of such licensed product in such country. The Company achieved $2.5 million development milestones under the Collaboration Agreement resulting from technical progress in a research program in each of May 2016 and July 2017 (the "July 2017 Juno Milestone Payment"). The Company achieved two additional $2.5 million development milestones under the Amended Collaboration Agreement resulting from technical progress in a research program in May 2018. Due to the uncertainty of pharmaceutical development and the high historical failure rates generally associated with drug development, no additional milestone or royalty payments may ever be received from Juno Therapeutics. As of March 31, 2019, the next potential milestone payment that the Company may be entitled to receive under the Amended Collaboration Agreement is a milestone payment of $2.5 million for the achievement of certain development criteria. There are no cancellation, termination or refund provisions in the Amended Collaboration Agreement that contain material financial consequences to the Company.

Unless earlier terminated, the Amended Collaboration Agreement will continue in full force and effect, on a licensed product-by-licensed product and country-by-country basis until the date no further payments are due to the Company from Juno Therapeutics. Either party may terminate the Amended Collaboration Agreement if the other party has materially breached or defaulted in the performance of any of its material obligations and such breach or default continues after the specified cure period. Either party may terminate the Amended Collaboration Agreement in the event of the commencement of any proceeding in or for bankruptcy, insolvency, dissolution or winding up by or against the other party that is not dismissed or otherwise disposed of within a specified time period. Juno Therapeutics may terminate the Amended Collaboration Agreement for convenience upon no less than six months prior written notice to the Company. The Company may terminate the Amended Collaboration Agreement in the event that Juno Therapeutics brings, assumes, or participates in, or knowingly, willfully or recklessly assists in bringing a dispute or challenge against the Company related to its intellectual property.

Termination of the Amended Collaboration Agreement for any reason does not release either party from any liability which, at the time of such termination, has already accrued to the other party or which is attributable to a period prior to such termination nor preclude either party from pursuing any rights and remedies it may have under the agreement or at law or in equity with respect to any breach of the Amended Collaboration Agreement. If Juno Therapeutics terminates the Amended Collaboration Agreement as a result of the Company's uncured material breach or default, then: (i) the licenses and rights conveyed to Juno Therapeutics will continue as set forth in the agreement, (ii) Juno Therapeutics' obligations related to milestones and royalties will continue as set forth in the agreement and (iii) Juno Therapeutics' rights to prosecute, maintain and enforce certain intellectual property rights will continue as set forth in the agreement. If Juno Therapeutics terminates the Amended Collaboration Agreement for convenience or if the Company terminates the Amended Collaboration Agreement as a result of Juno Therapeutics' uncured material breach or default, then the licenses conveyed to Juno Therapeutics will terminate. The Amended Collaboration Agreement did not modify the termination provisions in the Collaboration Agreement.

*Accounting Analysis*

The Company evaluated the Amended Collaboration Agreement in accordance with the provisions of ASC 606. The Company has accounted for the amendment resulting from the Amended Collaboration Agreement as a modification to the original contract and not as a separate contract. The Company combined the Amended Collaboration Agreement with the Collaboration Agreement because the scope of the arrangement did not solely increase due to the addition of distinct promised goods or services with pricing that reflects the associated standalone selling prices. For the remaining goods and services that are distinct from the goods and services that were transferred on or before the date of the effectiveness of the Amended Collaboration Agreement, the Company has accounted for the modification on a prospective basis as if it were a termination of the existing contract and the creation of a new contract. Conversely, the remaining goods and services that are not distinct from the goods and services that were transferred on or before the date of the effectiveness of the Amended Collaboration Agreement were deemed to form part of a single performance obligation that is partially satisfied so they have been accounted for as part of the existing contract for which an adjustment was recorded on a cumulative catch-up basis at the date of the modification.

The Company has identified the following performance obligations under the combined arrangement: (i) Research License and the related research and development services during the Initial Research Program Term (the "Research License and Related Services"), (ii) four material rights related to the first Development and Commercialization Licenses related to each of the four research areas (each, a "First Development and Commercialization License Material Right") and (iii) six material rights related to the option to purchase up to three additional Development and Commercialization Licenses for two of the research areas (each, an "Additional Development and Commercialization License Material Right"). Upon exercise of the option to obtain a Development and Commercialization License under any of the four research areas, the Company will provide Juno Therapeutics with a license covering the further development and potential commercialization of the underlying target or product, as applicable. The Company has determined that the ability to obtain Development and Commercialization Licenses under the arrangement represents a material right because Juno Therapeutics is entitled to incremental licenses for additional consideration that represents a significant discount from amounts that would otherwise be offered for the related goods to comparable customers outside of the contract.

The Company has concluded that the Research License is not distinct from the research and development services during the Initial Research Program Term as Juno Therapeutics cannot obtain the benefit of the Research License without the Company performing the research and development services. The services incorporate proprietary technology, unique skills and specialized expertise, particularly as it relates to genome editing technology that is not available in the marketplace. As a result, the Research License, inclusive of the incremental license granted in connection with the Amended Collaboration Agreement, has been combined with the research and development services into a bundled performance obligation. The Company has concluded that the First Development and Commercialization License Material Rights for each respective research area and the Additional Development and Commercialization License Material Rights for the two research areas to which they relate are each a separate performance obligation. These material rights, of which there are ten in total, are distinct from the other performance obligations in the arrangement as they are options in the contract that are not required for Juno Therapeutics to obtain the benefit of the other promised goods and services in the arrangement. Accordingly, in accounting for the modification resulting from the Amended Collaboration Agreement, the Research License and Related Services performance obligation was treated as part of the existing contract, whereas the material right performance obligations were treated as a termination of the existing contract and the creation of a new contract.

As of March 31, 2019, the total transaction price associated with the remaining consideration based on the Amended Collaboration Agreement was determined to be $40.7 million, consisting of: (i) $25.0 million upfront non-refundable, non-creditable cash payment associated with the Collaboration Agreement, (ii) $5.0 million upfront non-refundable, non-creditable cash payment associated with the Amended Collaboration Agreement, (iii) $2.9 million of remaining research and development funding, (iv) $2.7 million of milestone payments received by the Company under the Collaboration Agreement that were not yet recognized as revenue and (v) $5.0 million of milestone payments associated with the execution of the Amended Collaboration Agreement. The research and development funding is being paid by Juno Therapeutics to the Company based on the number of the Company's full time equivalents of its personnel conducting the research under the Amended Collaboration Agreement. The Company utilizes the most likely amount method to determine the amount of research and development funding to be received. The Company also utilizes the most likely amount method to estimate any development and regulatory milestone payments to be received. As of March 31, 2019, the only milestones that were included in the transaction price were milestones that had been contractually earned and received. The Company considers the stage of development and the risks associated with the remaining development required to achieve the milestone, as well as whether the achievement of the milestone is outside the control of the Company or Juno Therapeutics. The outstanding milestone payments were fully constrained as of March 31, 2019, as a result of the uncertainty whether any of the milestones will be achieved. The Company has determined that any commercial milestones and sales-based royalties will be recognized when the related sales occur as they were determined to relate predominantly to the license(s) to be granted and therefore have also been excluded from the transaction price. The Company reevaluates the transaction price at the end of each reporting period and as uncertain events are resolved or other changes in circumstances occur. Through the date of the Amended Collaboration Agreement, the Company had recognized approximately $12.3 million of revenue associated with the Research License and Related Services which was excluded from the modification date transaction price.

The transaction price was allocated to the performance obligations based on the relative estimated standalone

selling prices of each performance obligation or, in the case of certain variable consideration, to one or more performance obligations. The estimated standalone selling price for the Research License and Related Services is primarily based on the nature of the services to be performed and estimates of the associated effort and costs of the services, adjusted for a reasonable profit margin that would be expected to be realized under similar contracts. The Company developed the estimated standalone selling price for the material rights based on the difference between the value of the license granted and any additional consideration to be received upon exercise of the underlying option, adjusted for the probability of exercise. The value of the license granted was determined based on the probability-weighted present value of expected future cash flows associated with each license related to each specific research area. In developing such estimate, the Company also considered applicable market conditions and relevant entity-specific factors, including those factors contemplated in negotiating the agreement, probability of success and the time needed to commercialize a product candidate pursuant to the associated license.

The transaction price allocated to each performance obligation as of March 31, 2019 was as follows: (i) Research License and Related Services: $10.7 million, (ii) First Development and Commercialization License Material Right related to the first research area: $3.6 million, (iii) First Development and Commercialization License Material Right related to the second research area: $6.0 million, (iv) First Development and Commercialization License Material Right related to the third research area: $0.1 million, (v) First Development and Commercialization License Material Right related to the fourth research area: $18.3 million, (vi) the first Additional Development and Commercialization License Material Right for the first research area: $0.3 million, (vii) the second Additional Development and Commercialization License Material Right for the first research area: $0.2 million, (viii) the third Additional Development and Commercialization License Material Right for the first research area: $0.1 million, (ix) the first Additional Development and Commercialization License Material Right for the second research area: $0.8 million, (x) the second Additional Development and Commercialization License Material Right for the second research area: $0.5 million, and (xi) the third Additional Development and Commercialization License Material Right for the second research area: $0.3 million.

The Company recognizes revenue related to amounts allocated to the Research License and Related Services as the underlying services are performed using a proportional performance model. The Company measures proportional performance based on full time employee hours relative to projected full time employee hours to complete the research services which best reflects the progress towards satisfaction of the performance obligation. Revenue related to each of the material rights will be recognized upon the earlier of when the respective options are exercised and the Company transfers control of the related license or when the respective options lapse. The rights to be conveyed to Juno Therapeutics pursuant to each of the Development and Commercialization Licenses extend exclusively to an individual target or product, as applicable; therefore, control is deemed to be transferred upon the designation by Juno Therapeutics of the specific target or product, as applicable, whereupon the license becomes effective upon Juno Therapeutics exercising their option. None of the options associated with the material rights had been exercised or had lapsed as of March 31, 2019.

During the three months ended March 31, 2018, the Company recognized revenue under the Collaboration Agreement totaling approximately $1.0 million. The Company did not recognize revenue under the Amended Collaboration Agreement during the three months ended March 31, 2019. No revenue had been recognized through the date of the Amended Collaboration Agreement for the material rights performance obligations and there were no cumulative catch-up adjustments recorded for such performance obligations as a result of the Amended Collaboration Agreement. Amounts allocated to each of the material rights will be recognized as revenue prospectively when the material right has been exercised or when the respective option has lapsed.

The revenue is classified as collaboration and other research and development revenue in the accompanying condensed consolidated statements of operations. As of March 31, 2019 and December 31, 2018, there was approximately $32.0 million of deferred revenue related to the Amended Collaboration Agreement, of which $28.3 million and $29.2 million were classified as long term, respectively, in the accompanying condensed consolidated balance sheets. In addition, there was no receivable balance related to reimbursable research and development costs under the Collaboration Agreement for activities as of March 31, 2019 or December 31, 2018.

***Allergan Pharmaceuticals Strategic Alliance and Option Agreement***

*Summary of Agreement*

In March 2017, the Company entered into a Strategic Alliance and Option Agreement with Allergan to discover, develop, and commercialize new gene editing medicines for a range of ocular disorders (the "Allergan Agreement"). Over a seven-year research term, Allergan will have an exclusive option to exclusively license from the Company up to five collaboration development programs for the treatment of ocular disorders (each a "CDP"), including the Company's Leber congenital amaurosis 10 program (the "LCA10 Program").

Under the Allergan Agreement, the Company will use commercially reasonable efforts to develop at least five CDPs and deliver preclinical results and data meeting specified criteria with respect to each CDP (each, an "Option Package" and such criteria, the "Option Package Criteria") to Allergan. The list of proposed targets that may be subject to a CDP may be amended from time to time by mutual agreement of the Company and Allergan. The Company is responsible for the preparation and delivery of a written development plan for each particular CDP setting forth the discovery and research activities to be conducted which is subject to the approval of the alliance steering committee that was formed under the Allergan Agreement, comprised of three members from each of the Company and Allergan (the "Steering Committee"). The Company will maintain primary responsibility for the development efforts under each CDP. The Company is responsible for all research and development costs prior to the achievement of the Option Package Criteria. Allergan will have the ability for a defined period of time ("Initial Option Period") to exercise an option (each, an "Option") to obtain a worldwide right and license to the Company's background intellectual property and the Company's interest in the CDP intellectual property to develop, commercialize, make, have made, use, offer for sale, sell, and import any gene editing therapy product that results from such CDP during the term of the Allergan Agreement (a "Licensed Product") in any category of human diseases and conditions other than the diagnosis, treatment or prevention of any cancer in humans through the use of engineered T-cells and subject to specified other limitations. Allergan has the option to extend the Initial Option Period and require the Company to perform additional research and development services, subject to the payment of additional consideration. After exercise of an Option with respect to a CDP, with the exception of any CDP's where the Company has exercised its profit-sharing option, Allergan will be responsible for all development, manufacturing, and commercialization activities in connection with licensed products arising from such CDP, other than with respect to the LCA10 Program, if LCA10 is designated as a CDP. In July 2018, Allergan exercised its Option with respect to the LCA10 Program. In connection with such exercise, Allergan paid the Company $15.0 million. Following such exercise, the Company exercised its Profit-Share Election, as defined below, with respect to the LCA10 Program. Following such election, the LCA10 Program became subject to a Profit-Sharing Arrangement, as defined below, and the Company and an affiliate of Allergan entered into a separate profit-sharing agreement with respect to the Profit-Sharing Arrangement for the LCA10 Program in February 2019.

The initial term of the Allergan Agreement commenced on March 14, 2017 and continues for seven years ending on March 14, 2024 (the "Research Term"). If the Company has not delivered an Option Package, which includes the results and data from the CDP, for five CDPs that satisfy the Option Package Criteria, then the Research Term will automatically extend by one-year increments until such obligation is satisfied, up to a maximum of ten years from March 2017.

The activities under the Allergan Agreement during the Research Term will be governed by the Steering Committee. The Steering Committee will review and monitor the direction of the development plan, evaluate and determine which targets are selected to become CDP, establish the Option Package Criteria for each CDP and evaluate the achievement of such criteria as well as oversee the development and commercialization activities after Allergan has licensed a CDP.

Under the terms of the Allergan Agreement, the Company received a $90.0 million up-front, non-refundable, non-creditable cash payment related to the Company's research and development costs for Option Packages for at least five CDPs and for reimbursement of the Company's past out of pocket costs with respect to the prosecution and defense of patents that it owns and in-licenses. Allergan has the option to purchase at least five development and commercialization licenses associated with CDPs that have satisfied the Option Package Criteria. The option exercise fee during the Initial Option Period is $15.0 million per CDP. If Allergan elects to extend the Initial Option Period, Allergan is required to pay an additional fee of $5.0 million to extend the option, at which point the Company is required

to perform additional research services. If Allergan elects to exercise its option to a development and commercialization license after extending the Initial Option Period, Allergan must pay the Company the option exercise fee of $22.5 million, plus specified costs incurred by the Company in connection with the additional development work.

Following the exercise by Allergan of an Option with respect to a CDP, Allergan would be required to make certain milestone payments to the Company upon the achievement of specified development, product approval and launch and commercial events, on a CDP by CDP basis. On a CDP by CDP basis, for the first product in the first field to achieve the associated event, the Company is eligible to receive up to an aggregate of $42.0 million for development milestone payments and $75.0 million for product approval and launch milestone payments, in each case, for an indication in the field per CDP. In addition, the Company is eligible to receive additional development and product approval and launch milestone payments for subsequent products developed within two additional fields. The Company is also eligible for up to $90.0 million in sales milestone payments on a CDP by CDP basis, associated with aggregate worldwide sales. Certain product approval milestones are subject to certain reductions under specified circumstances, including for payments required to be made by Allergan to obtain certain third party intellectual property rights. In December 2018, the Company received a $25.0 million payment from Allergan in connection with the acceptance of the IND for the LCA10 Program, the Company's experimental therapeutic generated under the LCA10 Program (the "LCA10 Program Milestone Payment").

With respect to the LCA10 Program, and up to one other CDP of the Company's choosing, following the exercise by Allergan of its Option to such programs the Company will have the right to elect to participate in a profit-sharing arrangement with Allergan in the United States, on terms mutually agreed by the Company and Allergan and subject to a right of Allergan to reject such election under certain circumstances, under which the Company and Allergan would share equally in net profits and losses on specific terms to be agreed between the Company and Allergan, in lieu of Allergan paying royalties on net sales of any applicable Licensed Products in the United States, and in such event Allergan's milestone payment obligations would be reduced, with the Company being eligible to receive development and product approval and launch milestone payments up to a low nine-digit amount in the aggregate and further sales milestone payments up to a high-eight digit amount in the aggregate, subject to reduction under certain circumstances (such right, the "Profit-Share Election," and such arrangement, a "Profit-Sharing Arrangement"). If the Company elects to participate in a Profit-Sharing Arrangement, which it has for the LCA10 Program, the Company is obligated to reimburse Allergan for half of the United States development costs incurred by Allergan with respect to the applicable CDP, and Allergan will retain control of all development and commercialization activities for the applicable Licensed Products.

In addition, to the extent there is any Licensed Product, the Company would be entitled to receive tiered royalty payments of high single digits based on a percentage of net sales of such Licensed Product, subject to certain reductions under specified circumstances, and the Company will remain obligated to pay all license fees, milestone payments, and royalties due to its upstream licensors based on Allergan's exercise of its license rights with respect to Licensed Products. However, if a Licensed Product is subject to a Profit-Sharing Arrangement the royalties will only be paid on ex-U.S. net sales. Royalties are due on a Licensed Product-by-Licensed Product and country-by-country basis from the date of the first commercial sale of each Licensed Product in a country until the later of: (i) the tenth anniversary of the first commercial sale of such Licensed Product in such country, (ii) the expiration date in such country of the last to expire valid claim within the licensed intellectual property covering the manufacture, use or sale of such Licensed Product in such country and (iii) the expiration of an exclusive legal right granted by the regulatory authority in such country to market and sell such Licensed Product.

Unless earlier terminated, the Allergan Agreement will terminate upon (i) the expiration of the Research Term, if Allergan does not exercise an Option, (ii) on a Licensed Product-by-Licensed Product and country-by-country basis, on the date of the expiration of all payment obligations under the Allergan Agreement with respect to such Licensed Product in such country or (iii) in its entirety upon the expiration of all payment obligations with respect to the last Licensed Product in all countries, unless terminated earlier due to the early termination provisions. Either party may terminate the Allergan Agreement if the other party has materially breached or defaulted in the performance of any of its material obligations and such breach or default continues after the specified cure period. During the Research Term, Allergan will have the right to terminate the Allergan Agreement on a CDP by CDP basis in the event of a change in control of the Company or for all CDPs, provided that Allergan will not have any right to exercise an Option for any

CDPs following such termination. After the exercise of an Option, Allergan will have the right, at its sole discretion, to terminate the Allergan Agreement, on a CDP by CDP basis, upon 90 days' written notice. The Company may terminate the Allergan Agreement in the event that Allergan brings, assumes, or participates in, or knowingly, willfully or recklessly assists in bringing a dispute or challenge against the Company related to its intellectual property. Lastly, Allergan may terminate the Allergan Agreement with respect to a CDP if a safety concern, as specified in the Allergan Agreement, arises.

Termination of the Allergan Agreement for any reason will not release either party from any liability which, at the time of such termination, has already accrued to the other party or which is attributable to a period prior to such termination. In addition, termination of the Allergan Agreement will not preclude either party from pursuing any rights and remedies it may have under the agreement or at law or in equity with respect to any breach of the Allergan Agreement. If Allergan terminates the Allergan Agreement as a result of the Company's uncured material breach or default, then: (i) the licenses and rights conveyed to Allergan will continue as set forth in the agreement for any CDP Allergan has already licensed and (ii) Allergan's obligations related to milestones and royalties will continue as set forth in the agreement. If the Allergan Agreement is terminated for any other reason, then the options and licenses conveyed to Allergan under the agreement will terminate.

*Accounting Analysis*

Under the Allergan Agreement, the Company has identified a single performance obligation that includes (i) the research and development services during the Research Term (the "Allergan R&D Services"), and (ii) Steering Committee services during the Research Term (the "ASC Services"). The Company has concluded that the Allergan R&D Services is not distinct from the ASC Services during the Research Term. The Steering Committee provides oversight and management of the overall Allergan Agreement, and the members of the Steering Committee from the Company have specialized industry knowledge, particularly as it relates to genome editing technology. The Steering Committee is meant to facilitate the early stage research being performed and coordinate the activities of both the Company and Allergan. Further, the Steering Committee services are critical to the selection of a CDP, the ongoing evaluation of a CDP and the development and evaluation of the Option Package Criteria. Accordingly, the Company's participation on the Steering Committee is essential to Allergan receiving value from the Allergan R&D Services and as such, the ASC Services along with the Allergan R&D Services are considered one performance obligation (the "CDP Services"). In addition, the Company has concluded that the option to purchase five development and commercialization licenses is considered a marketing offer as the options did not provide any discounts or other rights that would be considered a material right in the arrangement.

As of March 31, 2019, the total transaction price is $115.0 million, which includes the $90.0 million upfront non-refundable, non-creditable cash payment and the $25.0 million LCA10 Program Milestone Payment, which was added to the transaction price in December 2018. The remaining milestone payments were fully constrained, as a result of the uncertainty as to whether any of the milestones would be achieved, as of March 31, 2019. The Company has determined that any commercial milestones and sales-based royalties will be recognized when the related sales occur and therefore have also been excluded from the transaction price. The Company re-evaluates the transaction price at the end of each reporting period and as currently uncertain events are resolved or other changes in circumstances occur.

The Company recognizes revenue related to the CDP Services as the underlying services are performed using a proportional performance model. The Company measures proportional performance based on full time employee hours relative to projected full time employee hours to complete the research service.

During the three months ended March 31, 2019 and 2018, the Company recognized revenue under the Allergan Agreement of approximately $2.0 million and $2.9 million, respectively. As of March 31, 2019 and December 31, 2018, there was $97.2 million and $99.2 million of deferred revenue related to the Allergan Agreement, respectively, of which $77.6 million and $86.4 million is classified as long-term on the condensed consolidated balance sheet, respectively.

As part of the Profit-Sharing Arrangement, the Company and an affiliate of Allergan (together with Allergan, the "Allergan Entities") will equally split U.S. profits and losses for the LCA10 Program in the United States and will

co-develop the LCA10 Program in the United States. The Company accounts for the Profit-Sharing Arrangement with respect to the LCA10 Program within the scope of ASC Topic 808, *Collaborative Arrangements*, given that the Company and the Allergan Entities are active participants in future research and development activities and all parties are exposed to significant risks and rewards dependent on the commercial success of such activities. During the three months ended March 31, 2019, the Company and the Allergan Entities incurred $5.3 million in expense associated with the LCA10 Program, of which the Company recognized 50% in research and development expenses during such period.

***Broad Sponsored Research Agreement***

*Summary of Agreement*

The Sponsored Research Agreement provides for Broad to conduct research useful or relevant to genome editing in the field of genomic medicines for the prevention or treatment of human disease with funding from the Company. Under the Sponsored Research Agreement, Broad granted to the Company an exclusive right of first negotiation for licenses from Broad with respect to patentable inventions developed by Broad in the course of the sponsored research, subject to certain limitations and retained rights ("Sponsored Invention Licenses").

Under the Sponsored Research Agreement, the Company is obligated to make Market Cap Research Funding payments in the event the Company's market capitalization reaches specified thresholds ranging from a mid-nine digit dollar amount to a low-eleven digit dollar amount or Company Sale Research Funding payments in the event of a Company sale for consideration ranging from a mid-nine digit dollar amount to a low-eleven digit dollar amount. In connection with entering into the Sponsored Research Agreement, the Company confirmed that the first two research payments of $5.0 million and $7.5 million, respectively, were due and payable to Broad. In connection with the Initial Research Payments, the Company issued promissory notes to Broad that it settled in common stock in June 2018 as discussed more fully in Note 7. The $12.5 million in research funding expense was recorded to research and development expenses during the three months ended June 30, 2018. Other than the Initial Research Payments, the Company is not required to make additional Research Funding Payments if the Company, whether directly or through its affiliates or sublicensees, is not researching, developing, or commercializing products based on or incorporating inventions exclusively licensed to the Company from Broad under Sponsored Invention Licenses or based on or incorporating CRISPR technology owned, co-owned, or controlled by Broad and otherwise licensed to the Company, subject to certain exclusions (an "Applicable Product" and such exemption from payment, the "Funding Exemption"). In the event that the Company, whether directly or through its affiliates or sublicensees, later resumes research, development, or commercialization of an Applicable Product within a specified period of time, any Research Funding Payment that was not paid to Broad as a result of the Funding Exemption shall become payable. Under the Sponsored Research Agreement, the Company is obligated to pay up to $125.0 million to Broad in Research Funding, inclusive of the Initial Research Payments, and in no event shall the aggregate amount of all Research Funding Payments exceed such amount.

Unless the Company has undergone a change in control, Market Cap Research Funding is payable by the Company in cash, common stock, or in the form of promissory notes, which may be settled in shares of common stock at the election of the Company, as discussed more fully in Note 7. Following a change in control of the Company, Company Sale Research Funding is required to be made in cash. The Sponsored Research Agreement is terminable by each party upon the occurrence of specified bankruptcy events of the other party and otherwise will continue in effect until the later of the expenditure of all Research Funding Payments by Broad and such time as the Company has no further rights of first negotiation for Sponsored Invention Licenses, unless otherwise mutually agreed between the parties.

***Beam Therapeutics License Agreement***

*Summary of Agreement*

In May 2018, the Company entered into a license agreement with Beam (the "Beam License Agreement"). Beam is a biotechnology company focused on developing precision genetic medicines using technology that converts a single nucleobase into a different nucleobase ("Base Editing"). Pursuant to the Beam License Agreement, the Company granted

to Beam licenses and options to acquire licenses to certain intellectual property rights owned or controlled by the Company, for specified uses. More specifically, the Company granted to Beam a worldwide, exclusive (subject to certain exceptions), sublicensable (subject to certain conditions), license under certain intellectual property controlled by the Company for the use of Base Editing therapies for the treatment of any field of human diseases and conditions, subject to certain exceptions (the "Beam Field," and the licenses granted or to be granted under the Beam License Agreement, the "Beam Development and Commercialization License"). Additionally, the Company granted to Beam a royalty free, non-exclusive license under certain intellectual property owned or controlled by the Company to perform research activities in the Beam Field (the "Beam Research License"). The Company provided Beam with an exclusive option to obtain a Beam Development and Commercialization License to three additional groups of intellectual property owned or controlled by the Company, on a group by group basis, during the specified option period, subject to certain exceptions. Pursuant to the Beam License Agreement, Beam will use commercially reasonable efforts to develop a product that includes the rights licensed to Beam within a specified period of time and to commercialize any such product that have received regulatory approval in certain specified countries.

As consideration for the license and option rights granted to Beam, the Company received a nominal one-time, non-refundable, non-creditable upfront cash payment. The Company also received non-cash consideration, consisting of a low to mid-single digit million number of shares of Beam Series A-1 and A-2 preferred stock, having an aggregate fair value of approximately $3.6 million. The Company is eligible to receive additional consideration if Beam elects to exercise its option to obtain a Beam Development and Commercialization License to the three categories of intellectual property underlying the Research License, for a fee ranging from a mid-teen million dollar amount to a low to mid-eight digit dollar amount per group, depending on the timing of the option exercise. Additionally, Beam is required to reimburse the Company for certain payments the Company may be obligated to make under the Company's existing license agreements related to the intellectual property being licensed to Beam, including (i) development, regulatory and commercial milestone payments and certain sublicense income payments due as a result of the Beam License Agreement and (ii) a percentage of the annual maintenance fees and patent fees due to certain of the Company's licensors. In addition, to the extent any products are commercialized under a Beam Development and Commercialization License, the Company would be entitled to receive royalty payments equivalent to the royalties that would be due from the Company to any applicable licensors of the Company related to the sales of such licensed products, plus an additional low single-digit percentage royalty. Additionally, if Beam exercises its right to obtain a Beam Development and Commercialization License to one of the categories of optioned intellectual property comprising Company-owned intellectual property and any related licensed products that are commercialized, the Company would be entitled to tiered low single-digit royalty payments related to sales of such licensed products.

The license rights and option rights granted to Beam are subject to the terms and conditions of the underlying license agreements that the Company is a party to and under which the Company licensed rights or option rights to Beam and the termination of such in-licenses, as applicable. Unless earlier terminated by either party pursuant to the terms of the agreement, the Beam License Agreement will continue in full force and effect and will expire on a licensed product-by-licensed product and country-by-country basis upon the expiration of the royalty term with respect to such licensed product in such country. Beam has the right, at its sole discretion, at any time to terminate the Beam License Agreement in its entirety or on a group-by-group of intellectual property basis, upon ninety days written notice to the Company. Upon termination of the Beam License Agreement, all rights and licenses granted by the Company to Beam (including the rights to exercise options and obtain such licenses) will immediately terminate and patents within a group of patents will no longer be deemed licensed patents. Expiration or termination of the Beam License Agreement for any reason does not release either party of any obligation or liability which had accrued or which is attributable to a period prior to such expiration or termination.

*Accounting Analysis*

The Company has identified the following performance obligations (i) the Beam Development and Commercialization License and (ii) the Beam Research License. In addition, the Company has concluded the option to obtain additional Beam Development and Commercialization Licenses to up to three additional groups of patents in the future is considered a marketing offer as the options did not provide any discounts or other rights that would be considered a material right in the arrangement.

The total transaction price at the inception of the arrangement was determined to be approximately $3.8 million, consisting of the upfront cash payment and non-cash consideration related to the shares of Beam preferred stock. The Company determined the fair value based on the price paid by other unrelated investors for such shares. The consideration associated with the exercise of the option(s) will be accounted for if and when Beam elects to purchase the additional licenses. The other forms of consideration, including the development and regulatory milestone reimbursement, the sublicense income reimbursement, the maintenance fee reimbursement and the patent costs reimbursement were estimated based on the most-likely amount and were excluded from the initial transaction price as the most-likely amount was estimated to be zero or the amount was otherwise fully constrained due to the significant uncertainties surrounding such payments. The commercial-based milestone reimbursement and the sales-based royalty payments will be recognized when the related sales occur as they were determined to relate predominantly to the licenses granted and therefore have also been excluded from the transaction price.

The total transaction price at the inception of the arrangement was allocated to the performance obligations in the aggregate, as the Beam Development and Commercialization License and the Beam Research License were delivered simultaneously with one another, at inception of the arrangement, when the licenses were made available for Beam's use and benefit. Accordingly, the satisfaction of each performance obligation occurs at inception of the arrangement and the transaction price at the inception of the arrangement is recognized in its entirety at such time. The Company will re-evaluate the transaction price at the end of each reporting period and as uncertain events are resolved or other changes in circumstances occur. There were no changes to the transaction price during the three months ended March 31, 2019.

During the three months ended March 31, 2019, the Company recognized revenue under the Beam License Agreement of approximately $0.1 million. The revenue is classified as collaboration and other research and development revenue in the accompanying condensed consolidated statement of operations and the Beam preferred stock is classified in restricted cash and other non-current assets.

***Other Agreements***

*Licensing Agreements*

The Company is a party to a number of license agreements under which the Company licenses patents, patent applications and other intellectual property from third parties. The following is a summary of such in-license agreements that are significant to the Company's business.

*Cas9-I License Agreement*

In October 2014, the Company entered into an agreement (the "Cas9-I License Agreement") with Broad and Harvard to license certain patent rights owned or co-owned by, or among, Broad, the Massachusetts Institute of Technology ("MIT"), and Harvard (collectively, the "Institutions"). Consideration for the granting of the license included the payment of an upfront license issuance fee of $0.2 million and the issuance of 561,531 shares of the Company's common stock. The Institutions are collectively entitled to receive clinical and regulatory milestone payments totaling up to $14.8 million in the aggregate per licensed product approved in the United States, European Union, and Japan for the treatment of a human disease that afflicts at least a specified number of patients in the aggregate in the United States. If the Company undergoes a change of control during the term of the license agreement, the clinical and regulatory milestone payments will be increased by a certain percentage in the mid-double digits. The Company is also obligated to make additional payments to the Institutions, collectively, of up to an aggregate of $54.0 million upon the occurrence of certain sales milestones per licensed product for the treatment of a human disease that afflicts at least a specified number of patients in the aggregate in the United States. The Institutions are collectively entitled to receive clinical and regulatory milestone payments totaling up to $4.1 million in the aggregate per licensed product approved in the U.S. and at least one jurisdiction outside the U.S. for the treatment of a human disease based on certain criteria. The Company is also obligated to make additional payments to the Institutions, collectively, of up to an aggregate of $36.0 million upon the occurrence of certain sales milestones per licensed product for the treatment of a rare disease meeting certain criteria. The Institutions are entitled to receive from the Company nominal annual license fees and a mid-single digit percentage royalties on net sales of products for the prevention or treatment of human disease and ranging from low single digit to high single digit percentage royalties on net sales of other products and services,

made by the Company, its affiliates, or its sublicensees. The royalty percentage depends on the product and service, and whether such licensed product or licensed service is covered by a valid claim within the certain patent rights that the Company licenses from the Institutions.

In December 2016, the Company entered into the Cpf1 License Agreement with Broad, for specified patent rights (the "Cpf1 Patent Rights") related primarily to Cpf1 compositions of matter and their use for gene editing. Concurrently with entering into the Cpf1 License Agreement, the Company, Broad, and Harvard amended and restated the Cas9-I License Agreement as described below and the Company and Broad entered into the Cas9-II License Agreement for specified patent rights (the "Cas9-II Patent Rights") related primarily to certain Cas9 compositions of matter and their use for genome editing. The Company paid an upfront fee in aggregate of $16.5 million, which included the Initial Notes, under these agreements which was recorded in research and development expenses during 2016.

*Cpf1 License Agreement*

Pursuant to the Cpf1 License Agreement, Broad, on behalf of itself, Harvard, MIT, Wageningen, and the University of Tokyo ("UTokyo" and, together with Broad, Harvard, MIT, and Wageningen, the "Cpf1 Institutions") granted the Company an exclusive, worldwide, royalty bearing, sublicensable license to the Cpf1 Patent Rights, to make, have made, use, have used, sell, offer for sale, have sold, export and import products in the field of the prevention or treatment of human disease using gene therapy, editing of genetic material, or targeting of genetic material, subject to certain limitations and retained rights (collectively, the "Cpf1 Exclusive Field"), as well as a non-exclusive, worldwide, royalty bearing sublicensable license to the Cpf1 Patent Rights for all other purposes, subject to certain limitations and retained rights. The Company is obligated to use commercially reasonable efforts to research, develop, and commercialize products in the Cpf1 Exclusive Field. The Company is also required to achieve certain development milestones within specified time periods for products covered by the Cpf1 Patent Rights, with Broad having the right to terminate the Cpf1 License Agreement if the Company fails to achieve these milestones within the required time periods.

Broad and Wageningen are collectively entitled to receive clinical and regulatory milestone payments totaling up to $20.0 million in the aggregate per licensed product approved in the United States, European Union, and Japan for the prevention or treatment of a human disease that afflicts at least a specified number of patients in the aggregate in the United States. The Company is also obligated to make additional payments to Broad and Wageningen, collectively, of up to an aggregate of $54.0 million upon the occurrence of certain sales milestones per licensed product for the prevention or treatment of a human disease that afflicts at least a specified number of patients in the aggregate in the United States. Broad and Wageningen are collectively entitled to receive clinical and regulatory milestone payments totaling up to $6.0 million in the aggregate per licensed product approved in the United States, European Union and Japan for the prevention or treatment of a human disease that afflicts fewer than a specified number of patients in the aggregate in the United States or a specified number of patients per year in the United States (an "Ultra-Orphan Disease"). The Company is also obligated to make additional payments to Broad and Wageningen, collectively, of up to an aggregate of $36.0 million upon the occurrence of certain sales milestones per licensed product for the prevention or treatment of an Ultra-Orphan Disease.

Broad and Wageningen, collectively, are entitled to receive, on a product-by-product and country-by-country basis, mid single-digit percentage royalty on net sales of licensed products for the prevention or treatment of human disease, and royalties on net sales of other licensed products and licensed services, made by the Company, its affiliates, or its sublicensees. The royalty percentage depends on the product and service, and whether such licensed product or licensed service is covered by a valid claim within the Cpf1 Patent Rights. If the Company is legally required to pay royalties to a third party on net sales of the Company's products because such third party holds patent rights that cover such licensed product, then the Company can credit up to a specified percentage of the amount paid to such third party against the royalties due to Broad and Wageningen in the same period. Such credit may not exceed 50% of the applicable royalties paid by the Company to the applicable third party. The Company's obligation to pay royalties will expire on a product-by-product and country-by-country basis upon the later of the expiration of the last to expire valid claim of the Cpf1 Patent Rights that covers each licensed product or service in each country or the tenth anniversary of the date of the first commercial sale of the licensed product or licensed service. If the Company sublicenses any of the Cpf1 Patent Rights to a third party, Broad and Wageningen, collectively, have the right to receive sublicense income, depending on the stage of development of the products or services in question at the time of the sublicense.

Under the Cpf1 License Agreement, Broad and Wageningen are also entitled, collectively, to receive success payments in the event the Company's market capitalization reaches specified thresholds (the "Cpf1 Market Cap Success Payments") or a Company sale for consideration in excess of those thresholds (the "Cpf1 Company Sale Success Payments" and, collectively with the Cpf1 Market Cap Success Payments, the "Cpf1 Success Payments"). The Cpf1 Success Payments payable to Broad and Wageningen are triggered when the Company's market capitalization reaches certain amounts ranging from $750.0 million to $10.0 billion for a specified period of time, and collectively the Cpf1 Success Payments will not exceed, in aggregate, $125.0 million, which maximum amount would be payable only if the Company reaches a market capitalization threshold of $10.0 billion and has at least one product candidate covered by a claim of a patent right licensed to the Company under either the Cpf1 License Agreement or the Cas9-I License Agreement that is or was the subject of a clinical trial pursuant to development efforts by the Company or any Company affiliate or sublicensee. The Cpf1 Market Cap Success Payments are payable by the Company in cash or in the form of promissory notes on substantially the same terms and conditions as the Initial Notes, as described more fully in Note 7, except that the maturity date of such notes will, subject to certain exceptions, be 150 days following issuance. Following a change in control of the Company, Cpf1 Market Cap Success Payments are required to be made in cash. Cpf1 Company Sale Success Payments are payable solely in cash. The Company triggered the first and second Cpf1 Success Payments during 2017 when the Company's market capitalization reached $750 million and $1.0 billion, respectively, as described more fully in Note 7.

Unless terminated earlier, the term of the Cpf1 License Agreement will expire on a country-by-country basis, upon the expiration of the last to expire valid claim of the Cpf1 Patent Rights in such country. The Company has the right to terminate the Cpf1 License Agreement at will upon four months' written notice to Broad. Either party may terminate the Cpf1 License Agreement upon a specified period of notice in the event of the other party's uncured material breach of a material obligation, such notice period varying depending on the nature of the breach. Broad may terminate the Cpf1 License Agreement immediately if the Company challenges the enforceability, validity, or scope of any Cpf1 Patent Right or assist a third party to do so, or in the event of the Company's bankruptcy or insolvency.

*Amendment and Restatement of Cas9-I License Agreement*

In December 2016, the Company amended and restated the Cas9-I License Agreement (such agreement, as amended, the "Amended and Restated Cas9-I License Agreement") to exclude additional fields from the scope of the exclusive license previously granted to the Company, to make the exclusive license to three targets become non-exclusive, subject to the limitation that each of Broad and Harvard would only be permitted to grant a license to only one third party at a time with respect to each such target within the field of the exclusive license, and to revise certain provisions relating to the rights of Harvard and Broad to grant further licenses under specified circumstances to third parties that wish to develop and commercialize products that target a particular gene and that otherwise would fall within the scope of the exclusive license under this agreement, so that Harvard and Broad together would have rights substantially similar to the equivalent rights possessed by Broad under the Cpf1 License Agreement to designate gene targets for which the designating institution, whether alone or together with an affiliate or third party, has an interest in researching and developing products that would otherwise be covered by rights licensed by Harvard and/or Broad to the Company under this agreement, the Cpf1 License Agreement or the Cas9-II License Agreement. In March 2017, the Company and Harvard and Broad further amended the Amended and Restated Cas9-I License Agreement to (i) grant an exclusive license from Broad to the Company with respect to certain patent rights that The Rockefeller University ("Rockefeller") has or may have rights in and to and for which Rockefeller has, under a certain inter-institutional agreement that Broad and Rockefeller entered into in February 2017, appointed Broad as sole and exclusive agent for the purposes of licensing and (ii) provide to Rockefeller certain rights, including with respect to patent enforcement, indemnification, insurance, confidentiality, reservation of certain rights, and publicity, that are generally consistent with those granted to Broad, Harvard, MIT and the Howard Hughes Medical Institute under the Amended and Restated Cas9-I License Agreement.

*Cas9-II License Agreement*

Pursuant to the Cas9-II License Agreement, Broad, on behalf of itself, MIT, Harvard, and the University of Iowa Research Foundation, granted the Company an exclusive, worldwide, royalty bearing sublicensable license to certain of the Cas9-II Patent Rights as well as a non-exclusive, worldwide, royalty bearing sublicensable license to all of

the Cas9-II Patent Rights, in each case on terms substantially similar to the licenses granted to the Company under the Cpf1 License Agreement except, among other things, for the following commitment amounts. Under the Cas9-II License Agreement, the Company will pay an upfront license fee in a low seven digit dollar amount and will have to pay an annual license maintenance fee. The Company is obligated to pay clinical and regulatory milestone payments per licensed product approved in the United States, European Union and Japan for the prevention or treatment of a human disease that afflicts at least a specified number of patients in the aggregate in the United States totaling up to $3.7 million in the aggregate, and sales milestone payments for any such licensed product totaling up to $13.5 million in the aggregate. In addition, the Company is obligated to pay clinical and regulatory milestone payments totaling up to $1.1 million in the aggregate per licensed product approved in the United States and the European Union or Japan for the prevention or treatment of a human disease that afflicts fewer than a specified number of patients in the United States, plus sales milestone payments of up to $9.0 million for any such licensed product. Consistent with the Cpf1 License Agreement, the licensors are entitled to royalties on net sales of products for the prevention or treatment of human disease and other products and services made by the Company, its affiliates, or its sublicensees. Royalties due under other license agreements are creditable against these royalties up to a specified amount in the same period. Lastly, Broad is entitled to receive success payments if the Company's market capitalization reaches specified thresholds ascending from $1.0 billion to $9.0 billion or upon a sale of the Company for consideration in excess of those thresholds. The potential success payments range from a low seven digit dollar amount to a low eight digit dollar amount and will not exceed, in aggregate, $30.0 million, which maximum amount would be owed only if the Company reaches a market capitalization threshold of $9.0 billion and has at least one product candidate covered by a claim of a patent right licensed to the Company under either the Cas9-I License Agreement or the Cas9-II License Agreement that is or was the subject of a clinical trial pursuant to development efforts by the Company or any Company affiliate or sublicensee. The Company triggered the first Success Payment under the Cas9-II License Agreement during the fourth quarter of 2017 when the Company's market capitalization reached $1.0 billion, which the Company settled in January 2018, as more fully described in Note 7.

## 9. Stock-based Compensation

Stock-based compensation expense by classification included in the condensed consolidated statements of operations and comprehensive loss was as follows (in thousands):

| | Three Months Ended March 31, | |
|---|---|---|
| | 2019 | 2018 |
| Research and development | $ 3,382 | $ 3,910 |
| General and administrative | 4,473 | 2,618 |
| Total stock-based compensation expense | $ 7,855 | $ 6,528 |

***Restricted Stock and Restricted Stock Unit Awards***

Restricted stock awards are subject to repurchase rights. Accordingly, the Company has recorded the proceeds from the issuance of restricted stock awards as a liability in the condensed consolidated balance sheets. The restricted stock liability is reclassified into stockholders' equity as the restricted stock award vests.

During the first quarter of 2019, the Company issued restricted stock unit awards that primarily vest over a period of four years subject to continued service.

The following table summarizes restricted stock and restricted stock unit awards activity for the instruments discussed above as of December 31, 2018 and March 31, 2019:

| | Shares | Weighted Average Grant Date Fair Value Per Share |
|---|---|---|
| **Unvested restricted stock and restricted stock unit awards as of December 31, 2018** | 270,000 | $ 28.05 |
| Issued | 390,650 | $ 21.45 |
| Vested | (18,000) | $ 28.05 |
| Forfeited | (4,596) | $ 21.10 |
| **Unvested restricted stock and restricted stock unit awards as of March 31, 2019** | 638,054 | $ 24.06 |

As of March 31, 2019, the Company had $13.1 million in unrecognized stock-based compensation expense related to unvested restricted stock and unvested restricted stock unit awards.

***Stock Options***

The following is a summary of stock option activity for the three months ended March 31, 2019:

| | Shares | Weighted Average Exercise Price | Remaining Contractual Life (years) | Aggregate Intrinsic Value (in thousands) |
|---|---|---|---|---|
| **Outstanding at December 31, 2018** | 4,689,786 | $ 23.80 | 7.9 | $ 20,686 |
| Granted | 540,520 | $ 21.20 | | |
| Exercised | (146,171) | $ 10.49 | | |
| Cancelled | (221,188) | $ 28.38 | | |
| **Outstanding at March 31, 2019** | 4,862,947 | $ 23.71 | 7.7 | $ 22,994 |
| Exercisable at March 31, 2019 | 2,267,041 | $ 19.77 | 6.5 | $ 17,195 |

The fair value of each option issued was estimated at the date of grant using the Black-Scholes option pricing model with the following weighted-average assumptions:

| | Three Months Ended March 31, | |
|---|---|---|
| | 2019 | 2018 |
| Risk free interest rate | 2.5 % | 2.6 % |
| Expected dividend yield | — | — |
| Expected term (in years) | 6.25 | 6.25 |
| Expected volatility | 75.5 % | 80.0 % |

As of March 31, 2019, the Company had unrecognized stock-based compensation expense related to its employee and director stock options of $38.2 million which the Company expects to recognize over the remaining weighted average vesting period of 2.54 years. As of March 31, 2019, the Company had unrecognized stock-based compensation expense related to its non-employee stock options of $1.7 million which the Company expects to recognize over the remaining weighted average vesting period of 0.87 years.

**10. Net Loss per Share**

Basic net loss per common share is calculated by dividing the net loss attributable to common stockholders by the weighted average number of common shares outstanding during the period, without consideration for potentially dilutive securities. Diluted net loss per share is computed by dividing the net loss attributable to common stockholders by the weighted average number of common shares and potentially dilutive securities outstanding for the period determined using the treasury stock and if converted methods. Contingently issuable shares are included in the calculation of basic loss per share as of the beginning of the period in which all the necessary conditions have been satisfied. Contingently issuable shares are included in diluted loss per share based on the number of shares, if any, that would be issuable under the terms of the arrangement if the end of the reporting period was the end of the contingency period, if the results are dilutive.

For purposes of the diluted net loss per share calculation, stock options are considered to be common stock equivalents, but they were excluded from the Company's calculation of diluted net loss per share allocable to common stockholders because their inclusion would have been anti-dilutive. Therefore, basic and diluted net loss per share applicable to common stockholders was the same for all periods presented.

In connection with at-the-market offerings consummated by the Company during 2018, the Company sold a total of 2,536,205 shares of common stock. The issuance of these shares resulted in a significant increase in the Company's weighted-average shares outstanding and is expected to continue to impact the year-over-year comparability of the Company's net loss per share calculations for the remainder of 2019.

The following common stock equivalents were excluded from the calculation of diluted net loss per share allocable to common stockholders because their inclusion would have been anti-dilutive:

| | As of March 31, | |
|---|---|---|
| | 2019 | 2018 |
| Unvested restricted stock and restricted stock unit awards | 638,054 | 409,200 |
| Outstanding stock options | 4,862,947 | 5,303,575 |
| Total | 5,501,001 | 5,712,775 |

**11. Related-Party Transactions**

The Company received $0.2 million in rent and facility-related fees from a related party in the three months ended March 31, 2018 in connection with the Company's Hurley Street sublease and no rent or facility-related payments were received from this related party during the three months ended March 31, 2019.

**Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations.**

*The following discussion and analysis of our financial condition and results of operations should be read together with our condensed consolidated financial statements and related notes appearing elsewhere in this Quarterly Report on Form 10-Q and our Annual Report on Form 10-K for the year ended December 31, 2018, which was filed with the Securities and Exchange Commission ("SEC") on March 1, 2019 (the "2018 Annual Report").*

*This Quarterly Report on Form 10-Q contains forward-looking statements that involve substantial risks and uncertainties. The words "anticipate," "believe," "estimate," "expect," "intend," "may," "plan," "predict," "project," "would" and similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words. There are a number of important risks and uncertainties that could cause our actual results to differ materially from those indicated by forward-looking statements. We may not actually achieve the plans, intentions or expectations disclosed in our forward-looking statements, and you should not place undue reliance on our forward-looking statements. Actual results or events could differ materially from the plans, intentions and expectations disclosed in the forward-looking statements we make. We have included important factors in the cautionary statements included in this Quarterly Report on Form 10-Q, particularly in the section entitled "Risk Factors" in Part II, Item 1A that could cause actual results or events to differ materially from the forward-looking statements that we make. Our forward-looking statements do not reflect the potential impact of any future acquisitions, mergers, dispositions, joint ventures or investments that we may make.*

*You should read this Quarterly Report on Form 10-Q and the documents that we have filed as exhibits to this Quarterly Report on Form 10-Q completely and with the understanding that our actual future results may be materially different from what we expect. The forward-looking statements contained in this Quarterly Report on Form 10-Q are made as of the date of this Quarterly Report on Form 10-Q, and we do not assume any obligation to update any forward-looking statements, whether as a result of new information, future events or otherwise, except as required by applicable law.*

**Overview**

We are a leading, clinical stage genome editing company dedicated to developing potentially transformative genomic medicines to treat a broad range of serious diseases. We have developed a proprietary genome editing platform based on CRISPR technology and we continue to expand its capabilities. Our product development strategy is to target genetically addressable diseases where gene editing can be used to enable or enhance therapeutic outcomes for patients. Genetically addressable diseases include genetically defined diseases that may be treated by correcting a disease-causing gene and genetically treatable diseases that do not necessarily have a single, disease causing gene, but which nonetheless may be treated by editing the genome to ameliorate or eliminate the signs or symptoms of the disease. We are advancing both *in vivo* CRISPR medicines, in which the medicine is injected or infused into the patient to edit the cells inside their body, and engineered cell medicines, in which cells are edited with our technology and then administered to the patient. While our discovery efforts have ranged across several different genetically addressable diseases and therapeutic areas, the two areas where our programs are more mature are ocular diseases and engineered cell medicines to treat blood diseases and cancer.

In ocular diseases, our most advanced program is designed to address a specific genetic form of retinal degeneration called Leber congenital amaurosis 10 ("LCA10"), a disease for which we are not aware of any available therapies and only one other potential treatment in clinical trials in the United States and Europe. In October 2018, we filed an investigational new drug application ("IND") for a Phase 1/2 clinical trial for EDIT-101 (also known as AGN-151587), an experimental medicine to treat LCA10, which was accepted by the United States Food and Drug Administration ("FDA") in November 2018. We and our partner Allergan Pharmaceuticals International Limited ("Allergan") plan to initiate patient screening in mid-2019 and begin patient dosing in the second half of 2019, enrolling approximately 10 to 20 patients in the United States and Europe.

As part of our long term strategy, we have developed and articulated goals for our pipeline of experimental medicines and our company that we are working to achieve by the end of 2022. These goals, which we call "EM22," include having at least three experimental medicines in early stage clinical trials and at least two additional experimental medicines in or ready for late stage clinical trials. In addition, we aim to have a pipeline characterized by potential best-in-class medicines and to be a company with the leading genome editing platform and organizational culture.

In May 2015, we entered into a collaboration with Juno Therapeutics, Inc., a Celgene company that is a wholly-owned subsidiary of Celgene Corporation ("Juno Therapeutics"), a leader in the emerging field of immuno-oncology, to develop novel engineered T cell therapies for cancer, which was amended and restated in May 2018. In March 2017, we entered into a strategic alliance and option agreement with Allergan to discover, develop, and commercialize new gene editing medicines for a range of ocular disorders. In July 2018, Allergan exercised its option to develop and commercialize EDIT-101 and paid us $15.0 million in connection with such exercise (the "EDIT-101 Option Exercise Payment"). We and an affiliate of Allergan subsequently entered into a co-development and commercialization agreement under which we will co-develop and equally split profits and losses for EDIT-101 in the United States. In December 2018, we also received a $25.0 million payment from Allergan in connection with the acceptance of the IND for EDIT-101 (the "EDIT-101 Milestone Payment").

Since our inception in September 2013, our operations have focused on organizing and staffing our company, business planning, raising capital, establishing our intellectual property portfolio, assembling our core capabilities in genome editing, seeking to identify potential product candidates, and undertaking preclinical studies. Except for EDIT-101, all of our research programs are still in the preclinical or research stage of development and the risk of failure of all of our research programs is high. We have not generated any revenue from product sales. We have funded our operations primarily through the initial public offering of our common stock (the "IPO"), follow-on public offerings of our common stock including through at-the-market offerings, private placements of our preferred stock, payments received under our collaboration with Juno Therapeutics and payments received under our strategic alliance and co-development and commercialization agreements with Allergan and its affiliate. From inception through March 31, 2019, we raised an aggregate of $676.5 million to fund our operations.

Since inception, we have incurred significant operating losses. Our net losses were $29.2 million and $30.9 million for the three months ended March 31, 2019 and 2018, respectively. As of March 31, 2019, we had an

accumulated deficit of $444.7 million. We expect to continue to incur significant expenses and operating losses for the foreseeable future. Our net losses may fluctuate significantly from quarter to quarter and from year to year. We anticipate that our expenses will increase substantially as we continue our current research programs and our preclinical development activities; prepare for and initiate clinical development of EDIT-101; seek to identify additional research programs and additional product candidates; initiate preclinical testing and clinical trials for other product candidates we identify and develop; maintain, expand, and protect our intellectual property portfolio, including reimbursing our licensors for such expenses related to the intellectual property that we in-license from such licensors; further develop our genome editing platform; hire additional clinical, quality control, and scientific personnel; and incur additional costs associated with operating as a public company. We do not expect to be profitable for the year ending December 31, 2019 or the foreseeable future.

**Financial Operations Overview**

***Revenue***

To date, we have not generated any revenue from product sales and we do not expect to generate any revenue from product sales for the foreseeable future. In connection with entering into our collaboration with Juno Therapeutics in May 2015, we received an upfront payment of $25.0 million, and, in each of May 2016 and July 2017, we received a milestone payment of $2.5 million. In May 2018, in connection with the amendment and restatement of our collaboration agreement with Juno Therapeutics to expand our collaboration to add an additional research program, we received $5.0 million for amending the agreement and two $2.5 million milestone payments for technical progress in a research program. In addition, we will receive up to $22.0 million in research support over the five years of the collaboration and across the four programs under the collaboration, subject to adjustment in accordance with the terms of the agreement. Through March 31, 2019, we had recognized an aggregate of $17.7 million of research support from Juno Therapeutics since entering into the collaboration. During the three months ended March 31, 2019, we did not recognize any research support from Juno Therapeutics. As of March 31, 2019, we recorded $32.0 million of deferred revenue, $28.3 million of which is classified as long-term on our condensed consolidated balance sheet, related to the collaboration. In connection with entering into our strategic alliance with Allergan, we received an upfront payment of $90.0 million from Allergan. In addition, we received $15.0 million related to Allergan exercising its option to develop and commercialize EDIT-101 (the “EDIT-101 Option Exercise Payment”) in July 2018 and $25.0 million related to the acceptance of the IND for EDIT-101 (the “EDIT-101 Milestone Payment”) in December 2018. Through March 31, 2019, we had recognized an aggregate of $32.8 million in revenue related to our strategic alliance with Allergan, which includes all of the EDIT-101 Option Exercise Payment and a portion of the EDIT-101 Milestone Payment. During the three months ended March 31, 2019, we recognized $2.0 million in revenue related to our strategic alliance with Allergan. As of March 31, 2019, we recorded $97.2 million of deferred revenue, $77.6 million of which is classified as long-term on the condensed consolidated balance sheet, related to the upfront payment from Allergan. For additional information about our revenue recognition policy related to the Juno Therapeutics collaboration or the Allergan agreement, see “Management’s Discussion and Analysis of Financial Condition and Results of Operations—Critical Accounting Policies and Estimates—Revenue Recognition” in the Annual Report.

For the foreseeable future, we expect substantially all of our revenue will be generated from our collaboration with Juno Therapeutics, our strategic alliance with Allergan, any other collaborations or agreements we may enter into and anticipated interest income.

***Expenses***

*Research and Development Expenses*

Research and development expenses consist primarily of costs incurred for our research and development activities, including our drug discovery efforts and preclinical studies under our research programs, which include:

- employee-related expenses including salaries, benefits, and stock-based compensation expense;

- costs of funding research performed by third parties that conduct research and development and preclinical activities on our behalf;
- costs of purchasing lab supplies and non-capital equipment used in our preclinical activities and in manufacturing preclinical study materials;
- consultant fees;
- facility costs including rent, depreciation, and maintenance expenses; and
- fees for acquiring and maintaining licenses under our third-party licensing agreements, including any sublicensing or success payments made to our licensors.

Research and development costs are expensed as incurred. At this time, we cannot reasonably estimate or know the nature, timing, and estimated costs of the efforts that will be necessary to complete the development of any product candidates we may identify and develop. This is due to the numerous risks and uncertainties associated with developing such product candidates, including the uncertainty of:

- successful completion of preclinical studies, IND-enabling studies and natural history studies;
- successful enrollment in, and completion of, clinical trials;
- receipt of marketing approvals from applicable regulatory authorities;
- establishing commercial manufacturing capabilities or making arrangements with third-party manufacturers;
- obtaining and maintaining patent and trade secret protection and non-patent exclusivity;
- launching commercial sales of a product, if and when approved, whether alone or in collaboration with others;
- acceptance of a product, if and when approved, by patients, the medical community, and third-party payors;
- effectively competing with other therapies and treatment options;
- a continued acceptable safety profile following approval;
- enforcing and defending intellectual property and proprietary rights and claims; and
- achieving desirable medicinal properties for the intended indications.

A change in the outcome of any of these variables with respect to the development of any product candidates we may develop would significantly change the costs, timing, and viability associated with the development of that product candidate. As a result of Allergan’s exercise of its option to license EDIT-101 and our entry into a profit-sharing arrangement with an affiliate of Allergan in the United States for EDIT-101, our obligations to fund such program in the United States will represent 50% of the total costs related to developing and commercializing the program in the United States.

We do not track research and development costs on a program-by-program basis except for reimbursable amounts that relate to third-party agreements.

Research and development activities are central to our business model. We expect research and development costs to increase significantly for the foreseeable future as our development programs progress, including as we continue to prepare for and initiate the clinical development and trials for EDIT-101 as well as supporting preclinical studies for our other research programs.

*General and Administrative Expenses*

General and administrative expenses consist primarily of salaries and other related costs, including stock-based compensation for personnel in executive, finance, investor relations, business development, legal, corporate affairs, information technology, facilities and human resource functions. Other significant costs include corporate facility costs not otherwise included in research and development expenses, legal fees related to intellectual property and corporate matters, and fees for accounting and consulting services.

We anticipate that our general and administrative expenses will increase in the future to support continued research and development activities and potential commercialization of any product candidates we identify and develop. These increases will include increased costs related to the hiring of additional personnel and fees to outside consultants. We also anticipate increased expenses related to reimbursement of third-party patent-related expenses and expenses associated with operating as a public company, including costs for audit, legal, regulatory, and tax-related services, director and officer insurance premiums, and investor relations costs. With respect to reimbursement of third-party intellectual property related expenses specifically, given the ongoing nature of the opposition proceedings involving the patents licensed to us under our license agreement with The Broad Institute, Inc. (“Broad”) and the President and Fellows of Harvard College (“Harvard”), we anticipate general and administrative expenses will continue to be significant. Some of our in-licensed patents and patent applications under our license agreement with Broad and Harvard are subject to priority disputes, and we anticipate that our obligation to reimburse Broad and Harvard for expenses related to these disputes during future periods will be substantial until such proceedings are resolved.

*Other Income (Expense), Net*

For the three months ended March 31, 2019, other income, net consisted primarily of interest income and accretion of discounts associated with marketable securities, partially offset by loss on disposal of property and equipment.

For the three months ended March 31, 2018, other income, net consisted primarily of interest income, accretion of discounts associated with marketable securities, and rental income from our subtenant, partially offset by interest expense on our construction financing lease obligation.

**Critical Accounting Policies and Estimates**

Our management’s discussion and analysis of our financial condition and results of operations is based on our condensed consolidated financial statements, which have been prepared in accordance with United States generally accepted accounting principles. The preparation of our condensed consolidated financial statements requires us to make judgments and estimates that affect the reported amounts of assets, liabilities, revenues, and expenses, and the disclosure of contingent assets and liabilities in our condensed consolidated financial statements. We base our estimates on historical experience, known trends and events, and various other factors that we believe to be reasonable under the circumstances. Actual results may differ from these estimates under different assumptions or conditions. On an ongoing basis, we evaluate our judgments and estimates in light of changes in circumstances, facts, and experience. The effects of material revisions in estimates, if any, will be reflected in the condensed consolidated financial statements prospectively from the date of change in estimates.

There have been no material changes to our critical accounting policies from those described in “Management’s Discussion and Analysis of Financial Condition and Results of Operations” in our 2018 Annual Report.

**Results of Operations**

***Comparison of the Three Months ended March 31, 2019 and 2018***

The following table summarizes our results of operations for the three months ended March 31, 2019 and 2018, together with the changes in those items in dollars (in thousands) and the respective percentages of change:

| | Three Months Ended March 31, | | | |
|---|---|---|---|---|
| | 2019 | 2018 | Dollar Change | Percentage Change |
| Collaboration and other research and development revenues | $ 2,069 | $ 3,927 | $ (1,858) | (47)% |
| Operating expenses: | | | | |
| Research and development | 15,842 | 21,300 | (5,458) | (26)% |
| General and administrative | 17,489 | 14,186 | 3,303 | 23 % |
| Total operating expenses | 33,331 | 35,486 | (2,155) | (6)% |
| Other income, net: | | | | |
| Other (expense) income, net | (44) | 182 | (226) | n/m |
| Interest income, net | 2,057 | 438 | 1,619 | n/m |
| Total other income, net | 2,013 | 620 | 1,393 | n/m |
| Net loss | $ (29,249) | $ (30,939) | $ 1,690 | (5)% |

For our results of operations, we have included the respective percentage of changes, unless greater than 100% or less than (100)%, in which case we have denoted such changes as not meaningful (n/m).

*Collaboration and other research and development revenues*

Collaboration and other research and development revenues decreased by $1.9 million, to $2.1 million for the three months ended March 31, 2019 from $3.9 million for three months ended March 31, 2018. This decrease was primarily attributable to a $1.0 million decrease in revenue recognized pursuant to our collaboration agreement with Juno Therapeutics and a $0.9 million decrease in revenue recognized pursuant to our strategic alliance with Allergan, partially offset by $0.1 million in revenue recognized in the first quarter of 2019 pursuant to an out-license agreement.

*Research and development expenses*

Research and development expenses decreased by $5.5 million, to $15.8 million for the three months ended March 31, 2019 from $21.3 million for the three months ended March 31, 2018. The following table summarizes our

research and development expenses for the three months ended March 31, 2019 and 2018, together with the changes in those items in dollars (in thousands) and the respective percentages of change:

| | Three Months Ended March 31, | | | |
|---|---|---|---|---|
| | 2019 | 2018 | Dollar Change | Percentage Change |
| Employee related expenses | $ 5,184 | $ 4,865 | $ 319 | 7 % |
| Process and platform development expenses | 4,394 | 10,238 | (5,844) | (57)% |
| Stock-based compensation expenses | 3,382 | 3,910 | (528) | (14)% |
| Facility expenses | 1,721 | 1,394 | 327 | 23 % |
| Other expenses | 1,161 | 893 | 268 | 30 % |
| Total research and development expenses | $ 15,842 | $ 21,300 | $ (5,458) | (26)% |

The decrease in research and development expenses for the three months ended March 31, 2019 compared to the three months ended March 31, 2018 was primarily attributable to:

- approximately $5.8 million in decreased process and platform development expenses, mostly relating to the acquisition of certain non-capitalized intangible assets during the first quarter of 2018; and
- approximately $0.5 million in decreased stock-based compensation expenses.

These decreases were partially offset by approximately $0.3 million in increased facility related expenses, approximately $0.3 million in increased employee related expenses due to an increase in the size of our workforce, and approximately $0.3 million in increased other expenses.

*General and administrative expenses*

General and administrative expenses increased by $3.3 million, to $17.5 million for the three months ended March 31, 2019 from $14.2 million for the three months ended March 31, 2018. The following table summarizes our general and administrative expenses for the three months ended March 31, 2019 and 2018, together with the changes in those items in dollars (in thousands) and the respective percentages of change:

| | Three Months Ended March 31, | | | |
|---|---|---|---|---|
| | 2019 | 2018 | Dollar Change | Percentage Change |
| Intellectual property and patent related fees | $ 4,991 | $ 6,407 | $ (1,416) | (22)% |
| Stock-based compensation expenses | 4,473 | 2,618 | 1,855 | 71 % |
| Employee related expenses | 3,500 | 2,776 | 724 | 26 % |
| Professional service expenses | 3,394 | 1,293 | 2,101 | n/m |
| Other expenses | 1,131 | 1,092 | 39 | 4 % |
| Total general and administrative expenses | $ 17,489 | $ 14,186 | $ 3,303 | 23 % |

The increase in general and administrative expenses for the three months ended March 31, 2019 compared to the three months ended March 31, 2018 was primarily attributable to:

- approximately $1.9 million in increased stock-based compensation expenses due to an increase in employee stock option expense;
- approximately $2.1 million in increased professional service expenses due to an increase in the use of consultants; and

- approximately $0.7 million in increased employee related expenses due to an increase in the size of our workforce.

These increases were partially offset by approximately $1.4 million in decreased intellectual property and patent related fees.

*Other income, net*

For the three months ended March 31, 2019, other income, net was $2.0 million, which was primarily attributable to interest income and accretion of discounts associated with marketable securities, partially offset by a loss on disposal of property and equipment.

For the three months ended March 31, 2018, other income, net was $0.6 million, which was primarily attributable to interest income, accretion of discounts associated with marketable securities, and rental income from our subtenant, partially offset by interest expense on our construction financing lease obligation.

**Liquidity and Capital Resources**

***Sources of Liquidity***

From inception through March 31, 2019, we funded our operations primarily through proceeds from private placements of our preferred stock of $163.3 million, net proceeds of $328.3 million from our public offerings of our common stock, and payments from Allergan and Juno Therapeutics. As of March 31, 2019, we had cash, cash equivalents and marketable securities of $342.1 million.

In addition to our existing cash, cash equivalents and marketable securities we are eligible to earn milestone payments and are entitled to cost reimbursement under our collaboration agreement with Juno Therapeutics. Additionally, under our strategic alliance with Allergan, we are eligible to earn milestone payments, certain reimbursement for EDIT-101 costs in the United States and certain option exercise or extension payments. Our ability to earn and the timing of the milestone payments are dependent upon the timing and outcome of our development, regulatory and commercial activities and, as such, are uncertain at this time. As of March 31, 2019, our right to contingent payments under our collaboration agreement with Juno Therapeutics and our strategic alliance with Allergan are our only significant committed potential external sources of funds.

*Indebtedness*

Under the terms of certain of our license agreements and a sponsored research agreement, we may be required to issue additional promissory notes in connection with the achievement of success payment criteria. See Notes 7 and 8 to our condensed consolidated financial statements for more information regarding these obligations.

*Cash Flows*

The following table provides information regarding our cash flows for the three months ended March 31, 2019 and 2018 (in thousands):

| | Three Months Ended March 31, | |
|---|---|---|
| | 2019 | 2018 |
| Net cash provided by (used in): | | |
| Operating activities | $ (29,003) | $ (22,460) |
| Investing activities | 50,626 | 40,820 |
| Financing activities | 1,533 | 52,681 |
| Net increase in cash and cash equivalents | $ 23,156 | $ 71,041 |

*Net Cash Used in Operating Activities*

The use of cash in all periods resulted primarily from our net losses adjusted for non-cash charges and changes in components of working capital.

Net cash used in operating activities was approximately $29.0 million for the three months ended March 31, 2019 and consisted primarily of a net loss of $29.2 million adjusted for non-cash items, including stock-based compensation expenses of $7.9 million, depreciation expense of $0.6 million, other non-cash items expense of $1.2 million, and a net change in operating assets and liabilities of $7.1 million. The change in operating assets and liabilities was primarily related to a decrease in accrued expenses of $6.9 million, a decrease in deferred revenue of $2.1 million and a decrease in operating lease liabilities of $1.4 million, partially offset by an increase in right-of-use assets of $0.9 million, an increase in other current and non-current liabilities of $0.9 million, an increase of prepaid expenses and other current assets of $0.8 million and an increase in accounts payable of $0.6 million.

Net cash used in operating activities was approximately $22.5 million for the three months ended March 31, 2018, and consisted primarily of a net loss of $30.9 million adjusted for non-cash items, including stock-based compensation expenses of $6.5 million, non-cash research and development expenses of $1.9 million, depreciation expense of $0.8 million, other non-cash income of $0.4 million, and a net decrease in operating assets and liabilities of $0.3 million. The change in operating assets and liabilities was related to a decrease of $3.1 million in deferred revenue, a decrease of $1.3 million in accrued expenses, an increase of $0.8 million in prepaid expenses and other current assets, and an increase of $0.3 million in accounts receivable, partially offset by an increase of $5.1 million in accounts payable.

*Net Cash Provided by Investing Activities*

Net cash provided by investing activities was approximately $50.6 million for the three months ended March 31, 2019 and consisted primarily of proceeds from maturities of marketable securities of $126.0 million, partially offset by costs to acquire marketable securities of $74.7 million and costs to acquire property and equipment of $0.7 million.

Net cash provided by investing activities was approximately $40.8 million for the three months ended March 31, 2018 and consisted primarily of proceeds from maturities of marketable securities of $94.5 million, partially offset by costs to purchase marketable securities of $52.7 million and costs to acquire property and equipment of $1.0 million.

*Net Cash Provided by Financing Activities*

Net cash provided by financing activities was approximately $1.5 million for the three months ended March 31, 2019 and consisted of $1.5 million in proceeds from exercises of options for our common stock.

Net cash provided by financing activities was approximately $52.7 million for the three months ended March 31, 2018 and consisted primarily of $48.5 million in proceeds received from our at-the-market offering in January 2018, net of issuance costs that were paid as of March 31, 2018, and $4.4 million in proceeds from exercises of options for our

common stock, partially offset by $0.2 million in payments made on the construction financing lease obligation.

***Funding Requirements***

We expect our expenses to increase in connection with our ongoing activities, particularly as we further advance our current research programs and our preclinical development activities; prepare for and initiate the clinical development and trials for EDIT-101; seek to identify product candidates and additional research programs; initiate preclinical testing and clinical trials for other product candidates we identify and develop; maintain, expand, and protect our intellectual property portfolio, including reimbursing our licensors for expenses related to the intellectual property that we in-license from such licensors; hire additional clinical, quality control, and scientific personnel; and incur additional costs associated with operating as a public company. In addition, if we obtain marketing approval for any product candidate that we identify and develop, we expect to incur significant commercialization expenses related to product sales, marketing, manufacturing, and distribution to the extent that such sales, marketing, and distribution are not the responsibility of a collaborator. We do not expect to generate significant recurring revenue unless and until we obtain regulatory approval for and commercialize a product candidate. Furthermore, since 2016 we have incurred, and in future years we expect to continue to incur, significant costs associated with operating as a public company. Accordingly, we will need to obtain substantial additional funding in connection with our continuing operations. If we are unable to raise capital when needed or on attractive terms, we would be forced to delay, reduce, or eliminate our research and development programs or future commercialization efforts.

We expect that our existing cash, cash equivalents, and marketable securities at March 31, 2019 and anticipated interest income will enable us to fund our operating expenses and capital expenditure requirements for at least the next 24 months following the date of this Quarterly Report on Form 10-Q. We have based our estimates on assumptions that may prove to be wrong, and we may use our available capital resources sooner than we currently expect. Our future capital requirements will depend on many factors, including:

- the scope, progress, results, and costs of drug discovery, preclinical development, laboratory testing, and clinical trials for the product candidates we may develop;
- the costs of preparing, filing, and prosecuting patent applications, maintaining and enforcing our intellectual property and proprietary rights, and defending intellectual property-related claims;
- the costs, timing, and outcome of regulatory review of the product candidates we may develop;
- the costs of future activities, including product sales, medical affairs, marketing, manufacturing, and distribution, for any product candidates for which we receive regulatory approval;
- the success of our collaboration with Juno Therapeutics and our strategic alliance with Allergan;
- whether Juno Therapeutics exercises either or both of its options to extend the research program term under our collaboration (each of which would trigger an extension payment to us);
- whether Allergan exercises any additional options under our strategic alliance;
- our ability to establish and maintain additional collaborations on favorable terms, if at all;
- the extent to which we acquire or in-license other medicines and technologies;
- the costs of reimbursing our licensors for the prosecution and maintenance of the patent rights in-licensed by us; and
- the costs of operating as a public company.

Identifying potential product candidates and conducting preclinical studies and clinical trials is a time-consuming, expensive, and uncertain process that takes many years to complete, and we may never generate the necessary data or results required to obtain marketing approval and achieve product sales. In addition, any product candidate that we identify and develop, if approved, may not achieve commercial success. Our commercial revenues, if any, will be derived from sales of genomic medicines that we do not expect to be commercially available for many years, if at all. Accordingly, we will need to continue to rely on additional financing to achieve our business objectives. Adequate additional financing may not be available to us on acceptable terms, or at all.

Until such time, if ever, as we can generate substantial product revenues, we expect to finance our cash needs through a combination of equity offerings, debt financings, collaborations, strategic alliances, and licensing arrangements. To the extent that we raise additional capital through the sale of equity or convertible debt securities, our stockholders' ownership interests will be diluted, and the terms of these securities may include liquidation or other preferences that adversely affect the rights of our stockholders. Debt financing, if available, may involve agreements that include covenants limiting or restricting our ability to take specific actions, such as incurring additional debt, making capital expenditures, or declaring dividends.

If we raise funds through additional collaborations, strategic alliances, or licensing arrangements with third parties, we may have to relinquish valuable rights to our technologies, future revenue streams, research programs, or product candidates or to grant licenses on terms that may not be favorable to us. If we are unable to raise additional funds through equity or debt financings when needed, we may be required to delay, limit, reduce, or terminate our product development or future commercialization efforts or grant rights to develop and market product candidates that we would otherwise prefer to develop and market ourselves.

**Contractual Obligations**

The following table summarizes our significant contractual obligations as of payment due date by period at March 31, 2019 (in thousands):

| | Total | Less Than 1 Year | 1 to 3 Years | 3 to 5 Years | More than 5 Years |
|---|---|---|---|---|---|
| Operating lease obligations [1] | $ 22,887 | $ 5,632 | $ 14,851 | $ 2,404 | $ — |
| Total | $ 22,887 | $ 5,632 | $ 14,851 | $ 2,404 | $ — |

(1) Represents future minimum lease payments under our non-cancelable operating leases. The minimum lease payments above exclude our share of the facility operating expenses and other costs that are reimbursable to the landlord under the leases.

During the three months ended March 31, 2019, our costs related to operating lease obligations increased as compared to such obligations as of December 31, 2018. Other than as described above, during the three months ended March 31, 2019, there were no other material changes to our contractual obligations and commitments described under Management's Discussion and Analysis of Financial Condition and Results of Operations in our 2018 Annual Report.

**Off-Balance Sheet Arrangements**

We did not have, during the periods presented, and we do not currently have, any off-balance sheet arrangements, as defined under applicable SEC rules.

**Effects of Inflation**

Inflation would generally affect us by increasing our cost of labor and clinical trial costs. We do not believe that inflation had a material effect on our business, financial condition or results of operations during the three months ended March 31, 2019 or 2018.

**Item 3. Quantitative and Qualitative Disclosures About Market Risk.**

We are exposed to market risk related to changes in interest rates. As of March 31, 2019, we had cash and cash equivalents of $157.9 million, primarily held in money market mutual funds, and marketable securities of $184.1 million, primarily consisting of U.S. government-backed securities. Our primary exposure to market risk is interest rate sensitivity, which is affected by changes in the general level of U.S. interest rates, particularly because our investments, including cash equivalents, are in the form, or may be in the form of, money market funds or marketable securities and are or may be invested in U.S. Treasury and U.S. government agency obligations. Due to the short-term maturities and low risk profiles of our investments, an immediate 100 basis point change in interest rates would not have a material effect on the fair market value of our investments.

While we contract with certain vendors and institutions internationally, substantially all of our total liabilities as of March 31, 2019 were denominated in the United States dollar and we believe that we do not have any material exposure to foreign currency exchange rate risk.

**Item 4. Controls and Procedures.**

**Evaluation of Disclosure Controls and Procedures**

Our management, with the participation of our interim Chief Executive Officer and interim Chief Financial Officer, evaluated the effectiveness of our disclosure controls and procedures as of March 31, 2019. The term "disclosure controls and procedures," as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934 (the "Exchange Act"), means controls and other procedures of a company that are designed to ensure that information required to be disclosed by the company in the reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported, within the time periods specified in the SEC's rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is accumulated and communicated to the company's management, including its principal executive and principal financial officers, or persons performing similar functions, as appropriate to allow timely decisions regarding required disclosure. Our management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives and our management necessarily applies its judgment in evaluating the cost-benefit relationship of possible controls and procedures. Based on the evaluation of our disclosure controls and procedures as March 31, 2019, our interim Chief Executive Officer and interim Chief Financial Officer concluded that, as of such date, our disclosure controls and procedures were effective at the reasonable assurance level.

**Changes in Internal Control over Financial Reporting**

We regularly review our system of internal control over financial reporting to ensure we maintain an effective internal control environment. We continue to create new processes and controls as well as improve our existing environment to increase efficiencies. Improvements may include such activities as implementing new, more efficient systems, and consolidating activities. During the quarter ended March 31, 2019, we implemented certain internal controls in connection with our adoption of Accounting Standards Update No. 2016-02, *Leases* (Topic 842). There were no other changes in our internal control over financial reporting that occurred during the period covered by this Quarterly Report on Form 10-Q that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

## PART II. OTHER INFORMATION

### Item 1. Legal Proceedings.

From time to time, we may become involved in litigation or other legal proceedings relating to claims arising from the ordinary course of business. There can be no assurance that any proceedings that result from these third-party actions will be resolved in our favor. In addition, if they are not resolved in our favor, there can be no assurance that the result will not have a material adverse effect on our business, financial condition, results of operations, or prospects. Certain of our intellectual property rights, including ones licensed to us under our licensing agreements, are subject to, and from time to time may be subject to, priority and validity disputes. For additional information regarding these matters, see "Item 1A. Risk Factors—Risks Related to Our Intellectual Property." Regardless of outcome, litigation or other legal proceedings can have an adverse impact on us because of defense and settlement costs, diversion of management resources, and other factors.

### Item 1A. Risk Factors.

Our business is subject to numerous risks. The following important factors, among others, could cause our actual results to differ materially from those expressed in forward-looking statements made by us or on our behalf in this Quarterly Report on Form 10-Q and other filings with the Securities and Exchange Commission (the "SEC"), press releases, communications with investors, and oral statements. Actual future results may differ materially from those anticipated in our forward-looking statements. We undertake no obligation to update any forward-looking statements, whether as a result of new information, future events, or otherwise.

#### Risks Related to Our Financial Position and Need for Additional Capital

***We have incurred significant losses since inception. We expect to incur losses for the foreseeable future and may never achieve or maintain profitability.***

Since inception, we have incurred significant operating losses. Our net losses were $110.0 million, $120.3 million, $97.2 million, and $72.9 million for the years ended December 31, 2018, 2017, 2016 and 2015, respectively. As of March 31, 2019, we had an accumulated deficit of $444.7 million. We have financed our operations primarily through public offerings of our common stock, private placements of our preferred stock, our collaboration with Juno Therapeutics, Inc., a Celgene company that is a wholly-owned subsidiary of Celgene Corporation ("Juno Therapeutics"), and payments under our strategic alliance with Allergan Pharmaceuticals International Limited ("Allergan"). We have devoted substantially all of our efforts to research and development. We expect to continue to incur significant expenses and increasing operating losses for the foreseeable future. The net losses we incur may fluctuate significantly from quarter to quarter. We anticipate that our expenses will increase substantially if and as we:

- continue our current research programs and our preclinical development of product candidates from our current research programs;
- seek to identify additional research programs and additional product candidates;
- initiate preclinical testing and clinical trials for any product candidates we identify and develop;
- prepare for and initiate clinical development with Allergan of EDIT-101 to treat Leber congenital amaurosis ("LCA") 10 ("LCA10");
- maintain, expand, and protect our intellectual property portfolio and provide reimbursement of third-party expenses related to our patent portfolio;
- seek marketing approvals for any of our product candidates that successfully complete clinical trials;

- ultimately establish a sales, marketing, and distribution infrastructure to commercialize any medicines for which we may obtain marketing approval;
- further develop our genome editing platform;
- hire additional clinical, quality control, and scientific personnel;
- add operational, financial, and management information systems and personnel, including personnel to support our product development;
- acquire or in-license other medicines and technologies;
- validate a commercial-scale current Good Manufacturing Practices ("cGMP") manufacturing facility; and
- continue to operate as a public company.

We have only recently begun preparing for the initiation of clinical development with Allergan of EDIT-101 and expect that it will be many years, if ever, before we have a product candidate ready for commercialization. To become and remain profitable, we must develop and eventually commercialize a medicine or medicines with significant market potential. This will require us to be successful in a range of challenging activities, including identifying product candidates, completing preclinical testing and clinical trials of product candidates, obtaining marketing approval for these product candidates, manufacturing, marketing, and selling those medicines for which we may obtain marketing approval, and satisfying any post-marketing requirements. We may never succeed in these activities and, even if we do, may never generate revenues that are significant or large enough to achieve profitability. Other than EDIT-101, we are currently only in the preclinical testing stages for our most advanced research programs. If we do achieve profitability, we may not be able to sustain or increase profitability on a quarterly or annual basis. Our failure to become and remain profitable would decrease the value of our company and could impair our ability to raise capital, maintain our research and development efforts, expand our business, or continue our operations. A decline in the value of our company could cause our stockholders to lose all or part of their investments in us.

***We will need substantial additional funding. If we are unable to raise capital when needed, we would be forced to delay, reduce, or eliminate our research and product development programs or commercialization efforts.***

We expect our expenses to increase in connection with our ongoing activities, particularly as we identify, continue the research and development of, initiate clinical trials of, and seek marketing approval for, product candidates. In addition, if we obtain marketing approval for any product candidates we may develop, we expect to incur significant commercialization expenses related to product sales, marketing, manufacturing, and distribution to the extent that such sales, marketing, manufacturing, and distribution are not the responsibility of a collaborator. Accordingly, we will need to obtain substantial additional funding in connection with our continuing operations. If we are unable to raise capital when needed or on attractive terms, we would be forced to delay, reduce, or eliminate our research and product development programs or future commercialization efforts.

We expect that our existing cash, cash equivalents, and marketable securities at March 31, 2019 and anticipated interest income will enable us to fund our operating expenses and capital expenditure requirements for at least the next 24 months following the date of this Quarterly Report on Form 10-Q. Our future capital requirements will depend on many factors, including:

- the scope, progress, results, and costs of drug discovery, preclinical development, laboratory testing, and clinical or natural history study trials for the product candidates we may develop;
- the costs of preparing for and initiating the clinical development with Allergan of EDIT-101 to treat LCA10;

- the costs of preparing, filing, and prosecuting patent applications, maintaining and enforcing our intellectual property and proprietary rights, and defending intellectual property-related claims;
- the costs, timing, and outcome of regulatory review of the product candidates we may develop;
- the costs of future activities, including product sales, medical affairs, marketing, manufacturing, and distribution, for any product candidates for which we receive regulatory approval;
- the success of our collaboration with Juno Therapeutics and our strategic alliance with Allergan;
- whether Juno Therapeutics exercises either or both of its options to extend the research program term under our collaboration (each of which would trigger an extension payment to us);
- whether Allergan exercises any additional options under our strategic alliance;
- our ability to establish and maintain additional collaborations on favorable terms, if at all;
- the extent to which we acquire or in-license other medicines and technologies;
- the costs of reimbursing our licensors for the prosecution and maintenance of the patent rights in-licensed by us; and
- the costs of operating as a public company.

Identifying potential product candidates and conducting preclinical testing and clinical trials is a time-consuming, expensive, and uncertain process that takes years to complete, and we may never generate the necessary data or results required to obtain marketing approval and achieve product sales. In addition, even if we successfully identify and develop product candidates and those are approved, we may not achieve commercial success. Our commercial revenues, if any, will be derived from sales of medicines that we do not expect to be commercially available for many years, if at all. Accordingly, we will need to continue to rely on additional financing to achieve our business objectives. Adequate additional financing may not be available to us on acceptable terms, or at all.

***Raising additional capital may cause dilution to our stockholders, restrict our operations or require us to relinquish rights to our technologies or product candidates.***

Until such time, if ever, as we can generate substantial product revenues, we expect to finance our cash needs through a combination of public or private equity offerings, debt financings, collaborations, strategic alliances, and licensing arrangements. We do not have any significant committed external source of funds, other than our right to payments under our collaboration agreement with Juno Therapeutics, which is limited in scope and duration. To the extent that we raise additional capital through the sale of equity or convertible debt securities, the ownership interests of our stockholders may be materially diluted, and the terms of these securities may include liquidation or other preferences that adversely affect the rights of our stockholders. Debt financing, if available, may involve agreements that include covenants limiting or restricting our ability to take specific actions, such as incurring additional debt, making capital expenditures, or declaring dividends.

If we raise funds through additional collaborations, strategic alliances, or licensing arrangements with third parties, we may have to relinquish valuable rights to our technologies, future revenue streams, research programs, or product candidates, or we may have to grant licenses on terms that may not be favorable to us. If we are unable to raise additional funds through equity or debt financings when needed, we may be required to delay, limit, reduce, or terminate our product development or future commercialization efforts or grant rights to develop and market product candidates that we would otherwise prefer to develop and market ourselves.

***Our short operating history may make it difficult for our stockholders to evaluate the success of our business to date and to assess our future viability.***

We are an early-stage company. We were founded and commenced operations in the second half of 2013. Our operations to date have been limited to organizing and staffing our company, business planning, raising capital, acquiring and developing our technology, identifying potential product candidates, undertaking preclinical studies and preparing to undertake clinical trials. Except for EDIT-101 to treat LCA10, all of our research programs are still in the preclinical or research stage of development, and their risk of failure of all of our research programs is high. We have not yet demonstrated an ability to successfully initiate or complete any clinical trials, including large-scale, pivotal clinical trials, obtain marketing approvals, manufacture a commercial-scale medicine, or arrange for a third party to do so on our behalf, or conduct sales and marketing activities necessary for successful commercialization. Typically, it takes about 10 to 15 years to develop a new medicine from the time it is discovered to when it is available for treating patients. Consequently, any predictions about our future success or viability may not be as accurate as they could be if we had a longer operating history.

In addition, as a new business, we may encounter unforeseen expenses, difficulties, complications, delays, and other known and unknown factors. We will need to transition from a company with a research focus to a company capable of supporting commercial activities. We may not be successful in such a transition.

We expect that our financial condition and operating results will continue to fluctuate significantly from quarter-to-quarter and year-to-year due to a variety of factors, many of which are beyond our control. Accordingly, our stockholders should not rely upon the results of any quarterly or annual periods as indications of future operating performance.

***We have never generated revenue from product sales and may never be profitable.***

Our ability to generate revenue from product sales and achieve profitability depends on our ability, alone or with collaboration partners, to successfully complete the development of, and obtain the regulatory approvals necessary to commercialize, product candidates we may identify for development. We do not anticipate generating revenues from product sales for the next several years, if ever. Our ability to generate future revenues from product sales depends heavily on our, or our collaborators', ability to successfully:

- identify product candidates and complete research and preclinical and clinical development of any product candidates we may identify;
- seek and obtain regulatory and marketing approvals for any of our product candidates for which we complete clinical trials;
- launch and commercialize any of our product candidates for which we obtain regulatory and marketing approval by establishing a sales force, marketing, and distribution infrastructure;
- qualify for adequate coverage and reimbursement by government and third-party payors for any our product candidates for which we obtain regulatory and marketing approval;
- develop, maintain, and enhance a sustainable, scalable, reproducible, and transferable manufacturing process for the product candidates we may develop;
- establish and maintain supply and manufacturing relationships with third parties that can provide adequate, in both amount and quality, products and services to support clinical development and the market demand for any of our product candidates for which we obtain regulatory and marketing approval;
- obtain market acceptance of any product candidates we may develop as viable treatment options;

- address competing technological and market developments;
- implement internal systems and infrastructure, as needed;
- negotiate favorable terms in any collaboration, licensing, or other arrangements into which we may enter and performing our obligations in such arrangements;
- maintain, protect, and expand our portfolio of intellectual property rights, including patents, trade secrets, and know-how;
- avoid and defend against third-party interference or infringement claims; and
- attract, hire, and retain qualified personnel.

Even if one or more of the product candidates we may develop is approved for commercial sale, we anticipate incurring significant costs associated with commercializing any approved product candidate. Our expenses could increase beyond expectations if we are required by the U.S. Food and Drug Administration (the "FDA"), the European Medicines Agency (the "EMA"), or other regulatory authorities to perform clinical and other studies in addition to those that we currently anticipate. Even if we are able to generate revenues from the sale of any approved products, we may not become profitable and may need to obtain additional funding to continue operations.

**Risks Related to Discovery, Development, and Commercialization**

***We intend to identify and develop product candidates based on a novel genome editing technology, which makes it difficult to predict the time and cost of product candidate development. No therapeutic products that utilize genome editing technology have been approved in the United States or in Europe, and there have only been a limited number of human clinical trials of a genome editing product candidate.***

We have concentrated our research and development efforts on our genome editing platform, which uses CRISPR technology. Our future success depends on the successful development of this novel genome editing therapeutic approach. To date, no therapeutic product that utilizes genome editing, including CRISPR technology, has been approved in the United States or Europe and there have been only a limited number of clinical trials involving the use of a therapeutic utilizing genome editing technologies. Because we have not yet dosed any patients with our product candidates, we have not yet been able to assess safety in humans, and there may be long-term effects from treatment with any of our future product candidates that we cannot predict at this time. Any product candidates we may develop will act at the level of DNA, and, because animal DNA differs from human DNA, it will be difficult for us to test our future product candidates in animal models for either safety or efficacy. Also, animal models do not exist for some of the diseases we expect to pursue in our programs. As a result of these factors, it is more difficult for us to predict the time and cost of product candidate development, and we cannot predict whether the application of our genome editing platform, or any similar or competitive genome editing platforms, will result in the identification, development, and regulatory approval of any medicines. There can be no assurance that any development problems we experience in the future related to our genome editing platform or any of our research programs will not cause significant delays or unanticipated costs, or that such development problems can be solved. We may also experience delays in developing a sustainable, reproducible, and scalable manufacturing process or transferring that process to commercial partners. Any of these factors may prevent us from completing our preclinical studies or any clinical trials that we may initiate or commercializing any product candidates we may develop on a timely or profitable basis, if at all.

***Because genome editing is novel and the regulatory landscape that will govern any product candidates we may develop is uncertain and may change, we cannot predict the time and cost of obtaining regulatory approval, if we receive it at all, for any product candidates we may develop.***

The regulatory requirements that will govern any novel genome editing product candidates we develop are not entirely clear and may change. Within the broader genomic medicine field, we are aware of a limited number of gene

therapy products that have received marketing authorization from the FDA and the European Commission. Even with respect to more established products that fit into the categories of gene therapies or cell therapies, the regulatory landscape is still developing. Regulatory requirements governing gene therapy products and cell therapy products have changed frequently and will likely continue to change in the future. Moreover, there is substantial, and sometimes uncoordinated, overlap in those responsible for regulation of existing gene therapy products and cell therapy products. For example, in the United States, the FDA has established the Office of Tissues and Advanced Therapies within its Center for Biologics Evaluation and Research ("CBER") to consolidate the review of gene therapy and related products, and the Cellular, Tissue and Gene Therapies Advisory Committee to advise CBER on its review. Gene therapy clinical trials are also subject to review and oversight by an institutional biosafety committee ("IBC"), a local institutional committee that reviews and oversees basic and clinical research conducted at the institution participating in the clinical trial. Although the FDA decides whether individual gene therapy protocols may proceed, the review process and determinations of other reviewing bodies can impede or delay the initiation of a clinical trial, even if the FDA has reviewed the trial and approved its initiation. The same applies in the European Union. The EMA's Committee for Advanced Therapies ("CAT") is responsible for assessing the quality, safety, and efficacy of advanced-therapy medicinal products. The role of the CAT is to prepare a draft opinion on an application for marketing authorization for a gene therapy medicinal candidate that is submitted to the EMA. In the European Union, the development and evaluation of a gene therapy medicinal product must be considered in the context of the relevant European Union guidelines. The EMA may issue new guidelines concerning the development and marketing authorization for gene therapy medicinal products and require that we comply with these new guidelines. As a result, the procedures and standards applied to gene therapy products and cell therapy products may be applied to any CRISPR product candidates we may develop, but that remains uncertain at this point.

Adverse developments in clinical trials conducted by others of gene therapy products, cell therapy products, or products developed through the application of a CRISPR or other genome editing technology may cause the FDA, the EMA, and other regulatory bodies to revise the requirements for approval of any product candidates we may develop or limit the use of products utilizing genome editing technologies, either of which could materially harm our business. In addition, the clinical trial requirements of the FDA, the EMA, and other regulatory authorities and the criteria these regulators use to determine the safety and efficacy of a product candidate vary substantially according to the type, complexity, novelty, and intended use and market of the potential products. The regulatory approval process for novel product candidates such as ours can be more expensive and take longer than for other, better known, or more extensively studied pharmaceutical or other product candidates. Regulatory agencies administering existing or future regulations or legislation may not allow production and marketing of products utilizing genome editing technology in a timely manner or under technically or commercially feasible conditions. In addition, regulatory action or private litigation could result in expenses, delays, or other impediments to our research programs or the commercialization of resulting products.

The regulatory review committees and advisory groups described above and the new guidelines they promulgate may lengthen the regulatory review process, require us to perform additional studies or trials, increase our development costs, lead to changes in regulatory positions and interpretations, delay or prevent approval and commercialization of these treatment candidates, or lead to significant post-approval limitations or restrictions. As we advance our research programs and develop future product candidates, we will be required to consult with these regulatory and advisory groups and to comply with applicable guidelines. If we fail to do so, we may be required to delay or discontinue development of any product candidates we identify and develop.

***Adverse public perception of genomic medicines, and genome editing in particular, may negatively impact regulatory approval of, or demand for, our potential products.***

Our potential therapeutic products involve editing the human genome. The clinical and commercial success of our potential products will depend in part on public understanding and acceptance of the use of genome editing therapy for the prevention or treatment of human diseases. Public attitudes may be influenced by claims that genome editing is unsafe, unethical, or immoral, and, consequently, our products may not gain the acceptance of the public or the medical community. Adverse public attitudes may adversely impact our ability to enroll clinical trials. Moreover, our success will depend upon physicians prescribing, and their patients being willing to receive, treatments that involve the use of product candidates we may develop in lieu of, or in addition to, existing treatments with which they are already familiar and for which greater clinical data may be available.

In addition, genome editing technology is subject to public debate and heightened regulatory scrutiny due to ethical concerns relating to the application of genome editing technology to human embryos or the human germline. For example, academic scientists in several countries, including the United States, have reported on their attempts to edit the genome of human embryos as part of basic research. In addition, in November 2018, it was reported that Dr. Jiankui He, a Chinese biophysics researcher who was an associate professor in the Department of Biology of the Southern University of Science and Technology in Shenzhen, China, claimed he had created the first human genetically edited babies, twin girls. This claim, and another that Dr. He had helped create a second gene-edited pregnancy, was subsequently confirmed by Chinese authorities and was negatively received by the public, in particular those in the scientific community. In the United States, germline editing for clinical application has been expressly prohibited since enactment of a December 2015 U.S. FDA ban on such activity. Prohibitions are also in place in the United Kingdom, across most of Europe, in China, and many other countries around the world. In the United States, the NIH has announced that it would not fund any use of genome editing technologies in human embryos, noting that there are multiple existing legislative and regulatory prohibitions against such work, including the Dickey-Wicker Amendment, which prohibits the use of appropriated funds for the creation of human embryos for research purposes or for research in which human embryos are destroyed. Laws in the United Kingdom prohibit genetically modified embryos from being implanted into women, but embryos can be altered in research labs under license from the Human Fertilisation and Embryology Authority. Basic research on embryos is more tightly controlled in many other European countries.

Moreover, in an annual worldwide threat assessment report delivered to the U.S. Congress in February 2016, the U.S. Director of National Intelligence stated that research into genome editing probably increases the risk of the creation of potentially harmful biological agents or products, including weapons of mass destruction. He noted that the broad distribution, low cost, and accelerated pace of development of genome editing technology could result in the deliberate or unintentional misuse of such technology.

Although we do not use our technologies to edit human embryos or the human germline, such public debate about the use of genome editing technologies in human embryos and heightened regulatory scrutiny could prevent or delay our development of product candidates. More restrictive government regulations or negative public opinion would have a negative effect on our business or financial condition and may delay or impair our development and commercialization of product candidates or demand for any products we may develop. Adverse events in our preclinical studies or clinical trials or those of our competitors or of academic researchers utilizing genome editing technologies, even if not ultimately attributable to product candidates we may identify and develop, and the resulting publicity could result in increased governmental regulation, unfavorable public perception, potential regulatory delays in the testing or approval of potential product candidates we may identify and develop, stricter labeling requirements for those product candidates that are approved, and a decrease in demand for any such product candidates. Use of genome editing technology by a third party or government to develop biological agents or products that threaten the United States' national security could similarly result in such negative impacts to us.

***We may not be successful in our efforts to identify, develop, or commercialize potential product candidates.***

The success of our business depends primarily upon our ability to identify, develop, and commercialize products based on our genome editing platform. Other than EDIT-101 to treat LCA10, all of our product development programs are still in the preclinical or research stage of development. Our research programs, including those subject to our collaboration with Juno Therapeutics and our strategic alliance with Allergan, may fail to identify potential product candidates for clinical development for a number of reasons. Our research methodology may be unsuccessful in identifying potential product candidates, or our potential product candidates may be shown to have harmful side effects or may have other characteristics that may make the products impractical to manufacture, unmarketable, or unlikely to receive marketing approval.

If any of these events occur, we may be forced to abandon our development efforts for a program or programs, which would have a material adverse effect on our business, financial condition, results of operations, and prospects. Research programs to identify new product candidates require substantial technical, financial, and human resources. We may focus our efforts and resources on potential programs or product candidates that ultimately prove to be unsuccessful.

***The genome editing field is relatively new and is evolving rapidly. We are focusing our research and development efforts on CRISPR gene editing technology using Cas9 and Cpf1 enzymes, but other genome editing technologies may be discovered that provide significant advantages over CRISPR/Cas9 or CRISPR/Cpf1, which could materially harm our business.***

To date, we have focused our efforts on genome editing technologies using CRISPR and the Cas9 and Cpf1 enzymes. Other companies have previously undertaken research and development of genome editing technologies using zinc finger nucleases, engineered meganucleases, and transcription activator-like effector nucleases, but to date none has obtained marketing approval for a product candidate. There can be no certainty that the CRISPR/Cas9 or CRISPR/Cpf1 technology will lead to the development of genomic medicines, that other genome editing technologies will not be considered better or more attractive for the development of medicines or that either Cas9 or Cpf1, the two CRISPR associated proteins that we use, may be useful or successful in developing therapeutics. For example, Cas9 or Cpf1 may be determined to be less attractive than other CRISPR enzymes, including CRISPR enzymes that have yet to be discovered. Similarly, a new genome editing technology that has not been discovered yet may be determined to be more attractive than CRISPR. Moreover, if we decide to develop genome technologies other than CRISPR technology using a Cas9 or Cpf1 enzyme, we cannot be certain we will be able to obtain rights to such technologies. Although all of our founders who currently provide consulting and advisory services to us in the areas of certain genome editing technologies have assignment of inventions obligations to us with respect to the services they perform for us, these assignment of inventions obligations are subject to limitations and do not extend to their work in other fields or to the intellectual property arising from their employment with their respective academic and research institutions. To obtain intellectual property rights assigned by these founders to such institutions, we would need to enter into license agreements with such institutions. Any of these factors could reduce or eliminate our commercial opportunity, and could have a material adverse effect on our business, financial condition, results of operations, and prospects.

***We depend heavily on the success of EDIT-101. Except for EDIT-101, all of our product development programs are at the preclinical or research stage. Preclinical testing and clinical trials of product candidates may not be successful. If we are unable to commercialize any product candidates we may develop or experience significant delays in doing so, our business will be materially harmed.***

We have invested a significant portion of our efforts and financial resources in the identification and development of EDIT-101 to treat LCA10. Our ability to generate product revenues, which we do not expect will occur for many years, if ever, will depend heavily on the successful development and eventual commercialization of EDIT-101 by Allergan for the treatment of LCA10 and other product candidates that we may identify in the future. The success of product candidates we may identify and develop will depend on many factors, including the following:

- sufficiency of our financial and other resources to complete the necessary clinical trials for EDIT-101;
- successful completion of preclinical studies and investigational new drug (“IND”)-enabling studies;
- successful enrollment in, and completion of, clinical trials;
- receipt of marketing approvals from applicable regulatory authorities;
- establishing commercial manufacturing capabilities or making arrangements with third-party manufacturers;
- obtaining and maintaining patent and trade secret protection and non-patent exclusivity for our medicines;
- launching commercial sales of the medicines, if and when approved, whether alone or in collaboration with others;
- acceptance of the medicines, if and when approved, by patients, the medical community, and third-party payors;

- effectively competing with other therapies and treatment options;
- a continued acceptable safety profile of the medicines following approval;
- enforcing and defending intellectual property and proprietary rights and claims; and
- achieving desirable medicinal properties for the intended indications.

The foregoing also applies to our collaborators to the extent we have partnered, sold or licensed any of our research programs to them. For instance, Allergan has exercised its option to license EDIT-101 and, although we have entered into a profit-sharing arrangement to equally split the profits and costs of such program in the United States and we will continue to work with Allergan on the development and commercialization of such program, in the event a dispute arises, Allergan will have final decision making authority. If we or our collaborators do not achieve one or more of these factors in a timely manner or at all, we could experience significant delays or an inability to successfully commercialize any product candidates we may develop, which would materially harm our business.

Of the large number of biologics and drugs in development in the pharmaceutical industry, only a small percentage result in the submission of a Biologics License Application (a "BLA") to the FDA or a marketing authorization application (an "MAA") to the EMA. Not all BLAs or MAAs that are submitted to a regulatory agency are approved for commercialization. Furthermore, even if we do receive regulatory approval to market any product candidates that we may identify and develop, any such approval may be subject to limitations on the indicated uses for which we may market the product. Accordingly, even if we are able to obtain the requisite financing to continue to fund our research programs, we cannot assure you that we or our collaborators will successfully develop or commercialize EDIT-101, or any of our other research programs. If we or any of our collaborators and future development partners are unable to develop, or obtain regulatory approval for, or, if approved, successfully commercialize, any product candidates we may identify and develop, we may not be able to generate sufficient revenue to continue our business.

***If serious adverse events, undesirable side effects, or unexpected characteristics are identified during the development of any product candidates we may develop, we may need to abandon or limit our further clinical development of those product candidates.***

We have not evaluated any product candidates in human clinical trials, and our proposed delivery modes, combined with CRISPR technology, have a limited history, if any, of being tested clinically. It is impossible to predict when or if any product candidates we may develop will prove safe in humans. In the genomic medicine field, there have been several significant adverse events from gene therapy treatments in the past, including reported cases of leukemia and death. There can be no assurance that genome editing technologies will not cause undesirable side effects.

A significant risk in any genome editing product is that the edit will be "off-target" and cause serious adverse events, undesirable side effects, or unexpected characteristics. For example, off-target cuts could lead to disruption of a gene or a genetic regulatory sequence at an unintended site in the DNA, or, in those instances where we also provide a segment of DNA to serve as a repair template, it is possible that following off-target cut events, DNA from such repair template could be integrated into the genome at an unintended site, potentially disrupting another important gene or genomic element. We cannot be certain that off-target editing will not occur in any of our planned or future clinical studies. There is also the potential risk of delayed adverse events following exposure to genome editing therapy due to the potential for persistent biological activity of the genetic material or other components of products used to carry the genetic material.

If any product candidates we develop are associated with serious adverse events, or undesirable side effects, or have characteristics that are unexpected, we may need to abandon their development or limit development to certain uses or subpopulations in which the serious adverse events, undesirable side effects or other characteristics are less prevalent, less severe, or more acceptable from a risk-benefit perspective, any of which would have a material adverse effect on our business, financial condition, results of operations, and prospects. Many product candidates that initially showed promise in early stage testing for treating cancer or other diseases have later been found to cause side effects that prevented further clinical development of the product candidates.

***If any of the product candidates we may develop or the delivery modes we rely on cause undesirable side effects, it could delay or prevent their regulatory approval, limit the commercial potential, or result in significant negative consequences following any potential marketing approval.***

Product candidates we may develop may be associated with off-target editing or other serious adverse events, undesirable side effects, or unexpected characteristics. There also is the potential risk of delayed adverse events following exposure to gene editing therapy due to persistent biologic activity of the genetic material or other components of products used to carry the genetic material. In addition to serious adverse events or side effects caused by any product candidate we may develop, the administration process or related procedures also can cause undesirable side effects. If any such events occur, our clinical trials could be suspended or terminated.

If in the future we are unable to demonstrate that such adverse events were caused by factors other than our product candidate, the FDA, the EMA or other regulatory authorities could order us to cease further development of, or deny approval of, any product candidates we are able to develop for any or all targeted indications. Even if we are able to demonstrate that all future serious adverse events are not product-related, such occurrences could affect patient recruitment or the ability of enrolled patients to complete the trial. Moreover, if we elect, or are required, to delay, suspend or terminate any clinical trial of any product candidate we may develop, the commercial prospects of such product candidates may be harmed and our ability to generate product revenues from any of these product candidates may be delayed or eliminated. Any of these occurrences may harm our ability to identify and develop product candidates, and may harm our business, financial condition, result of operations, and prospects significantly.

Additionally, if we successfully develop a product candidate and it receives marketing approval, the FDA could require us to adopt a Risk Evaluation and Mitigation Strategy (“REMS”) to ensure that the benefits of treatment with such product candidate outweighs the risks for each potential patient, which may include, among other things, a medication guide outlining the risks of the product for distribution to patients, a communication plan to health care practitioners, extensive patient monitoring, or distribution systems and processes that are highly controlled, restrictive, and more costly than what is typical for the industry. Furthermore, if we or others later identify undesirable side effects caused by any product candidate that we to develop, several potentially significant negative consequences could result, including:

- regulatory authorities may suspend or withdraw approvals of such product candidate;
- regulatory authorities may require additional warnings on the label;
- we may be required to change the way a product candidate is administered or conduct additional clinical trials;
- we could be sued and held liable for harm caused to patients; and
- our reputation may suffer.

Any of these events could prevent us from achieving or maintaining market acceptance of any product candidates we may identify and develop and could have a material adverse effect on our business, financial condition, results of operations, and prospects.

***We have not tested any of our proposed delivery modes and product candidates in clinical trials.***

Our proposed delivery modes, combined with our product candidates, have a limited history, if any, of being evaluated in human clinical trials. Any product candidates we develop may fail to show the desired safety and efficacy in later stages of clinical development despite having successfully advanced through initial clinical trials.

There is a high failure rate for drugs and biologics proceeding through clinical trials. A number of companies in the pharmaceutical and biotechnology industries have suffered significant setbacks in later stage clinical trials even after

achieving promising results in earlier stage clinical trials. Data obtained from preclinical and clinical activities are subject to varying interpretations, which may delay, limit, or prevent regulatory approval. In addition, regulatory delays or rejections may be encountered as a result of many factors, including changes in regulatory policy during the period of product development.

Any such adverse events may cause us to delay, limit, or terminate planned clinical trials, any of which would have a material adverse effect on our business, financial condition, results of operations, and prospects.

***Because we are developing product candidates for the treatment of diseases in which there is little clinical experience using new technologies, there is increased risk that the FDA, the EMA, or other regulatory authorities may not consider the endpoints of our clinical trials to provide clinically meaningful results and that these results may be difficult to analyze.***

During the regulatory review process, we will need to identify success criteria and endpoints such that the FDA, the EMA, or other regulatory authorities will be able to determine the clinical efficacy and safety profile of any product candidates we may develop. As we are initially seeking to identify and develop product candidates to treat diseases in which there is little clinical experience using new technologies, there is heightened risk that the FDA, the EMA, or other regulatory authorities may not consider the clinical trial endpoints that we propose to provide clinically meaningful results (reflecting a tangible benefit to patients). In addition, the resulting clinical data and results may be difficult to analyze. Even if the FDA does find our success criteria to be sufficiently validated and clinically meaningful, we may not achieve the pre-specified endpoints to a degree of statistical significance. This may be a particularly significant risk for many of the genetically defined diseases for which we plan to develop product candidates because many of these diseases have small patient populations, and designing and executing a rigorous clinical trial with appropriate statistical power is more difficult than with diseases that have larger patient populations. Further, even if we do achieve the pre-specified criteria, we may produce results that are unpredictable or inconsistent with the results of the non-primary endpoints or other relevant data. The FDA also weighs the benefits of a product against its risks, and the FDA may view the efficacy results in the context of safety as not being supportive of regulatory approval. Other regulatory authorities in the European Union and other countries, such as the CAT, may make similar comments with respect to these endpoints and data. Any product candidates we may develop will be based on a novel technology that makes it difficult to predict the time and cost of development and of subsequently obtaining regulatory approval. No genome editing therapeutic product has been approved in the United States or in Europe.

***If clinical trials of any product candidates we may identify and develop fail to demonstrate safety and efficacy to the satisfaction of regulatory authorities or do not otherwise produce positive results, we may incur additional costs or experience delays in completing, or ultimately be unable to complete, the development and commercialization of such product candidates.***

Before obtaining marketing approval from regulatory authorities for the sale of any product candidates we may identify and develop, we must complete preclinical development and then conduct extensive clinical trials to demonstrate the safety and efficacy in humans of any such product candidates. Clinical testing is expensive, difficult to design and implement, can take many years to complete, and is uncertain as to outcome. A failure of one or more clinical trials can occur at any stage of testing. The outcome of preclinical testing and early clinical trials may not be predictive of the success of later clinical trials, and interim results of a clinical trial do not necessarily predict final results.

Moreover, preclinical and clinical data are often susceptible to varying interpretations and analyses. Many companies that have believed their product candidates performed satisfactorily in preclinical studies and clinical trials have nonetheless failed to obtain marketing approval of their product candidates.

We or our collaborators may experience numerous unforeseen events during, or as a result of, clinical trials that could delay or prevent our ability to receive marketing approval or commercialize any product candidates we may identify and develop, including:

- delays in reaching a consensus with regulators on trial design;

- regulators, institutional review boards ("IRBs") or independent ethics committees ("IECs") may not authorize us or our investigators to commence a clinical trial or conduct a clinical trial at a prospective trial site;
- delays in reaching or failing to reach agreement on acceptable clinical trial contracts or clinical trial protocols with prospective contract research organizations ("CROs") and clinical trial sites;
- clinical trials of any product candidates we may develop may produce negative or inconclusive results, and we may decide, or regulators may require us, to conduct additional clinical trials or abandon product development or research programs;
- difficulty in designing well-controlled clinical trials due to ethical considerations which may render it inappropriate to conduct a trial with a control arm that can be effectively compared to a treatment arm;
- difficulty in designing clinical trials and selecting endpoints for diseases that have not been well-studied and for which the natural history and course of the disease is poorly understood;
- the number of patients required for clinical trials of any product candidates we may develop may be larger than we anticipate; enrollment of suitable participants in these clinical trials, which may be particularly challenging for some of the rare genetically defined diseases we are targeting in our most advanced programs, may be delayed or slower than we anticipate; or patients may drop out of these clinical trials at a higher rate than we anticipate;
- our third-party contractors may fail to comply with regulatory requirements or meet their contractual obligations to us in a timely manner, or at all;
- regulators, IRBs, or IECs may require that we or our investigators suspend or terminate clinical research or clinical trials of any product candidates we may develop for various reasons, including noncompliance with regulatory requirements, a finding of undesirable side effects or other unexpected characteristics, or that the participants are being exposed to unacceptable health risks or after an inspection of our clinical trial operations or trial sites;
- the cost of clinical trials of any product candidates we may develop may be greater than we anticipate;
- the supply or quality of any product candidates we may develop or other materials necessary to conduct clinical trials of any product candidates we may develop may be insufficient or inadequate, including as a result of delays in the testing, validation, manufacturing, and delivery of any product candidates we may develop to the clinical sites by us or by third parties with whom we have contracted to perform certain of those functions;
- delays in having patients complete participation in a trial or return for post-treatment follow-up;
- clinical trial sites dropping out of a trial;
- selection of clinical endpoints that require prolonged periods of clinical observation or analysis of the resulting data;
- occurrence of serious adverse events associated with any product candidates we may develop that are viewed to outweigh their potential benefits;
- occurrence of serious adverse events in trials of the same class of agents conducted by other sponsors; and
- changes in regulatory requirements and guidance that require amending or submitting new clinical

protocols.

If we or our collaborators are required to conduct additional clinical trials or other testing of any product candidates we may develop beyond those that we currently contemplate, if we or our collaborators are unable to successfully complete clinical trials of any product candidates we may develop or other testing, or if the results of these trials or tests are not positive or are only modestly positive or if there are safety concerns, we or our collaborators may:

- be delayed in obtaining marketing approval for any such product candidates we may develop or not obtain marketing approval at all;
- obtain approval for indications or patient populations that are not as broad as intended or desired;
- obtain approval with labeling that includes significant use or distribution restrictions or safety warnings, including boxed warnings;
- be subject to changes in the way the product is administered;
- be required to perform additional clinical trials to support approval or be subject to additional post-marketing testing requirements;
- have regulatory authorities withdraw, or suspend, their approval of the product or impose restrictions on its distribution in the form of a modified risk evaluation and mitigation strategy;
- be sued; or
- experience damage to our reputation.

Product development costs will also increase if we or our collaborators experience delays in testing or marketing approvals. We do not know whether any clinical trials will begin as planned, will need to be restructured, or will be completed on schedule, or at all. Significant clinical trial delays also could shorten any periods during which we may have the exclusive right to commercialize any product candidates we may develop, could allow our competitors to bring products to market before we do, and could impair our ability to successfully commercialize any product candidates we may develop, any of which may harm our business, financial condition, results of operations, and prospects.

***If we experience delays or difficulties in the enrollment of patients in clinical trials, our receipt of necessary regulatory approvals could be delayed or prevented.***

We or our collaborators may not be able to initiate or continue clinical trials for any product candidates we identify or develop if we are unable to locate and enroll a sufficient number of eligible patients to participate in these trials as required by the FDA or analogous regulatory authorities outside the United States, or as needed to provide appropriate statistical power for a given trial. Enrollment may be challenging for the rare genetically defined diseases we are targeting. In addition, if patients are unwilling to participate in our genome editing trials because of negative publicity from adverse events related to the biotechnology, gene therapy, or genome editing fields, competitive clinical trials for similar patient populations, clinical trials in competing products, or for other reasons, the timeline for recruiting patients, conducting studies, and obtaining regulatory approval of any product candidates we may develop may be delayed. Moreover, some of our competitors may have ongoing clinical trials for product candidates that would treat the same indications as any product candidates we may develop, and patients who would otherwise be eligible for our clinical trials may instead enroll in clinical trials of our competitors' product candidates. For example, ProQR Therapeutics N.V. has already enrolled LCA10 patients in its clinical trial, which may limit the number of potential patients available to enroll in the planned Phase 1/2 clinical study for EDIT-101.

Patient enrollment is also affected by other factors, including:

- severity of the disease under investigation;
- size of the patient population and process for identifying patients;
- design of the trial protocol;
- availability and efficacy of approved medications for the disease under investigation;
- availability of genetic testing for potential patients;
- ability to obtain and maintain patient informed consent;
- risk that enrolled patients will drop out before completion of the trial;
- eligibility and exclusion criteria for the trial in question;
- perceived risks and benefits of the product candidate under trial;
- perceived risks and benefits of genome editing as a therapeutic approach;
- efforts to facilitate timely enrollment in clinical trials;
- patient referral practices of physicians;
- ability to monitor patients adequately during and after treatment; and
- proximity and availability of clinical trial sites for prospective patients.

In particular, EDIT-101 for the treatment of LCA10 has a limited patient pool from which to draw for enrollment in a clinical trial, as the global incidence of LCA10 is estimated to be two to three per 100,000 live births worldwide. The eligibility criteria of our clinical trials will further limit the pool of available trial participants. Additionally, the process of finding and diagnosing patients may prove costly.

Our ability to successfully initiate, enroll, and complete a clinical trial in any foreign country is subject to numerous risks unique to conducting business in foreign countries, including:

- difficulty in establishing or managing relationships with CROs and physicians;
- different standards for the conduct of clinical trials;
- different standard-of-care for patients with a particular disease;
- inability to locate qualified local consultants, physicians, and partners; and
- potential burden of complying with a variety of foreign laws, medical standards, and regulatory requirements, including the regulation of pharmaceutical and biotechnology products and treatment.

Enrollment delays in our clinical trials may result in increased development costs for any product candidates we may develop, which would cause the value of our company to decline and limit our ability to obtain additional financing. If we or our collaborators have difficulty enrolling a sufficient number of patients to conduct our clinical trials as

planned, we may need to delay, limit, or terminate ongoing or planned clinical trials, any of which would have an adverse effect on our business, financial condition, results of operations, and prospects.

***We may expend our limited resources to pursue a particular product candidate or indication and fail to capitalize on product candidates or indications that may be more profitable or for which there is a greater likelihood of success.***

Because we have limited financial and managerial resources, we focus on research programs and product candidates that we identify for specific indications among many potential options. As a result, we may forego or delay pursuit of opportunities with other product candidates or for other indications that later prove to have greater commercial potential. Our resource allocation decisions may cause us to fail to capitalize on viable commercial medicines or profitable market opportunities. Our spending on current and future research and development programs and product candidates for specific indications may not yield any commercially viable medicines. If we do not accurately evaluate the commercial potential or target market for a particular product candidate, we may relinquish valuable rights to that product candidate through collaboration, licensing, or other royalty arrangements in cases in which it would have been more advantageous for us to retain sole development and commercialization rights to such product candidate. Any such event could have a material adverse effect on our business, financial condition, results of operations, and prospects.

***If we are unable to successfully identify patients who are likely to benefit from therapy with any medicines we develop, or experience significant delays in doing so, we may not realize the full commercial potential of any medicines we may develop.***

Our success may depend, in part, on our ability to identify patients who are likely to benefit from therapy with any medicines we may develop, which requires those potential patients to have their DNA analyzed for the presence or absence of a particular sequence. For example, although LCA can be diagnosed based on a patient's symptoms and retinal scans, DNA samples are taken from LCA patients in order to test for the presence of the known gene mutations that cause LCA and, where possible, to identify the specific genetically defined disease, such as LCA10. If we, or any third parties that we engage to assist us, are unable to successfully identify such patients, or experience delays in doing so, then:

- our ability to develop any product candidates may be adversely affected if we are unable to appropriately select patients for enrollment in our clinical trials;
- any product candidates we develop may not receive marketing approval if safe and effective use of such product candidates depends on an *in vitro* diagnostic; and
- we may not realize the full commercial potential of any product candidates we develop that receive marketing approval if, among other reasons, we are unable to appropriately select patients who are likely to benefit from therapy with our medicines.

As a result, we may be unable to successfully develop and realize the commercial potential of any product candidates we may identify and develop, and our business, financial condition, results of operations, and prospects would be materially adversely affected.

***Even if we complete the necessary clinical trials, we cannot predict when, or if, we will obtain regulatory approval to commercialize a product candidate we may develop, and any such approval may be for a more narrow indication than we seek.***

We cannot commercialize a product candidate until the appropriate regulatory authorities have reviewed and approved the product candidate. Even if any product candidates we may develop meet their safety and efficacy endpoints in clinical trials, the regulatory authorities may not complete their review processes in a timely manner, or we may not be able to obtain regulatory approval. Additional delays may result if an FDA Advisory Committee or other regulatory authority recommends non-approval or restrictions on approval. In addition, we may experience delays or rejections based upon additional government regulation from future legislation or administrative action, or changes in regulatory authority policy during the period of product development, clinical trials, and the review process.

Regulatory authorities also may approve a product candidate for more limited indications than requested or they may impose significant limitations in the form of narrow indications, warnings or a REMS. These regulatory authorities may require precautions or contra-indications with respect to conditions of use, or they may grant approval subject to the performance of costly post-marketing clinical trials. In addition, regulatory authorities may not approve the labeling claims that are necessary or desirable for the successful commercialization of any product candidates we may develop. Any of the foregoing scenarios could materially harm the commercial prospects for any product candidates we may develop and materially adversely affect our business, financial condition, results of operations, and prospects.

***Even if any product candidates we may develop receive marketing approval, they may fail to achieve the degree of market acceptance by physicians, patients, healthcare payors, and others in the medical community necessary for commercial success.***

The commercial success of any of our product candidates will depend upon its degree of market acceptance by physicians, patients, third-party payors, and others in the medical community. Ethical, social, and legal concerns about genomic medicines generally and genome editing technologies specifically could result in additional regulations restricting or prohibiting our products. Even if any product candidates we may develop receive marketing approval, they may nonetheless fail to gain sufficient market acceptance by physicians, patients, healthcare payors, and others in the medical community. The degree of market acceptance of any product candidates we may develop, if approved for commercial sale, will depend on a number of factors, including:

- the efficacy and safety of such product candidates as demonstrated in clinical trials;
- the potential and perceived advantages compared to alternative treatments;
- the limitation to our targeted patient population and limitations or warnings contained in approved labeling by the FDA or other regulatory authorities;
- the ability to offer our medicines for sale at competitive prices;
- convenience and ease of administration compared to alternative treatments;
- the clinical indications for which the product candidate is approved by the FDA, the European Commission, or other regulatory agencies;
- public attitudes regarding genomic medicine generally and genome editing technologies specifically;
- the willingness of the target patient population to try new therapies and of physicians to prescribe these therapies, as well as their willingness to accept a therapeutic intervention that involves the editing of the patient’s genome;
- product labeling or product insert requirements of the FDA, the EMA, or other regulatory authorities, including any limitations or warnings contained in a product’s approved labeling;
- relative convenience and ease of administration;
- the timing of market introduction of competitive products;
- publicity concerning our products or competing products and treatments;
- the strength of marketing and distribution support;
- sufficient third-party coverage or reimbursement; and

- the prevalence and severity of any side effects.

If any product candidates we develop do not achieve an adequate level of acceptance, we may not generate significant product revenues, and we may not become profitable.

***If, in the future, we are unable to establish sales and marketing capabilities or enter into agreements with third parties to sell and market any product candidates we may develop, we may not be successful in commercializing those product candidates if and when they are approved.***

We do not have a sales or marketing infrastructure and have no experience in the sale, marketing, or distribution of pharmaceutical products. To achieve commercial success for any approved medicine for which we retain sales and marketing responsibilities, we must either develop a sales and marketing organization or outsource these functions to third parties. In the future, we may choose to build a focused sales, marketing, and commercial support infrastructure to sell, or participate in sales activities with our collaborators for, some of our product candidates if and when they are approved.

There are risks involved with both establishing our own commercial capabilities and entering into arrangements with third parties to perform these services. For example, recruiting and training a sales force or reimbursement specialists is expensive and time consuming and could delay any product launch. If the commercial launch of a product candidate for which we recruit a sales force and establish marketing and other commercialization capabilities is delayed or does not occur for any reason, we would have prematurely or unnecessarily incurred these commercialization expenses. This may be costly, and our investment would be lost if we cannot retain or reposition our commercialization personnel.

Factors that may inhibit our efforts to commercialize our medicines on our own include:

- our inability to recruit and retain adequate numbers of effective sales, marketing, reimbursement, customer service, medical affairs, and other support personnel;

- the inability of sales personnel to obtain access to physicians or persuade adequate numbers of physicians to prescribe any future medicines;

- the inability of reimbursement professionals to negotiate arrangements for formulary access, reimbursement, and other acceptance by payors;

- restricted or closed distribution channels that make it difficult to distribute our products to segments of the patient population;

- the lack of complementary medicines to be offered by sales personnel, which may put us at a competitive disadvantage relative to companies with more extensive product lines; and

- unforeseen costs and expenses associated with creating an independent commercialization organization.

If we enter into arrangements with third parties to perform sales, marketing, commercial support, and distribution services, our product revenues or the profitability of these product revenues to us may be lower than if we were to market and sell any medicines we may develop ourselves. In addition, we may not be successful in entering into arrangements with third parties to commercialize our product candidates or may be unable to do so on terms that are favorable to us. We may have little control over such third parties, and any of them may fail to devote the necessary resources and attention to sell and market our medicines effectively. If we do not establish commercialization capabilities successfully, either on our own or in collaboration with third parties, we will not be successful in commercializing our product candidates.

***We face significant competition in an environment of rapid technological change, and there is a possibility that our competitors may achieve regulatory approval before us or develop therapies that are safer or more advanced or effective than ours, which may harm our financial condition and our ability to successfully market or commercialize any product candidates we may develop.***

The development and commercialization of new drug products is highly competitive. Moreover, the biotechnology and pharmaceutical industries, including in the gene therapy, genome editing and cell therapy fields, are characterized by rapidly advancing technologies, intense competition, and a strong emphasis on intellectual property and proprietary products. We will face competition with respect to any product candidates that we may seek to develop or commercialize in the future from major pharmaceutical companies, specialty pharmaceutical companies, and biotechnology companies worldwide. Potential competitors also include academic institutions, government agencies, and other public and private research organizations that conduct research, seek patent protection, and establish collaborative arrangements for research, development, manufacturing, and commercialization.

There are a number of large pharmaceutical and biotechnology companies that currently market and sell products or are pursuing the development of products for the treatment of the disease indications for which we have research programs. Some of these competitive products and therapies are based on scientific approaches that are the same as or similar to our approach, and others are based on entirely different approaches.

Our platform and product focus is the development of therapies using CRISPR technology. Other companies developing CRISPR technology or therapies using CRISPR technology include Arbor Biotechnologies, Caribou Biosciences, Casebia Therapeutics, CRISPR Therapeutics, ERS Genomics, Exonics Therapeutics, Intellia Therapeutics, Locus Biosciences, ToolGen Inc. (“ToolGen”) and TRACR Hematology. In addition, there have been and may continue to be discoveries of new CRISPR-based gene editing technologies. There are additional companies developing therapies using other genome editing technologies, including base editing, transcription activator-like effector nucleases, meganucleases, Mega-TALs, and zinc finger nucleases. These companies include Beam Therapeutics Inc., bluebird bio, Cellectis, Poseida Therapeutics, Precision Biosciences and Sangamo Therapeutics. Additional companies developing gene therapy products include Abeona Therapeutics, Adverum Biotechnologies, AGTC Therapeutics, Audentes Therapeutics, Homology Medicines, Nightstar Therapeutics, REGENXBIO, Sarepta Therapeutics, Solid Biosciences, Spark Therapeutics, uniQure and Voyager Therapeutics. In addition to competition from other genome editing therapies, gene therapies or cell medicine therapies, any products that we may develop may also face competition from other types of therapies, such as small molecule, antibody, protein, oligonucleotide, or ribonucleic acid therapies. For example, ProQR Therapeutics N.V. is conducting a clinical trial for its experimental treatment using antisense oligonucleotide technology for LCA10.

Many of our current or potential competitors, either alone or with their collaboration partners, may have significantly greater financial resources and expertise in research and development, manufacturing, preclinical testing, conducting clinical trials, obtaining regulatory approvals, and marketing approved products than we do. Mergers and acquisitions in the pharmaceutical, biotechnology, and gene therapy industries may result in even more resources being concentrated among a smaller number of our competitors. Smaller or early-stage companies may also prove to be significant competitors, particularly through collaborative arrangements with large and established companies. These competitors also compete with us in recruiting and retaining qualified scientific and management personnel and establishing clinical trial sites and patient registration for clinical trials, as well as in acquiring technologies complementary to, or necessary for, our programs. Our commercial opportunity could be reduced or eliminated if our competitors develop and commercialize products that are safer, more effective, have fewer or less severe side effects, are more convenient, or are less expensive than any products that we may develop or that would render any products that we may develop obsolete or non-competitive. Our competitors also may obtain FDA or other regulatory approval for their products more rapidly than we may obtain approval for ours, which could result in our competitors establishing a strong market position before we are able to enter the market. Additionally, technologies developed by our competitors may render our potential product candidates uneconomical or obsolete, and we may not be successful in marketing any product candidates we may develop against competitors.

In addition, as a result of the expiration or successful challenge of our patent rights, we could face more litigation with respect to the validity and/or scope of patents relating to our competitors’ products. The availability of our

competitors' products could limit the demand, and the price we are able to charge, for any products that we may develop and commercialize.

***Even if we are able to commercialize any product candidates, such products may become subject to unfavorable pricing regulations, third-party reimbursement practices, or healthcare reform initiatives, which would harm our business.***

The regulations that govern marketing approvals, pricing, and reimbursement for new medicines vary widely from country to country. In the United States, recently enacted legislation may significantly change the approval requirements in ways that could involve additional costs and cause delays in obtaining approvals. Some countries require approval of the sale price of a medicine before it can be marketed. In many countries, the pricing review period begins after marketing or product licensing approval is granted. In some foreign markets, prescription pharmaceutical pricing remains subject to continuing governmental control even after initial approval is granted. As a result, we might obtain marketing approval for a medicine in a particular country, but then be subject to price regulations that delay our commercial launch of the medicine, possibly for lengthy time periods, and negatively impact the revenues we are able to generate from the sale of the medicine in that country. Adverse pricing limitations may hinder our ability to recoup our investment in one or more product candidates, even if any product candidates we may develop obtain marketing approval.

Our ability to commercialize any medicines successfully also will depend in part on the extent to which reimbursement for these medicines and related treatments will be available from government health administration authorities, private health insurers, and other organizations. Government authorities and third-party payors, such as private health insurers and health maintenance organizations, decide which medications they will pay for and establish reimbursement levels. A primary trend in the U.S. healthcare industry and elsewhere is cost containment. Government authorities and third-party payors have attempted to control costs by limiting coverage and the amount of reimbursement for particular medications. Increasingly, third-party payors are requiring that drug companies provide them with predetermined discounts from list prices and are challenging the prices charged for medical products. We cannot be sure that reimbursement will be available for any medicine that we commercialize and, if reimbursement is available, the level of reimbursement. Reimbursement may impact the demand for, or the price of, any product candidate for which we obtain marketing approval. If reimbursement is not available or is available only to limited levels, we may not be able to successfully commercialize any product candidate for which we obtain marketing approval.

There may be significant delays in obtaining reimbursement for newly approved medicines, and coverage may be more limited than the purposes for which the medicine is approved by the FDA or similar regulatory authorities outside the United States. Moreover, eligibility for reimbursement does not imply that any medicine will be paid for in all cases or at a rate that covers our costs, including research, development, manufacture, sale, and distribution. Interim reimbursement levels for new medicines, if applicable, may also not be sufficient to cover our costs and may not be made permanent. Reimbursement rates may vary according to the use of the medicine and the clinical setting in which it is used, may be based on reimbursement levels already set for lower cost medicines and may be incorporated into existing payments for other services. Net prices for medicines may be reduced by mandatory discounts or rebates required by government healthcare programs or private payors and by any future relaxation of laws that presently restrict imports of medicines from countries where they may be sold at lower prices than in the United States. Third-party payors often rely upon Medicare coverage policy and payment limitations in setting their own reimbursement policies. Our inability to promptly obtain coverage and profitable payment rates from both government-funded and private payors for any approved medicines we may develop could have a material adverse effect on our operating results, our ability to raise capital needed to commercialize medicines, and our overall financial condition.

***Due to the novel nature of our technology and the potential for any product candidates we may develop to offer therapeutic benefit in a single administration or limited number of administrations, we face uncertainty related to pricing and reimbursement for these product candidates.***

Our initial target patient populations for our most advanced programs are relatively small, as a result of which the pricing and reimbursement of any product candidates we may develop, if approved, must be adequate to support the necessary commercial infrastructure. If we are unable to obtain adequate levels of reimbursement, our ability to

successfully market and sell any such product candidates will be adversely affected. The manner and level at which reimbursement is provided for services related to any product candidates we may develop, e.g., for administration of our product to patients, is also important. Inadequate reimbursement for such services may lead to physician resistance and adversely affect our ability to market or sell our products. In addition, it may be necessary for us to develop new reimbursement models in order to realize adequate value. Payors may not be able or willing to adopt such new models, and patients may be unable to afford that portion of the cost that such models may require them to bear. If we determine such new models are necessary but we are unsuccessful in developing them, or if such models are not adopted by payors, our business, financial condition, results of operations, and prospects could be adversely affected.

We expect the cost of a single administration of genomic medicine products, such as those we are seeking to develop, to be substantial, when and if they achieve regulatory approval. We expect that coverage and reimbursement by government and private payors will be essential for most patients to be able to afford these treatments. Accordingly, sales of any such product candidates will depend substantially, both domestically and abroad, on the extent to which the costs of any product candidates we may develop will be paid by health maintenance, managed care, pharmacy benefit, and similar healthcare management organizations, or will be reimbursed by government authorities, private health coverage insurers, and other third-party payors. Coverage and reimbursement by a third-party payor may depend upon several factors, including the third-party payor's determination that use of a product is:

- a covered benefit under its health plan;
- safe, effective, and medically necessary;
- appropriate for the specific patient;
- cost-effective; and
- neither experimental nor investigational.

Obtaining coverage and reimbursement for a product from third-party payors is a time-consuming and costly process that could require us to provide to the payor supporting scientific, clinical, and cost-effectiveness data. There is significant uncertainty related to third-party coverage and reimbursement of newly approved products. We may not be able to provide data sufficient to gain acceptance with respect to coverage and reimbursement. If coverage and reimbursement are not available, or are available only at limited levels, we may not be able to successfully commercialize any product candidates we may develop. Even if coverage is provided, the approved reimbursement amount may not be adequate to realize a sufficient return on our investment.

Moreover, the downward pressure on healthcare costs in general, particularly prescription drugs and surgical procedures and other treatments, has become intense. As a result, increasingly high barriers are being erected to the entry of new products such as ours. If we are unable to obtain adequate levels of reimbursement, our ability to successfully market and sell any product candidates we may develop will be harmed.

***If the market opportunities for any product candidates we may develop are smaller than we believe they are, our revenues may be adversely affected, and our business may suffer. Because the target patient populations for many of the product candidates we may develop are small, we must be able to successfully identify patients and achieve a significant market share to maintain profitability and growth.***

Some of our most advanced programs, including EDIT-101, focus on treatments for rare genetically defined diseases. Our projections of both the number of people who have these diseases, as well as the subset of people with these diseases who have the potential to benefit from treatment with product candidates we may develop, are based on estimates. These estimates may prove to be incorrect and new studies may change the estimated incidence or prevalence of these diseases. The number of patients in the United States, Europe, and elsewhere may turn out to be lower than expected, and patients may not be amenable to treatment with our products, or may become increasingly difficult to identify or gain access to, all of which would adversely affect our business, financial condition, results of operations, and prospects.

***Product liability lawsuits against us could cause us to incur substantial liabilities and could limit commercialization of any medicines that we may develop.***

We face an inherent risk of product liability exposure related to the testing in human clinical trials of any product candidates we may develop and will face an even greater risk if we commercially sell any medicines that we may develop. If we cannot successfully defend ourselves against claims that our product candidates or medicines caused injuries, we could incur substantial liabilities. Regardless of merit or eventual outcome, liability claims may result in:

- decreased demand for any product candidates or medicines that we may develop;
- injury to our reputation and significant negative media attention;
- withdrawal of clinical trial participants;
- significant time and costs to defend the related litigation;
- substantial monetary awards to trial participants or patients;
- loss of revenue; and
- the inability to commercialize any medicines that we may develop.

Although we maintain product liability insurance coverage, it may not be adequate to cover all liabilities that we may incur. We anticipate that we will need to increase our insurance coverage if we successfully commercialize any medicine. Insurance coverage is increasingly expensive. We may not be able to maintain insurance coverage at a reasonable cost or in an amount adequate to satisfy any liability that may arise.

***If we or any contract manufacturers and suppliers we engage fail to comply with environmental, health, and safety laws and regulations, we could become subject to fines or penalties or incur costs that could have a material adverse effect on the success of our business.***

We and any contract manufacturers and suppliers we engage are subject to numerous federal, state, and local environmental, health, and safety laws, regulations, and permitting requirements, including those governing laboratory procedures; the generation, handling, use, storage, treatment, and disposal of hazardous and regulated materials and wastes; the emission and discharge of hazardous materials into the ground, air, and water; and employee health and safety. Our operations involve the use of hazardous and flammable materials, including chemicals and biological and radioactive materials. Our operations also produce hazardous waste. We generally contract with third parties for the disposal of these materials and wastes. We cannot eliminate the risk of contamination or injury from these materials. In the event of contamination or injury resulting from our use of hazardous materials, we could be held liable for any resulting damages, and any liability could exceed our resources. Under certain environmental laws, we could be held responsible for costs relating to any contamination at our current or past facilities and at third-party facilities. We also could incur significant costs associated with civil or criminal fines and penalties.

Compliance with applicable environmental laws and regulations may be expensive, and current or future environmental laws and regulations may impair our research and product development efforts. In addition, we cannot entirely eliminate the risk of accidental injury or contamination from these materials or wastes. Although we maintain workers' compensation insurance to cover us for costs and expenses we may incur due to injuries to our employees resulting from the use of hazardous materials, this insurance may not provide adequate coverage against potential liabilities. We do not carry specific biological or hazardous waste insurance coverage, and our commercial general liability and umbrella liability policies (under which we currently have an aggregate of $7.0 million in coverage) specifically exclude coverage for damages and fines arising from biological or hazardous waste exposure or contamination. Accordingly, in the event of contamination or injury, we could be held liable for damages or be penalized with fines in an amount exceeding our resources, and our clinical trials or regulatory approvals could be suspended,

which could have a material adverse effect on our business, financial condition, results of operations, and prospects.

In addition, we may incur substantial costs in order to comply with current or future environmental, health, and safety laws, regulations, and permitting requirements. These current or future laws, regulations, and permitting requirements may impair our research, development, or production efforts. Failure to comply with these laws, regulations, and permitting requirements also may result in substantial fines, penalties, or other sanctions or business disruption, which could have a material adverse effect on our business, financial condition, results of operations, and prospects.

Any third-party contract manufacturers and suppliers we engage will also be subject to these and other environmental, health, and safety laws and regulations. Liabilities they incur pursuant to these laws and regulations could result in significant costs or an interruption in operations, which could have a material adverse effect on our business, financial condition, results of operations, and prospects.

***Genomic medicines are novel, and any product candidates we develop may be complex and difficult to manufacture. We could experience production problems that result in delays in our development or commercialization programs, limit the supply of our products, or otherwise harm our business.***

Any product candidates we may develop will likely require processing steps that are more complex than those required for most chemical pharmaceuticals. Moreover, unlike chemical pharmaceuticals, the physical and chemical properties of a biologic such as the product candidates we intend to develop generally cannot be fully characterized. As a result, assays of the finished product may not be sufficient to ensure that the product will perform in the intended manner. Problems with the manufacturing process, even minor deviations from the normal process, could result in product defects or manufacturing failures that result in lot failures, product recalls, product liability claims, or insufficient inventory. If we successfully develop product candidates, we may encounter problems achieving adequate quantities and quality of clinical-grade materials that meet FDA, EMA or other comparable applicable foreign standards or specifications with consistent and acceptable production yields and costs.

In addition, the FDA, the EMA, and other regulatory authorities may require us to submit samples of any lot of any approved product together with the protocols showing the results of applicable tests at any time. Under some circumstances, the FDA, the EMA, or other regulatory authorities may require that we not distribute a lot until the agency authorizes its release. Slight deviations in the manufacturing process, including those affecting quality attributes and stability, may result in unacceptable changes in the product that could result in lot failures or product recalls. Lot failures or product recalls could cause us to delay clinical trials, including the planned Phase 1/2 clinical trial for EDIT-101, or product launches, which could be costly to us and otherwise harm our business, financial condition, results of operations, and prospects.

We also may encounter problems hiring and retaining the experienced scientific, quality control, and manufacturing personnel needed to manage our manufacturing process, which could result in delays in our production or difficulties in maintaining compliance with applicable regulatory requirements.

Given the nature of biologics manufacturing, there is a risk of contamination during manufacturing. Any contamination could materially harm our ability to produce product candidates on schedule and could harm our results of operations and cause reputational damage. Some of the raw materials that we anticipate will be required in our manufacturing process are derived from biologic sources. Such raw materials are difficult to procure and may be subject to contamination or recall. A material shortage, contamination, recall, or restriction on the use of biologically derived substances in the manufacture of any product candidates we may develop could adversely impact or disrupt the commercial manufacturing or the production of clinical material, which could materially harm our development timelines and our business, financial condition, results of operations, and prospects.

Any problems in our manufacturing process or the facilities with which we contract could make us a less attractive collaborator for potential partners, including larger pharmaceutical companies and academic research institutions, which could limit our access to additional attractive development programs. Problems in third-party manufacturing process or facilities also could restrict our ability to ensure sufficient clinical material for any clinical

trials we may be conducting or are planning to conduct and meet market demand for any products we develop and commercialize. For example, if the contract manufacturing organizations that we have engaged to manufacture EDIT-101 fail to deliver sufficient amounts or fail to timely deliver EDIT-101 due to any of the risks discussed herein, then we and Allergan may not be able to begin patient dosing in the planned Phase 1/2 clinical trial for EDIT-101 in the second half of 2019.

**Risks Related to Our Dependence on Third Parties**

***We expect to depend on collaborations with third parties for the research, development, and commercialization of certain of the product candidates we may develop or for development of certain of our research programs. If any such collaborations are not successful, we may not be able to capitalize on the market potential of those product candidates or research programs.***

We anticipate seeking third-party collaborators for the research, development, and commercialization of certain of the product candidates we may develop or for development of certain of our research programs. For example, in May 2015, we entered into a collaboration with Juno Therapeutics focused on research and development of engineered T cell immunotherapies that utilize or incorporate our genome editing technologies, and, in March 2017, we entered into a strategic alliance with Allergan focused on discovering, developing, and commercializing new gene editing medicines for a range of ocular disorders. Our likely collaborators for any other collaboration arrangements include large and mid-size pharmaceutical companies, regional and national pharmaceutical companies, and biotechnology companies. If we enter into any such arrangements with any third parties, we will likely have limited control over the amount and timing of resources that our collaborators dedicate to the development or commercialization of any product candidates we may seek to develop with them and, in the case of our strategic alliance with Allergan, whether they exercise any additional options to commercialize a product. Our ability to generate revenues from these arrangements will depend on our collaborators' abilities to successfully perform the functions assigned to them in these arrangements. We cannot predict the success of any collaboration that we enter into.

Collaborations involving our research programs or any product candidates we may develop, including our collaboration with Juno Therapeutics, and alliance arrangements we may enter into under which our research programs may be involved and potential product candidates may be developed, including our strategic alliance with Allergan, pose the following risks to us:

- Collaborators may have significant discretion in determining the efforts and resources that they will apply to these collaborations.
- Collaborators may not pursue development and commercialization of any product candidates we may develop or may elect not to continue or renew development or commercialization programs based on clinical trial results, changes in the collaborator's strategic focus or available funding or external factors such as an acquisition that diverts resources or creates competing priorities.
- Collaborators may delay clinical trials, provide insufficient funding for a clinical trial program, stop a clinical trial or abandon a product candidate, repeat or conduct new clinical trials, or require a new formulation of a product candidate for clinical testing.
- Collaborators could independently develop, or develop with third parties, products that compete directly or indirectly with our medicines or product candidates if the collaborators believe that competitive products are more likely to be successfully developed or can be commercialized under terms that are more economically attractive than ours.
- Collaborators with marketing and distribution rights to one or more medicines may not commit sufficient resources to the marketing and distribution of such medicine or medicines.
- Collaborators may not properly obtain, maintain, enforce, or defend our intellectual property or proprietary

rights or may use our proprietary information in such a way as to invite litigation that could jeopardize or invalidate our proprietary information or expose us to potential litigation.

- Disputes may arise between the collaborators and us that result in the delay or termination of the research, development, or commercialization of our medicines or product candidates or that result in costly litigation or arbitration that diverts management attention and resources.

- We may lose certain valuable rights under circumstances identified in our collaborations, including if we undergo a change of control.

- Collaborations may be terminated and, if terminated, may result in a need for additional capital to pursue further development or commercialization of the applicable product candidates.

- Collaboration agreements may not lead to development or commercialization of product candidates in the most efficient manner or at all. If a present or future collaborator of ours were to be involved in a business combination, the continued pursuit and emphasis on our product development or commercialization program under such collaboration could be delayed, diminished, or terminated.

If our collaborations do not result in the successful development and commercialization of products, or if one of our collaborators terminates its agreement with us, we may not receive any future research funding or milestone or royalty payments under the collaboration, as the case may be. If we do not receive the funding we expect under these agreements, our development of product candidates could be delayed, and we may need additional resources to develop product candidates. In addition, if one of our collaborators terminates its agreement with us, we may find it more difficult to find a suitable replacement collaborator or attract new collaborators, and our development programs may be delayed or the perception of us in the business and financial communities could be adversely affected. All of the risks relating to product development, regulatory approval, and commercialization described in this Quarterly Report on Form 10-Q apply to the activities of our collaborators.

We may in the future decide to collaborate with pharmaceutical and biotechnology companies for the development and potential commercialization of any product candidates we may develop. These relationships, or those like them, may require us to incur non-recurring and other charges, increase our near- and long-term expenditures, issue securities that dilute our existing stockholders, or disrupt our management and business. In addition, we could face significant competition in seeking appropriate collaborators, and the negotiation process is time-consuming and complex. Our ability to reach a definitive collaboration agreement will depend, among other things, upon our assessment of the collaborator's resources and expertise, the terms and conditions of the proposed collaboration, and the proposed collaborator's evaluation of several factors. If we license rights to any product candidates we or our collaborators may develop, we may not be able to realize the benefit of such transactions if we are unable to successfully integrate them with our existing operations and company culture.

***If we are not able to establish collaborations on commercially reasonable terms, we may have to alter our development and commercialization plans.***

Our product development and research programs and the potential commercialization of any product candidates we may develop will require substantial additional cash to fund expenses. For some of the product candidates we may develop or certain of our research programs, we may decide to collaborate with other pharmaceutical and biotechnology companies for the development and potential commercialization of those product candidates or programs.

We face significant competition in seeking appropriate collaborators. Whether we reach a definitive agreement for a collaboration will depend, among other things, upon our assessment of the collaborator's resources and expertise, the terms and conditions of the proposed collaboration, and the proposed collaborator's evaluation of a number of factors. Those factors may include the design or results of clinical trials, the likelihood of approval by the FDA or similar regulatory authorities outside the United States, the potential market for the subject product candidate, the costs and complexities of manufacturing and delivering such product candidate to patients, the potential of competing products, the existence of uncertainty with respect to our ownership of technology, which can exist if there is a challenge

to such ownership without regard to the merits of the challenge, and industry and market conditions generally. The collaborator may also consider alternative product candidates or technologies for similar indications that may be available to collaborate on and whether such a collaboration could be more attractive than the one with us.

We may also be restricted under existing collaboration agreements from entering into future agreements on certain terms with potential collaborators or allies. For example, during the research program term of our collaboration with Juno Therapeutics, we may not directly or indirectly license, fund, enable, or participate in any research, development, manufacture, or commercialization of engineered T cells with chimeric antigen receptors and T cell receptors in the field of diagnosis, treatment, or prevention of cancer in humans through the use of engineered T cells, excluding the diagnosis, treatment, or prevention of medullary cystic kidney disease.

Collaborations are complex and time-consuming to negotiate and document. In addition, there have been a significant number of recent business combinations among large pharmaceutical companies that have resulted in a reduced number of potential future collaborators.

We may not be able to negotiate collaborations on a timely basis, on acceptable terms, or at all. If we are unable to do so, we may have to curtail the development of the product candidate for which we are seeking to collaborate, reduce or delay its development program or one or more of our other development programs, delay its potential commercialization or reduce the scope of any sales or marketing activities, or increase our expenditures and undertake development or commercialization activities at our own expense. If we elect to increase our expenditures to fund development or commercialization activities on our own, we may need to obtain additional capital, which may not be available to us on acceptable terms or at all. If we do not have sufficient funds, we may not be able to further develop product candidates or bring them to market and generate product revenue.

***We expect to rely on third parties to conduct our clinical trials and some aspects of our research and preclinical testing, and those third parties may not perform satisfactorily, including failing to meet deadlines for the completion of such trials, research, or testing.***

We expect to rely on third parties, such as CROs, clinical data management organizations, medical institutions, and clinical investigators, to conduct our clinical trials. We currently rely and expect to continue to rely on third parties to conduct some aspects of our research and preclinical testing. Any of these third parties may terminate their engagements with us at any time. If we need to enter into alternative arrangements, it would delay our product development activities.

Our reliance on these third parties for research and development activities will reduce our control over these activities but will not relieve us of our responsibilities. For example, we will remain responsible for ensuring that each of our clinical trials is conducted in accordance with the general investigational plan and protocols for the trial. Moreover, the FDA requires us to comply with standards, commonly referred to as Good Clinical Practices, for conducting, recording, and reporting the results of clinical trials to assure that data and reported results are credible and accurate and that the rights, integrity, and confidentiality of trial participants are protected. We also are required to register ongoing clinical trials and post the results of completed clinical trials on a government-sponsored database, ClinicalTrials.gov, within certain timeframes. Failure to do so can result in fines, adverse publicity, and civil and criminal sanctions.

Furthermore, these third parties may also have relationships with other entities, some of which may be our competitors. If these third parties do not successfully carry out their contractual duties, meet expected deadlines, or conduct our clinical trials in accordance with regulatory requirements or our stated protocols, we will not be able to obtain, or may be delayed in obtaining, marketing approvals for any product candidates we may develop and will not be able to, or may be delayed in our efforts to, successfully commercialize our medicines.

We also expect to rely on other third parties to store and distribute drug supplies for our clinical trials. Any performance failure on the part of our distributors could delay clinical development or marketing approval of any product candidates we may develop or commercialization of our medicines, producing additional losses and depriving us of potential product revenue.

***We contract with third parties for the manufacture of materials for our research programs and preclinical studies and expect to continue to do so for clinical trials and for commercialization of any product candidates that we may develop. This reliance on third parties increases the risk that we will not have sufficient quantities of such materials, product candidates, or any medicines that we may develop and commercialize, or that such supply will not be available to us at an acceptable cost, which could delay, prevent, or impair our development or commercialization efforts.***

We have a limited ability to manufacture materials for our research programs and preclinical studies and we do not operate any significant manufacturing facilities. We primarily rely on third-party manufacturers for the manufacture of our materials for preclinical studies and expect to continue to do so for clinical testing and for commercial supply of any product candidates that we may develop and for which we or our collaborators obtain marketing approval. We do not have a long term supply agreement with any of the third-party manufacturers, and we purchase our required supply on a purchase order basis.

We may be unable to establish any agreements with third-party manufacturers or to do so on acceptable terms. Even if we are able to establish agreements with third-party manufacturers, reliance on third-party manufacturers entails additional risks, including:

- the possible breach of the manufacturing agreement by the third party;
- the possible termination or nonrenewal of the agreement by the third party at a time that is costly or inconvenient for us; and
- reliance on the third party for regulatory compliance, quality assurance, safety, and pharmacovigilance and related reporting.

Third-party manufacturers may not be able to comply with cGMP regulations or similar regulatory requirements outside the United States. Our failure, or the failure of our third-party manufacturers, to comply with applicable regulations could result in sanctions being imposed on us, including fines, injunctions, civil penalties, delays, suspension or withdrawal of approvals, license revocations, seizures or recalls of product candidates or medicines, operating restrictions, and criminal prosecutions, any of which could significantly and adversely affect supplies of our medicines and harm our business, financial condition, results of operations, and prospects.

Any medicines that we may develop may compete with other product candidates and products for access to manufacturing facilities. There are a limited number of manufacturers that operate under cGMP regulations and that might be capable of manufacturing for us.

Any performance failure on the part of our existing or future manufacturers could delay clinical development or marketing approval. We do not currently have arrangements in place for redundant supply for bulk drug substances. If any one of our current contract manufacturer cannot perform as agreed, we may be required to replace that manufacturer. Although we believe that there are several potential alternative manufacturers who could manufacture any product candidates we may develop, we may incur added costs and delays in identifying and qualifying any such replacement.

Our current and anticipated future dependence upon others for the manufacture of any product candidates we may develop or medicines may adversely affect our future profit margins and our ability to commercialize any medicines that receive marketing approval on a timely and competitive basis.

**Risks Related to Our Intellectual Property**

***If we are unable to obtain and maintain patent protection for any products we develop and for our technology, or if the scope of the patent protection obtained is not sufficiently broad, our competitors could develop and commercialize products and technology similar or identical to ours, and our ability to successfully commercialize any product candidates we may develop, and our technology may be adversely affected.***

Our success depends in large part on our ability to obtain and maintain patent protection in the United States and other countries with respect to our CRISPR platform technology and any proprietary product candidates and technology we develop. We seek to protect our proprietary position by in-licensing intellectual property relating to our platform technology and filing patent applications in the United States and abroad related to our technologies and product candidates that are important to our business. If we or our licensors and/or collaborators are unable to obtain or maintain patent protection with respect to our CRISPR platform technology and any proprietary products and technology we develop, our business, financial condition, results of operations, and prospects could be materially harmed.

No consistent policy regarding the scope of claims allowable in the field of genome editing, including CRISPR technology, has emerged in the United States. The scope of patent protection outside of the United States is also uncertain. Changes in either the patent laws or their interpretation in the United States and other countries may diminish our ability to protect our inventions, obtain, maintain, and enforce our intellectual property rights and, more generally, could affect the value of our intellectual property or narrow the scope of our owned and licensed patents. With respect to both in-licensed and owned intellectual property, we cannot predict whether the patent applications we and our licensors are currently pursuing will issue as patents in any particular jurisdiction or whether the claims of any issued patents will provide sufficient protection from competitors.

The patent prosecution process is expensive, time-consuming, and complex, and we may not be able to file, prosecute, maintain, enforce, or license all necessary or desirable patent applications at a reasonable cost or in a timely manner. It is also possible that we will fail to identify patentable aspects of our research and development output in time to obtain patent protection. Although we enter into non-disclosure and confidentiality agreements with parties who have access to confidential or patentable aspects of our research and development output, such as our employees, corporate collaborators, outside scientific collaborators, CROs, contract manufacturers, consultants, advisors, and other third parties, any of these parties may breach the agreements and disclose such output before a patent application is filed, thereby jeopardizing our ability to seek patent protection. In addition, publications of discoveries in the scientific literature often lag behind the actual discoveries, and patent applications in the United States and other jurisdictions are typically not published until 18 months after filing, or in some cases not at all. Therefore, we cannot be certain that we were the first to make the inventions claimed in our owned or any licensed patents or pending patent applications, or that we were the first to file for patent protection of such inventions.

The patent position of biotechnology and pharmaceutical companies generally is highly uncertain, involves complex legal and factual questions, and has been the subject of much litigation in recent years. As a result, the issuance, scope, validity, enforceability, and commercial value of our patent rights are highly uncertain. Our pending and future patent applications may not result in patents being issued which protect our technology or product candidates or which effectively prevent others from commercializing competitive technologies and product candidates.

Moreover, the coverage claimed in a patent application can be significantly reduced before the patent is issued, and its scope can be reinterpreted after issuance. Even if patent applications we license or own issue as patents, they may not issue in a form that will provide us with any meaningful protection, prevent competitors or other third parties from competing with us, or otherwise provide us with any competitive advantage. Any patents that we hold or in-license may be challenged, narrowed, circumvented, or invalidated by third parties. Consequently, we do not know whether any of our platform advances and product candidates will be protectable or remain protected by valid and enforceable patents. Our competitors or other third parties may be able to circumvent our patents by developing similar or alternative technologies or products in a non-infringing manner. For example, we are aware that third parties have suggested the use of the CRISPR technology in conjunction with a protein other than Cas9 or Cpf1. Our owned and in-licensed patents may not cover CRISPR technology in conjunction with a protein other than Cas9 or Cpf1. If our competitors commercialize the CRISPR technology in conjunction with a protein other than Cas9 or Cpf1, our business, financial

condition, results of operations, and prospects could be materially adversely affected.

The issuance of a patent is not conclusive as to its inventorship, scope, validity, or enforceability, and our patents may be challenged in the courts or patent offices in the United States and abroad. Our licensors are currently, and we or our licensors may in the future become, subject to a third party pre-issuance submission of prior art to the United States Patent and Trademark Office (the "USPTO") or opposition, derivation, revocation, re-examination, post-grant and *inter partes* review, or interference proceedings and other similar proceedings challenging our patent rights or the patent rights of others. An adverse determination in any such submission, proceeding or litigation could reduce the scope of, or invalidate, our patent rights, allow third parties to commercialize our technology or products and compete directly with us, without payment to us, or result in our inability to manufacture or commercialize products without infringing third-party patent rights. Moreover, we, or one of our licensors, may have to participate in interference proceedings declared by the USPTO to determine priority of invention or in post-grant challenge proceedings, such as oppositions in a foreign patent office, that challenge priority of invention or other features of patentability. Such challenges may result in loss of patent rights, loss of exclusivity, or in patent claims being narrowed, invalidated, or held unenforceable, which could limit our ability to stop others from using or commercializing similar or identical technology and products, or limit the duration of the patent protection of our technology and product candidates. Such proceedings also may result in substantial cost and require significant time from our scientists and management, even if the eventual outcome is favorable to us. As discussed below, some of our in-licensed patents are subject to opposition and *ex parte* re-examination proceedings and therefore subject to these risks.

In addition, given the amount of time required for the development, testing, and regulatory review of new product candidates, patents protecting such candidates might expire before or shortly after such candidates are commercialized. As a result, our intellectual property may not provide us with sufficient rights to exclude others from commercializing products similar or identical to ours. Moreover, some of our owned and in-licensed patents and patent applications are, and may in the future be, co-owned with third parties. If we are unable to obtain an exclusive license to any such third party co-owners' interest in such patents or patent applications, such co-owners may be able to license their rights to other third parties, including our competitors, and our competitors could market competing products and technology. In addition, we or our licensors may need the cooperation of any such co-owners of our owned and in-licensed patents in order to enforce such patents against third parties, and such cooperation may not be provided to us or our licensors. Any of the foregoing could have a material adverse effect on our competitive position, business, financial conditions, results of operations, and prospects.

Furthermore, our owned and in-licensed patents and patent applications may be subject to a reservation of rights by one or more third parties. For example, the research resulting in certain of our owned and in-licensed patent rights and technology was funded in part by the U.S. government. As a result, the U.S. government has certain rights, including march-in rights, to such patent rights and technology. When new technologies are developed with government funding, the government generally obtains certain rights in any resulting patents, including a non-exclusive license authorizing the government to use the invention. For example, our licensors, including The Broad Institute, Inc. ("Broad"), have granted the U.S. government non-exclusive, non-transferable, irrevocable, paid-up licenses to practice or have practiced for or on behalf of the United States, the inventions described in certain of our in-licensed patents and patent applications, including certain aspects of our in-licensed CRISPR technology. If the government decides to exercise these rights, it is not required to engage us as its contractor in connection with doing so. These rights may permit the U.S. government to disclose our confidential information to third parties and to exercise march-in rights to use or allow third parties to use our licensed technology. The U.S. government can exercise its march-in rights if it determines that action is necessary because we fail to achieve practical application of the government-funded technology, because action is necessary to alleviate health or safety needs, to meet requirements of federal regulations, or to give preference to U.S. industry. In addition, our rights in such inventions may be subject to certain requirements to manufacture products embodying such inventions in the United States. Any exercise by the government of any of the foregoing rights could harm our competitive position, business, financial condition, results of operations, and prospects.

***Our rights to develop and commercialize our technology and product candidates are subject, in part, to the terms and conditions of licenses granted to us by others.***

We are heavily reliant upon licenses to certain patent rights and proprietary technology from third parties that

are important or necessary to the development of our genome editing technology, including our CRISPR technology, and product candidates. These and other licenses may not provide exclusive rights to use such intellectual property and technology in all relevant fields of use and in all territories in which we may wish to develop or commercialize our technology and products in the future. As a result, we may not be able to prevent competitors from developing and commercializing competitive products in territories included in all of our licenses. For example, pursuant to our license agreements with Broad, and Broad and the President and Fellows of Harvard College ("Harvard"), the licensors may, under certain circumstances, grant a license to the patents that are the subject of such license agreements to a third party. Such third party would have full rights to the patent rights that are the subject of such licenses, which could impact our competitive position and enable a third party to commercialize products similar to our future product candidates and technology. Furthermore, under these license agreements, Broad has the right, after specified periods of time and subject to certain limitations, to designate gene targets for which Broad, whether alone or together with an affiliate or third party, has an interest in researching and developing products that would otherwise be covered by rights licensed to us under the agreements. Any of the foregoing would narrow the scope of our exclusive rights to the patents and patent applications we have in-licensed from Broad. The terms of these license agreements are described more fully under "Part I—Business—Our Collaborations and Licensing Strategy" in our Annual Report on Form 10-K for the fiscal year ended December 31, 2018. In addition, our rights to our in-licensed patents and patent applications are dependent, in part, on inter-institutional or other operating agreements between the joint owners of such in-licensed patents and patent applications. If one or more of such joint owners breaches such inter-institutional or operating agreements, our rights to such in-licensed patents and patent applications may be adversely affected, which could have a material adverse effect on our competitive position, business, financial conditions, results of operations, and prospects.

In addition, we may not have the right to control the preparation, filing, prosecution, maintenance, enforcement, and defense of patents and patent applications covering the technology that we license from third parties. For example, pursuant to each of our intellectual property licenses with Broad, Harvard, and The General Hospital Corporation, d/b/a Massachusetts General Hospital, our licensors retain control of preparation, filing, prosecution, and maintenance, and, in certain circumstances, enforcement and defense of their patents and patent applications. Therefore, we cannot be certain that these patents and patent applications will be prepared, filed, prosecuted, maintained, enforced, and defended in a manner consistent with the best interests of our business. If our licensors fail to prosecute, maintain, enforce, and defend such patents, or lose rights to those patents or patent applications, the rights we have licensed may be reduced or eliminated, and our right to develop and commercialize any of our products that are subject of such licensed rights could be adversely affected. Additionally, given that we are required to reimburse our licensors for all of their expenses related to the prosecution, maintenance, enforcement and defense of patents and patent applications that we in-license from them, the ongoing nature of the opposition and re-examination proceedings involving the patents licensed to us under our license agreement with Harvard and Broad and our obligation to make such reimbursements are not subject to any limitations, we anticipate that our obligation to reimburse our licensors for expenses related to these matters will continue to be substantial. In connection with these reimbursement obligations, we incurred expenses in aggregate amounts of $14.2 million, $18.7 million, $23.6 million, and $9.4 million during the years ended December 31, 2018, 2017, 2016, and 2015, respectively, and we incurred expenses in an aggregate amount of $3.4 million during the three months ended March 31, 2019.

Our licensors may have relied on third party consultants or collaborators or on funds from third parties such that our licensors are not the sole and exclusive owners of the patents and patent applications we in-license. For example, certain patent applications licensed to us by Broad are co-owned with NIH. Broad does not and does not purport to grant any rights in NIH's interest in these patent applications under our agreement. If other third parties have ownership rights to our in-licensed patents and patent applications, they may be able to license such patents and patent applications to our competitors, and our competitors could market competing products and technology. This could have a material adverse effect on our competitive position, business, financial conditions, results of operations, and prospects.

In spite of our best efforts, our licensors might conclude that we have materially breached our license agreements and might therefore terminate the license agreements, thereby removing our ability to develop and commercialize products and technology covered by these license agreements. If these in-licenses are terminated, or if the underlying patents fail to provide the intended exclusivity, competitors would have the freedom to seek regulatory approval of, and to market, products identical to ours. In addition, we may seek to obtain additional licenses from our licensors and, in connection with obtaining such licenses, we may agree to amend our existing licenses in a manner that

may be more favorable to the licensors, including by agreeing to terms that could enable third parties (potentially including our competitors) to receive licenses to a portion of the intellectual property that is subject to our existing licenses. Any of these events could have a material adverse effect on our competitive position, business, financial conditions, results of operations, and prospects.

***Some of our in-licensed patents are subject to priority and validity disputes. In addition, our owned and in-licensed patents, patent applications and other intellectual property may be subject to further priority and validity disputes, and other similar intellectual property proceedings including inventorship disputes. If we or our licensors are unsuccessful in any of these proceedings, we may be required to obtain licenses from third parties, which may not be available on commercially reasonable terms or at all, or to cease the development, manufacture, and commercialization of one or more of the product candidates we may develop, which could have a material adverse impact on our business.***

Certain U.S. patents (U.S. Patent Nos. 8,697,359; 8,771,945; 8,795,965; 8,865,406; 8,871,445; 8,889,356; 8,895,308; 8,906,616; 8,932,814; 8,945,839; 8,993,233; and 8,999,641) and a U.S. patent application (U.S. Serial No. 14/704,551) that are co-owned by Broad and the Massachusetts Institute of Technology ("MIT"), and in some cases Harvard, and in-licensed by us were involved in an interference with a U.S. patent application (U.S. Serial No. 13/842,859, now U.S. Patent No. 10,266,850) that is co-owned by the University of California, the University of Vienna, and Emmanuelle Charpentier. An interference is a proceeding before the Patent Trial and Appeal Board of the USPTO ("PTAB") to determine priority of invention of the subject matter of patent claims filed by different parties.

During the preliminary phase of the proceeding, the PTAB held that there was no interference-in-fact, meaning that no interference was needed to resolve priority between the parties because the in-licensed claims are directed to subject matter that is patentably distinct from those of the University of California, the University of Vienna, and Emmanuelle Charpentier. The interference proceeding was therefore ended without reaching the priority phase. On appeal, the Court of Appeals for the Federal Circuit (the "CAFC") affirmed the PTAB's holding and the University of California, the University of Vienna, and Emmanuelle Charpentier did not appeal to the U.S. Supreme Court for review of this decision. The judgment of no interference-in-fact is therefore final and bars any further interference between the same parties for claims to the same invention that was considered in the interference.

As a result, the 12 U.S. patents and one U.S. patent application that we have in-licensed from Broad, acting on behalf of itself, MIT, and Harvard, with respect to which the PTAB had declared an interference were not modified or revoked as a result of this interference proceeding. However, as discussed below, certain of these 12 U.S. patents and one U.S. patent application are, or may in the future be, subject to further intellectual property proceedings and disputes, including interference proceedings.

The University of California, the University of Vienna, and Emmanuelle Charpentier or other third parties may file a separate Suggestion of Interference against the Broad patents and patent application that were subject to the interference or other U.S. patents and patent applications that we own or in-license. For example, ToolGen filed Suggestions of Interference in the USPTO on April 13, 2015 suggesting that they believe some of the claims in pending U.S. applications owned by ToolGen (U.S. Serial No. 14/685,568 and U.S. Serial No. 14/685,510) interfere with certain claims in five U.S. patents, which we have in-licensed from Broad, acting on behalf of itself, MIT, and Harvard. These five U.S. patents are among the 12 U.S. patents with respect to which the PTAB had declared, and then ended, an interference with the U.S. patent application that is owned by the University of California, the University of Vienna, and Emmanuelle Charpentier (U.S. Serial No. 13/842,859, now U.S. Patent No. 10,266,850). The Suggestions of Interference that were filed by ToolGen are still pending and it is uncertain when and in what manner the USPTO will act on them.

Our owned and in-licensed patents and patent applications are, or may in the future become, subject to validity disputes in the USPTO and other foreign patent offices. For example, a request for *ex parte* re-examination was filed with the USPTO on February 16, 2016 against one U.S. patent that we have in-licensed from Broad, acting on behalf of itself and MIT (U.S. Patent No. 8,771,945), which was part of the interference proceeding involving the University of California, the University of Vienna, and Emmanuelle Charpentier and referenced in the Suggestions of Interference filed by ToolGen. *Ex parte* re-examination is a procedure through which a third party can anonymously request the

USPTO to re-examine a granted patent because the third party believes the granted patent may not be patentable over prior art in the form of a printed publication or another patent. Before the USPTO will re-examine a granted patent, the third party requestor must establish that the submitted prior art establishes a substantial and new question of patentability. If the USPTO determines there is a substantial and new question of patentability, it grants the re-examination request and re-examines the patent after giving the patent owner the option of filing an initial statement. The request for *ex parte* re-examination of U.S. Patent No. 8,771,945 was granted on May 9, 2016 thereby initiating a re-examination procedure between the USPTO and Broad, acting on behalf of itself and MIT. The third party requestor does not participate in the re-examination procedure after filing the request except that it has the option of responding if the patent owner chooses to file an initial statement. On May 12, 2016, the PTAB suspended the re-examination of U.S. Patent No. 8,771,945 noting that it has jurisdiction over any file that involves a patent involved in an interference. On January 3, 2019, the PTAB lifted the suspension in light of the CAFC's affirmance of the PTAB's no interference-in-fact holding. If Broad is unsuccessful during the re-examination, U.S. Patent No. 8,771,945 may be revoked or narrowed, which could have a material adverse effect on the scope of our rights under such patent.

The 12 in-licensed U.S. patents and one in-licensed U.S. patent application that were the subject of the interference with the U.S. patent application that is owned by the University of California, the University of Vienna, and Emmanuelle Charpentier (which includes the five in-licensed U.S. patents that are the subject of the Suggestions of Interference filed by ToolGen and the one in-licensed U.S. patent that is the subject of the re-examination) relate generally to the CRISPR/Cas9 system and its use in eukaryotic cells. The claims of the 12 in-licensed U.S. patents and one in-licensed U.S. patent application vary in scope and coverage and include claims that are directed to CRISPR/Cas9 systems that employ viral vectors for delivery, single guide RNAs, modified guide RNAs, *S. aureus* Cas9, or a Cas9 nickase and are relevant to our genome editing platform technology. The loss or narrowing in scope of one or more of these in-licensed patents could have a material adverse effect on the conduct of our business, financial condition, results of operations, and prospects.

We or our licensors may also be subject to claims that former employees, collaborators, or other third parties have an interest in our owned or in-licensed patents or patent applications, or other intellectual property rights as an inventor or co-inventor. If we are unable to obtain an exclusive license to any such third party co-owners' interest in such patents, patent applications or other intellectual property rights, such co-owners may be able to license their rights to other third parties, including our competitors. In addition, we may need the cooperation of any such co-owners to enforce any patents, including any patents that issue from patent applications, against third parties, and such cooperation may not be provided to us. Any of the foregoing could have a material adverse effect on the conduct of our business, financial condition, results of operations, and prospects.

We or our licensors are subject to and may in the future become a party to similar proceedings or priority disputes in Europe or other foreign jurisdictions. On January 17, 2018, the European Patent Office Opposition Division (the "Opposition Division") revoked in the European Patent Office ("EPO") a European patent that we have in-licensed from Broad, acting on behalf of itself, MIT and Harvard (European Patent No. EP 2,771,468 B1). On January 18, 2018, Broad, acting on behalf of itself, MIT and Harvard filed a notice of appeal to the Boards of Appeal of the EPO for review of the Opposition Division's decision to revoke this patent. It is uncertain when or in what manner the Boards of Appeal will act on this appeal. On February 14, 2019, one additional European patent (European Patent No. EP 2,784,162 B1) that we have in-licensed from Broad, acting on behalf of itself, MIT and Harvard was revoked in its entirety and another European patent (European Patent No. EP 2,896,697 B1) that we in-license from such parties was maintained with amended patent claims. On February 15, 2019, Broad, acting on behalf of itself, MIT and Harvard filed a notice of appeal to the Boards of Appeal of the EPO for review of the Opposition Division's decision to revoke European Patent No. EP 2,784,162 B1. It is uncertain when or in what manner the Boards of Appeal will act on this appeal. The Opposition Division has also initiated opposition proceedings against seven other European patents that we have in-licensed from Broad, acting on behalf of itself, MIT and Harvard (European Patent Nos. EP 2,898,075 B1, EP 2,921,557 B1, EP 2,931,897 B1, EP 2,931,898 B1, and EP 3,009,511 B1), one European patent that we have in-licensed from Broad, acting on behalf of itself and MIT (European Patent No. EP 2,764,103 B1), two European patents that we have in-licensed from Broad, acting on behalf of itself, MIT, Harvard and The Rockefeller University ("Rockefeller") (European Patent Nos. EP 2,825,654 B1 and EP 2,840,140 B1), and one European patent that we co-own and in-license from Broad, acting on behalf of itself, MIT and The University of Iowa Research Foundation (European Patent No. EP 3,066,201 B1). The EPO opposition proceedings may involve issues including, but not limited to, procedural formalities

related to filing the European patent application, priority, and the patentability of the involved claims. The loss of priority for, or the loss of, these European patents could have a material adverse effect on the conduct of our business. One or more of the third parties that have filed oppositions against these European patents or other third parties may file future oppositions against other European patents that we in-license or own.

If we or our licensors are unsuccessful in any patent related disputes, including interference proceedings, patent oppositions, re-examinations, or other priority, inventorship, or validity disputes to which we or they are subject (including any of the proceedings discussed above), we may lose valuable intellectual property rights through the loss of one or more patents owned or licensed or our owned or licensed patent claims may be narrowed, invalidated, or held unenforceable. In addition, if we or our licensors are unsuccessful in any inventorship disputes to which we or they are subject, we may lose valuable intellectual property rights, such as exclusive ownership of, or the exclusive right to use, our owned or in-licensed patents and patent applications. If we or our licensors are unsuccessful in any interference proceeding or other priority or inventorship dispute, we may be required to obtain and maintain licenses from third parties, including parties involved in any such interference proceedings or other priority or inventorship disputes. Such licenses may not be available on commercially reasonable terms or at all, or may be non-exclusive. If we are unable to obtain and maintain such licenses, we may need to cease the development, manufacture, and commercialization of one or more of the product candidates we may develop. The loss of exclusivity or the narrowing of our owned and in-licensed patent claims could limit our ability to stop others from using or commercializing similar or identical technology and products. Any of the foregoing could result in a material adverse effect on our business, financial condition, results of operations, or prospects. Even if we are successful in any interference proceeding or other priority, inventorship, or validity disputes, it could result in substantial costs and be a distraction to our management and other employees.

***We may not be able to protect our intellectual property and proprietary rights throughout the world.***

Filing, prosecuting, and defending patents on product candidates in all countries throughout the world would be prohibitively expensive, and the laws of foreign countries may not protect our rights to the same extent as the laws of the United States. In addition, our intellectual property license agreements may not always include worldwide rights. For example, certain U.S. patent applications licensed to us by Broad include The University of Tokyo (“Tokyo”) and NIH as joint applicants. Broad has only granted a license to us with respect to its interests and to Tokyo’s interests in these U.S. patent applications but not to any foreign equivalents thereof. Consequently, we may not be able to prevent third parties from practicing our inventions in all countries outside the United States, or from selling or importing products made using our inventions in and into the United States or other jurisdictions. Competitors may use our technologies in jurisdictions where we have not obtained patent protection to develop their own products and, further, may export otherwise infringing products to territories where we have patent protection or licenses but enforcement is not as strong as that in the United States. These products may compete with our products, and our patents or other intellectual property rights may not be effective or sufficient to prevent them from competing.

Many companies have encountered significant problems in protecting and defending intellectual property rights in foreign jurisdictions. The legal systems of certain countries, particularly certain developing countries, do not favor the enforcement of patents, trade secrets, and other intellectual property protection, particularly those relating to biotechnology products, which could make it difficult for us to stop the infringement of our patents and our intellectual property rights or marketing of competing products in violation of our intellectual property and proprietary rights generally. Proceedings to enforce our intellectual property and proprietary rights in foreign jurisdictions could result in substantial costs and divert our efforts and attention from other aspects of our business, could put our patents at risk of being invalidated or interpreted narrowly, could put our patent applications at risk of not issuing, and could provoke third parties to assert claims against us. We may not prevail in any lawsuits that we initiate, and the damages or other remedies awarded, if any, may not be commercially meaningful. Accordingly, our efforts to enforce our intellectual property and proprietary rights around the world may be inadequate to obtain a significant commercial advantage from the intellectual property that we develop or license.

Many countries have compulsory licensing laws under which a patent owner may be compelled to grant licenses to third parties. In addition, many countries limit the enforceability of patents against government agencies or government contractors. In these countries, the patent owner may have limited remedies, which could materially

diminish the value of such patent. If we or any of our licensors is forced to grant a license to third parties with respect to any patents relevant to our business, our competitive position may be impaired, and our business, financial condition, results of operations, and prospects may be adversely affected.

***Obtaining and maintaining our patent protection depends on compliance with various procedural, document submission, fee payment, and other requirements imposed by government patent agencies, and our patent protection could be reduced or eliminated for non-compliance with these requirements.***

Periodic maintenance fees, renewal fees, annuity fees, and various other government fees on patents and applications will be due to be paid to the USPTO and various government patent agencies outside of the United States over the lifetime of our owned or licensed patents and applications. In certain circumstances, we rely on our licensing partners to pay these fees due to U.S. and non-U.S. patent agencies. The USPTO and various non-U.S. government agencies require compliance with several procedural, documentary, fee payment, and other similar provisions during the patent application process. We are also dependent on our licensors to take the necessary action to comply with these requirements with respect to our licensed intellectual property. In some cases, an inadvertent lapse can be cured by payment of a late fee or by other means in accordance with the applicable rules. There are situations, however, in which non-compliance can result in abandonment or lapse of the patent or patent application, resulting in a partial or complete loss of patent rights in the relevant jurisdiction. In such an event, potential competitors might be able to enter the market with similar or identical products or technology, which could have a material adverse effect on our business, financial condition, results of operations, and prospects.

***If we fail to comply with our obligations in the agreements under which we license intellectual property rights from third parties or otherwise experience disruptions to our business relationships with our licensors, we could lose license rights that are important to our business.***

We have entered into license agreements with third parties and may need to obtain additional licenses from our existing licensors and others to advance our research or allow commercialization of product candidates we may develop. It is possible that we may be unable to obtain any additional licenses at a reasonable cost or on reasonable terms, if at all. In that event, we may be required to expend significant time and resources to redesign our technology, product candidates, or the methods for manufacturing them or to develop or license replacement technology, all of which may not be feasible on a technical or commercial basis. If we are unable to do so, we may be unable to develop or commercialize the affected product candidates, which could harm our business, financial condition, results of operations, and prospects significantly. We cannot provide any assurances that third party patents do not exist which might be enforced against our current technology, including CRISPR genome editing technology, manufacturing methods, product candidates, or future methods or products resulting in either an injunction prohibiting our manufacture or sales, or, with respect to our sales, an obligation on our part to pay royalties and/or other forms of compensation to third parties, which could be significant.

In each of our license agreements, and we expect in our future agreements, we are responsible for bringing any actions against any third party for infringing on the patents we have licensed. Certain of our license agreements also require us to meet development thresholds to maintain the license, including establishing a set timeline for developing and commercializing products. Disputes may arise regarding intellectual property subject to a licensing agreement, including:

- the scope of rights granted under the license agreement and other interpretation-related issues;
- the extent to which our technology and processes infringe on intellectual property of the licensor that is not subject to the licensing agreement;
- the sublicensing of patent and other rights under our collaborative development relationships;
- our diligence obligations under the license agreement and what activities satisfy those diligence obligations;

- the inventorship and ownership of inventions and know-how resulting from the joint creation or use of intellectual property by our licensors and us and our partners; and

- the priority of invention of patented technology.

In addition, the agreements under which we currently license intellectual property or technology from third parties are complex, and certain provisions in such agreements may be susceptible to multiple interpretations. The resolution of any contract interpretation disagreement that may arise could narrow what we believe to be the scope of our rights to the relevant intellectual property or technology, or increase what we believe to be our financial or other obligations under the relevant agreement, including the amount, if any, that may become due and payable to our licensors in connection with sublicense income. If these events were to occur, they could have a material adverse effect on our business, financial condition, results of operations, and prospects. Moreover, if disputes over intellectual property that we have licensed prevent or impair our ability to maintain our current licensing arrangements on commercially acceptable terms, we may be unable to successfully develop and commercialize the affected product candidates, which could have a material adverse effect on our business, financial conditions, results of operations, and prospects.

***We may not be successful in obtaining necessary rights to any product candidates we may develop through acquisitions and in-licenses.***

We currently have rights to intellectual property, through licenses from third parties, to identify and develop product candidates. Many pharmaceutical companies, biotechnology companies, and academic institutions are competing with us in the field of genome editing technology and filing patent applications potentially relevant to our business. For example, we are aware of third party patents and patent applications that may be construed to cover our CRISPR technology and product candidates. In order to avoid infringing these third party patents, or patents that issue from these third party patent applications, we may find it necessary or prudent to obtain licenses from such third party intellectual property holders. We may also require licenses from third parties for certain non-CRISPR technologies including certain delivery methods that we are evaluating for use with product candidates we may develop. In addition, with respect to any patents we co-own with third parties, we may require licenses to such co-owners' interest in such patents. However, we may be unable to secure such licenses or otherwise acquire or in-license any compositions, methods of use, processes, or other intellectual property rights from third parties that we identify as necessary for our CRISPR technology and product candidates we may develop. The licensing or acquisition of third party intellectual property rights is a competitive area, and several more established companies may pursue strategies to license or acquire third party intellectual property rights that we may consider attractive or necessary. These established companies may have a competitive advantage over us due to their size, capital resources and greater clinical development and commercialization capabilities. In addition, companies that perceive us to be a competitor may be unwilling to assign or license rights to us. We also may be unable to license or acquire third party intellectual property rights on terms that would allow us to make an appropriate return on our investment or at all. For example, certain delivery modes, including certain adeno-associated virus vectors and lipid nanoparticle technologies, we are evaluating for use are covered by patents held by third parties. If we are unable to successfully obtain rights to required third party intellectual property rights or maintain the existing intellectual property rights we have, we may have to abandon development of the relevant program or product candidate, which could have a material adverse effect on our business, financial condition, results of operations, and prospects.

***Changes in U.S. patent law could diminish the value of patents in general, thereby impairing our ability to protect our products.***

Changes in either the patent laws or interpretation of the patent laws in the United States could increase the uncertainties and costs surrounding the prosecution of patent applications and the enforcement or defense of issued patents. Assuming that other requirements for patentability are met, prior to March 2013, in the United States, the first to invent the claimed invention was entitled to the patent, while outside the United States, the first to file a patent application was entitled to the patent. After March 2013, under the Leahy-Smith America Invents Act (the "America Invents Act") enacted in September 2011, the United States transitioned to a first inventor to file system in which, assuming that other requirements for patentability are met, the first inventor to file a patent application will be entitled to the patent on an invention regardless of whether a third party was the first to invent the claimed invention. The America

Invents Act also includes a number of significant changes that affect the way patent applications will be prosecuted and also may affect patent litigation. These include allowing third party submission of prior art to the USPTO during patent prosecution and additional procedures to attack the validity of a patent by the USPTO administered post-grant proceedings, including post-grant review, *inter partes* review, and derivation proceedings. The America Invents Act and its implementation could increase the uncertainties and costs surrounding the prosecution of our patent applications and the enforcement or defense of our issued patents, all of which could have a material adverse effect on our business, financial condition, results of operations, and prospects.

In addition, the patent positions of companies in the development and commercialization of biologics and pharmaceuticals are particularly uncertain. Recent U.S. Supreme Court rulings have narrowed the scope of patent protection available in certain circumstances and weakened the rights of patent owners in certain situations. This combination of events has created uncertainty with respect to the validity and enforceability of patents, once obtained. Depending on future actions by the U.S. Congress, the federal courts, and the USPTO, the laws and regulations governing patents could change in unpredictable ways that could have a material adverse effect on our existing patent portfolio and our ability to protect and enforce our intellectual property in the future.

***Issued patents covering our technology and product candidates could be found invalid or unenforceable if challenged in court or before administrative bodies in the United States or abroad.***

If we or one of our licensors or our collaborators were to initiate legal proceedings against a third party to enforce a patent covering a product candidate we may develop or our technology, including CRISPR genome editing technology, the defendant could counterclaim that such patent is invalid or unenforceable. In patent litigation in the United States, defendant counterclaims alleging invalidity or unenforceability are commonplace. Grounds for a validity challenge could be an alleged failure to meet any of several statutory requirements, including lack of novelty, obviousness, or non-enablement. Grounds for an unenforceability assertion could be an allegation that someone connected with prosecution of the patent withheld relevant information from the USPTO, or made a misleading statement, during prosecution. Third parties have raised challenges to the validity of certain of our in-licensed patent claims and may in the future raise similar claims before administrative bodies in the United States or abroad, even outside the context of litigation. Such mechanisms include re-examination, post-grant review, *inter partes* review, interference proceedings, derivation proceedings, and equivalent proceedings in foreign jurisdictions (e.g., opposition proceedings). For example, as discussed above, 12 of our in-licensed U.S. patents and one of our in-licensed U.S. patent applications were involved an interference, and Suggestions of Interference have been filed against certain of our in-licensed U.S. patents, one of these U.S. patents is subject to a re-examination proceeding, opposition proceedings have been initiated against several of our in-licensed European patents and additional interference, re-examination, post-grant review, *inter partes* review, opposition, and other intellectual property proceedings may be initiated in the future. The opposition proceedings have so far resulted in the revocation of two of our in-licensed European patents while maintaining a third European patent with amended claims. In view of certain arguments made by the third parties against the revoked patents and similar arguments made by the third parties against additional other in-licensed European patents under opposition, the opposition proceedings could potentially lead to the revocation of additional in-licensed European patents. These and other proceedings could result in the revocation or cancellation of, or amendment to our patents in such a way that they no longer cover our technology or platform, or any product candidates that we may develop. The outcome following legal assertions of invalidity and unenforceability is unpredictable. With respect to the validity question, for example, we cannot be certain that there is no invalidating prior art, of which we or our licensing partners and the patent examiner were unaware during prosecution. If a third party were to prevail on a legal assertion of invalidity or unenforceability, we would lose at least part, and perhaps all, of the patent protection on our technology or platform, or any product candidates that we may develop. Such a loss of patent protection would have a material adverse impact on our business, financial condition, results of operations, and prospects.

***The intellectual property landscape around genome editing technology, including CRISPR, is highly dynamic, and third parties may initiate legal proceedings alleging that we are infringing, misappropriating, or otherwise violating their intellectual property rights, the outcome of which would be uncertain and could have a material adverse effect on the success of our business.***

The field of genome editing, especially in the area of CRISPR technology, is still in its infancy, and no such

products have reached the market. Due to the intense research and development that is taking place by several companies, including us and our competitors, in this field, the intellectual property landscape is in flux, and it may remain uncertain for the coming years. There may be significant intellectual property related litigation and proceedings relating to our owned and in-licensed, and other third party, intellectual property and proprietary rights in the future.

Our commercial success depends upon our ability and the ability of our collaborators to develop, manufacture, market, and sell any product candidates that we may develop and use our proprietary technologies without infringing, misappropriating, or otherwise violating the intellectual property and proprietary rights of third parties. The biotechnology and pharmaceutical industries are characterized by extensive litigation regarding patents and other intellectual property rights. We are subject to and may in the future become party to, or threatened with, adversarial proceedings or litigation regarding intellectual property rights with respect to our technology and any product candidates we may develop, including interference, re-examination, post-grant review, *inter partes* review, and derivation proceedings before the USPTO and similar proceedings in foreign jurisdictions such as oppositions before the EPO. Third parties may assert infringement claims against us based on existing patents or patents that may be granted in the future, regardless of their merit. We are aware of certain third party patents and patent applications in this landscape that may be asserted to encompass our CRISPR/Cas9 technology. In particular, we are aware of several separate families of U.S. patent applications and foreign counterparts which relate to CRISPR/Cas9 technology, where the earliest priority dates of each family pre-date the priority dates of our in-licensed patents and patent applications, including PCT Publication No. WO 2013/141680 (and its related U.S. Patent No. 9,637,739 and other related U.S. patent applications and foreign counterparts) filed by Vilnius University (which is reported to have exclusively licensed its rights to DuPont Pioneer, which is reported to have licensed certain rights to Caribou Biosciences, which is reported to have non-exclusively licensed certain rights to Intellia Therapeutics and CRISPR Therapeutics), WO 2013/176772 (and its related U.S. Patent No. 10,000,772, 10,113,167, 10,227,611, and 10,266,850 and other related U.S. patent applications and foreign counterparts including European Patent Nos. EP 2,800,811 B1, EP 3,241,902 B1, and EP 3,401,400 B1 which are being opposed by several parties) filed by the University of California, the University of Vienna (both of which are reported to have exclusively licensed their rights to Caribou Biosciences, which is reported to have exclusively licensed certain rights to Intellia Therapeutics), and Emmanuelle Charpentier (who is reported to have exclusively licensed her rights to CRISPR Therapeutics, ERS Genomics and TRACR Hematology), WO 2014/065596 (and its related U.S. patent applications and foreign counterparts including European Patent No. EP 2,912,175 B1 which is being opposed by several parties) filed by ToolGen, and WO 2014/089290 (and its related U.S. patent applications and foreign counterparts including European Patent Nos. EP 3,138,910 B1, EP 3,138,911 B1, and EP 3,138,912 B1 which are being opposed by several parties) filed by Sigma-Aldrich Co. LLC. Each of these patent families are owned by a different third party and contain claims that may be construed to cover components and uses of CRISPR/Cas9 technology. If we are not able to obtain or maintain a license on commercially reasonable terms to any third-party patents that cover our product candidates or activities, such third parties could potentially assert infringement claims against us, which could have a material adverse effect on the conduct of our business.

Even if we believe third-party intellectual property claims are without merit, there is no assurance that a court would find in our favor on questions of infringement, validity, enforceability, or priority. A court of competent jurisdiction could hold that these third party patents are valid, enforceable, and infringed, which could materially and adversely affect our ability to commercialize any product candidates we may develop and any other product candidates or technologies covered by the asserted third party patents. In order to successfully challenge the validity of any such U.S. patent in federal court, we would need to overcome a presumption of validity. As this burden is a high one requiring us to present clear and convincing evidence as to the invalidity of any such U.S. patent claim, there is no assurance that a court of competent jurisdiction would invalidate the claims of any such U.S. patent. If we are found to infringe a third party's intellectual property rights, and we are unsuccessful in demonstrating that such patents are invalid or unenforceable, we could be required to obtain a license from such third party to continue developing, manufacturing, and marketing any product candidates we may develop and our technology. However, we may not be able to obtain any required license on commercially reasonable terms or at all. Even if we were able to obtain a license, it could be non-exclusive, thereby giving our competitors and other third parties access to the same technologies licensed to us, and it could require us to make substantial licensing and royalty payments. We also could be forced, including by court order, to cease developing, manufacturing, and commercializing the infringing technology or product candidates. In addition, we could be found liable for significant monetary damages, including treble damages and attorneys' fees, if we are found to have willfully infringed a patent or other intellectual property right. Claims that we have misappropriated

the confidential information or trade secrets of third parties could have a similar material adverse effect on our business, financial condition, results of operations, and prospects.

***We may be subject to claims that our employees, consultants, or advisors have wrongfully used or disclosed alleged trade secrets of their current or former employers or claims asserting ownership of what we regard as our own intellectual property.***

Many of our employees, consultants, and advisors are currently or were previously employed at universities or other biotechnology or pharmaceutical companies, including our competitors or potential competitors. Although we try to ensure that our employees, consultants, and advisors do not use the proprietary information or know-how of others in their work for us, we may be subject to claims that we or these individuals have used or disclosed intellectual property, including trade secrets or other proprietary information, of any such individual's current or former employer. Litigation may be necessary to defend against these claims. If we fail in defending any such claims, in addition to paying monetary damages, we may lose valuable intellectual property rights or personnel. Even if we are successful in defending against such claims, litigation could result in substantial costs and be a distraction to management.

In addition, while it is our policy to require our employees and contractors who may be involved in the conception or development of intellectual property to execute agreements assigning such intellectual property to us, we may be unsuccessful in executing such an agreement with each party who, in fact, conceives or develops intellectual property that we regard as our own. The assignment of intellectual property rights may not be self-executing, or the assignment agreements may be breached, and we may be forced to bring claims against third parties, or defend claims that they may bring against us, to determine the ownership of what we regard as our intellectual property. Such claims could have a material adverse effect on our business, financial condition, results of operations, and prospects.

***We may become involved in lawsuits to protect or enforce our patents and other intellectual property rights, which could be expensive, time consuming, and unsuccessful.***

Competitors may infringe our patents or the patents of our licensing partners, or we may be required to defend against claims of infringement. In addition, our patents or the patents of our licensing partners also are, and may in the future become, involved in inventorship, priority, or validity disputes. To counter or defend against such claims can be expensive and time consuming. In an infringement proceeding, a court may decide that a patent owned or in-licensed by us is invalid or unenforceable, or may refuse to stop the other party from using the technology at issue on the grounds that our owned and in-licensed patents do not cover the technology in question. An adverse result in any litigation proceeding could put one or more of our owned or in-licensed patents at risk of being invalidated or interpreted narrowly. Furthermore, because of the substantial amount of discovery required in connection with intellectual property litigation, there is a risk that some of our confidential information could be compromised by disclosure during this type of litigation.

Even if resolved in our favor, litigation or other legal proceedings relating to intellectual property claims may cause us to incur significant expenses and could distract our personnel from their normal responsibilities. In addition, there could be public announcements of the results of hearings, motions, or other interim proceedings or developments, and if securities analysts or investors perceive these results to be negative, it could have a substantial adverse effect on the price of our common stock. Such litigation or proceedings could substantially increase our operating losses and reduce the resources available for development activities or any future sales, marketing, or distribution activities. We may not have sufficient financial or other resources to conduct such litigation or proceedings adequately. Some of our competitors may be able to sustain the costs of such litigation or proceedings more effectively than we can because of their greater financial resources and more mature and developed intellectual property portfolios. Uncertainties resulting from the initiation and continuation of patent litigation or other proceedings could have a material adverse effect on our ability to compete in the marketplace.

***If we are unable to protect the confidentiality of our trade secrets, our business and competitive position would be harmed.***

In addition to seeking patents for some of our technology and product candidates, we also rely on trade secrets and confidentiality agreements to protect our unpatented know-how, technology, and other proprietary information and to maintain our competitive position. With respect to our technology platform, we consider trade secrets and know-how to be one of our primary sources of intellectual property. Trade secrets and know-how can be difficult to protect. In particular, we anticipate that with respect to our technology platform, these trade secrets and know-how will over time be disseminated within the industry through independent development, the publication of journal articles describing the methodology, and the movement of personnel from academic to industry scientific positions.

We seek to protect these trade secrets and other proprietary technology, in part, by entering into non-disclosure and confidentiality agreements with parties who have access to them, such as our employees, collaborators, CROs, contract manufacturers, consultants, advisors, and other third parties. We also enter into confidentiality and invention or patent assignment agreements with our employees and consultants. We cannot guarantee that we have entered into such agreements with each party that may have or have had access to our trade secrets or proprietary technology and processes. Despite these efforts, any of these parties may breach the agreements and disclose our proprietary information, including our trade secrets, and we may not be able to obtain adequate remedies for such breaches. Enforcing a claim that a party illegally disclosed or misappropriated a trade secret is difficult, expensive, and time-consuming, and the outcome is unpredictable. In addition, some courts inside and outside the United States are less willing or unwilling to protect trade secrets. If any of our trade secrets were to be lawfully obtained or independently developed by a competitor or other third party, we would have no right to prevent them from using that technology or information to compete with us. If any of our trade secrets were to be disclosed to or independently developed by a competitor or other third party, our competitive position would be materially and adversely harmed.

***If we do not obtain patent term extension and data exclusivity for any product candidates we may develop, our business may be materially harmed.***

Depending upon the timing, duration and specifics of any FDA marketing approval of any product candidates we may develop, one or more of our U.S. patents may be eligible for limited patent term extension under the Drug Price Competition and Patent Term Restoration Action of 1984 (the “Hatch-Waxman Amendments”). The Hatch-Waxman Amendments permit a patent extension term of up to five years as compensation for patent term lost during the FDA regulatory review process. A patent term extension cannot extend the remaining term of a patent beyond a total of 14 years from the date of product approval, only one patent may be extended and only those claims covering the approved drug, a method for using it, or a method for manufacturing it may be extended. However, we may not be granted an extension because of, for example, failing to exercise due diligence during the testing phase or regulatory review process, failing to apply within applicable deadlines, failing to apply prior to expiration of relevant patents, or otherwise failing to satisfy applicable requirements. Moreover, the applicable time period or the scope of patent protection afforded could be less than we request. If we are unable to obtain patent term extension or term of any such extension is less than we request, our competitors may obtain approval of competing products following our patent expiration, and our business, financial condition, results of operations, and prospects could be materially harmed.

***Intellectual property rights do not necessarily address all potential threats.***

The degree of future protection afforded by our intellectual property rights is uncertain because intellectual property rights have limitations and may not adequately protect our business or permit us to maintain our competitive advantage. For example:

- others may be able to make products that are similar to any product candidates we may develop or utilize similar technology but that are not covered by the claims of the patents that we license or may own in the future;

- we, or our license partners or current or future collaborators, might not have been the first to make the inventions covered by the issued patent or pending patent application that we license or may own in the

future;

- we, or our license partners or current or future collaborators, might not have been the first to file patent applications covering certain of our or their inventions;
- others may independently develop similar or alternative technologies or duplicate any of our technologies without infringing our owned or licensed intellectual property rights;
- it is possible that our pending licensed patent applications or those that we may own in the future will not lead to issued patents;
- issued patents that we hold rights to may be held invalid or unenforceable, including as a result of legal challenges by our competitors;
- our competitors might conduct research and development activities in countries where we do not have patent rights and then use the information learned from such activities to develop competitive products for sale in our major commercial markets;
- we may not develop additional proprietary technologies that are patentable;
- the patents of others may harm our business; and
- we may choose not to file a patent in order to maintain certain trade secrets or know-how, and a third party may subsequently file a patent covering such intellectual property.

Should any of these events occur, they could have a material adverse effect on our business, financial condition, results of operations, and prospects.

**Risks Related to Regulatory Approval and Other Legal Compliance Matters**

***Even if we complete the necessary preclinical studies and clinical trials, the marketing approval process is expensive, time-consuming, and uncertain and may prevent us from obtaining approvals for the commercialization of any product candidates we may develop. If we are not able to obtain, or if there are delays in obtaining, required regulatory approvals, we will not be able to commercialize, or will be delayed in commercializing, product candidates we may develop, and our ability to generate revenue will be materially impaired.***

Any product candidates we may develop and the activities associated with their development and commercialization, including their design, testing, manufacture, safety, efficacy, recordkeeping, labeling, storage, approval, advertising, promotion, sale, and distribution, are subject to comprehensive regulation by the FDA and other regulatory authorities in the United States and by comparable authorities in other countries. Failure to obtain marketing approval for a product candidate will prevent us from commercializing the product candidate in a given jurisdiction. We have not received approval to market any product candidates from regulatory authorities in any jurisdiction. We have only limited experience in filing and supporting the applications necessary to gain marketing approvals and expect to rely on third-party CROs to assist us in this process. Securing regulatory approval requires the submission of extensive preclinical and clinical data and supporting information to the various regulatory authorities for each therapeutic indication to establish the biologic product candidate’s safety, purity, and potency. Securing regulatory approval also requires the submission of information about the product manufacturing process to, and inspection of manufacturing facilities by, the relevant regulatory authority. Any product candidates we develop may not be effective, may be only moderately effective, or may prove to have undesirable or unintended side effects, toxicities, or other characteristics that may preclude our obtaining marketing approval or prevent or limit commercial use.

The process of obtaining marketing approvals, both in the United States and abroad, is expensive, may take many years if additional clinical trials are required, if approval is obtained at all, and can vary substantially based upon a

variety of factors, including the type, complexity, and novelty of the product candidates involved. Changes in marketing approval policies during the development period, changes in or the enactment of additional statutes or regulations, or changes in regulatory review for each submitted product application, may cause delays in the approval or rejection of an application. The FDA and comparable authorities in other countries have substantial discretion in the approval process and may refuse to accept any application or may decide that our data is insufficient for approval and require additional preclinical, clinical, or other studies. In addition, varying interpretations of the data obtained from preclinical and clinical testing could delay, limit, or prevent marketing approval of a product candidate. Any marketing approval we ultimately obtain may be limited or subject to restrictions or post-approval commitments that render the approved medicine not commercially viable.

If we experience delays in obtaining approval or if we fail to obtain approval of any product candidates we may develop, the commercial prospects for those product candidates may be harmed, and our ability to generate revenues will be materially impaired.

***Failure to obtain marketing approval in foreign jurisdictions would prevent any product candidates we may develop from being marketed in such jurisdictions, which, in turn, would materially impair our ability to generate revenue.***

In order to market and sell any product candidates we may develop in the European Union and many other foreign jurisdictions, we or our collaborators must obtain separate marketing approvals and comply with numerous and varying regulatory requirements. The approval procedure varies among countries and can involve additional testing. The time required to obtain approval may differ substantially from that required to obtain FDA approval. The regulatory approval process outside the United States generally includes all of the risks associated with obtaining FDA approval. In addition, in many countries outside the United States, it is required that the product be approved for reimbursement before the product can be approved for sale in that country. We or these third parties may not obtain approvals from regulatory authorities outside the United States on a timely basis, if at all. Approval by the FDA does not ensure approval by regulatory authorities in other countries or jurisdictions, and approval by one regulatory authority outside the United States does not ensure approval by regulatory authorities in other countries or jurisdictions or by the FDA. We may not be able to file for marketing approvals and may not receive necessary approvals to commercialize our medicines in any jurisdiction, which would materially impair our ability to generate revenue.

Additionally, on June 23, 2016, the electorate in the United Kingdom voted in favor of leaving the European Union, commonly referred to as Brexit. On March 29, 2017, the country formally notified the European Union of its intention to withdraw pursuant to Article 50 of the Lisbon Treaty. The United Kingdom had a period of a maximum of two years from the date of its formal notification to negotiate the terms of its withdrawal from, and future relationship with, the European Union. If no formal withdrawal agreement can be reached between the United Kingdom and the European Union, then it is expected that the United Kingdom's membership of the European Union would automatically terminate on the deadline, which was initially March 29, 2019. That deadline has been extended to October 31, 2019 to allow the parties additional time to negotiate a withdrawal agreement, which has proven to be extremely difficult to date. Discussions between the United Kingdom and the European Union will continue to focus on withdrawal issues and transition agreements. However, limited progress to date in these negotiations and ongoing uncertainty within the government of the United Kingdom sustains the possibility of the United Kingdom leaving the European Union without a withdrawal agreement and associated transition period in place, which is likely to cause significant market and economic disruption. Since a significant proportion of the regulatory framework in the United Kingdom is derived from European Union directives and regulations, Brexit could materially impact the regulatory regime with respect to the approval of any future product candidate in the United Kingdom or the European Union. Any delay in obtaining, or an inability to obtain, any marketing approvals, as a result of Brexit or otherwise, would prevent us from commercializing our product candidates in the United Kingdom and/or the European Union and restrict our ability to generate revenue and achieve and sustain profitability. If any of these outcomes occur, we may be forced to restrict or delay efforts to seek regulatory approval in the United Kingdom and/or European Union for our product candidates, which could significantly and materially harm our business.

***Even if we, or any collaborators we may have, obtain marketing approvals for any product candidates we develop, the terms of approvals and ongoing regulation of our products could require the substantial expenditure of resources and may limit how we, or they, manufacture and market our products, which could materially impair our ability to generate revenue.***

Any product candidate for which we obtain marketing approval, along with the manufacturing processes, post-approval clinical data, labeling, advertising, and promotional activities for such medicine, will be subject to continual requirements of and review by the FDA and other regulatory authorities. These requirements include submissions of safety and other post-marketing information and reports, registration and listing requirements, cGMP requirements relating to quality control, quality assurance and corresponding maintenance of records and documents, and requirements regarding the distribution of samples to physicians and recordkeeping. Even if marketing approval of a product candidate is granted, the approval may be subject to limitations on the indicated uses for which the medicine may be marketed or to the conditions of approval, or contain requirements for costly post-marketing testing and surveillance to monitor the safety or efficacy of the medicine.

Accordingly, assuming we, or any collaborators we may have, receive marketing approval for one or more product candidates we develop, we, and such collaborators, and our and their contract manufacturers will continue to expend time, money, and effort in all areas of regulatory compliance, including manufacturing, production, product surveillance, and quality control. If we and such collaborators are not able to comply with post-approval regulatory requirements, we and such collaborators could have the marketing approvals for our products withdrawn by regulatory authorities and our, or such collaborators', ability to market any future products could be limited, which could adversely affect our ability to achieve or sustain profitability. Further, the cost of compliance with post-approval regulations may have a negative effect on our business, operating results, financial condition, and prospects.

***Any product candidate for which we obtain marketing approval could be subject to restrictions or withdrawal from the market, and we may be subject to substantial penalties if we fail to comply with regulatory requirements or if we experience unanticipated problems with our medicines, when and if any of them are approved.***

The FDA and other regulatory agencies closely regulate the post-approval marketing and promotion of medicines to ensure that they are marketed only for the approved indications and in accordance with the provisions of the approved labeling. The FDA and other regulatory agencies impose stringent restrictions on manufacturers' communications regarding off-label use, and if we do not market our medicines for their approved indications, we may be subject to enforcement action for off-label marketing by the FDA and other federal and state enforcement agencies, including the Department of Justice. Violation of the Federal Food, Product, and Cosmetic Act and other statutes, including the False Claims Act, relating to the promotion and advertising of prescription products may also lead to investigations or allegations of violations of federal and state health care fraud and abuse laws and state consumer protection laws.

In addition, later discovery of previously unknown problems with our medicines, manufacturers, or manufacturing processes, or failure to comply with regulatory requirements, may yield various results, including:

- restrictions on such medicines, manufacturers, or manufacturing processes;
- restrictions on the labeling or marketing of a medicine;
- restrictions on the distribution or use of a medicine;
- requirements to conduct post-marketing clinical trials;
- receipt of warning or untitled letters;
- withdrawal of the medicines from the market;

- refusal to approve pending applications or supplements to approved applications that we submit;
- recall of medicines;
- fines, restitution, or disgorgement of profits or revenue;
- suspension or withdrawal of marketing approvals;
- suspension of any ongoing clinical trials;
- refusal to permit the import or export of our medicines;
- product seizure; and
- injunctions or the imposition of civil or criminal penalties.

Any government investigation of alleged violations of law could require us to expend significant time and resources in response and could generate negative publicity. The occurrence of any event or penalty described above may inhibit our ability to commercialize any product candidates we may develop and adversely affect our business, financial condition, results of operations, and prospects.

***Our relationships with healthcare providers, physicians, and third-party payors will be subject to applicable anti-kickback, fraud and abuse, and other healthcare laws and regulations, which could expose us to criminal sanctions, civil penalties, contractual damages, reputational harm, and diminished profits and future earnings.***

Healthcare providers, physicians, and third-party payors play a primary role in the recommendation and prescription of any product candidates that we may develop for which we obtain marketing approval. Our future arrangements with third-party payors and customers may expose us to broadly applicable fraud and abuse and other healthcare laws and regulations that may constrain the business or financial arrangements and relationships through which we market, sell, and distribute our medicines for which we obtain marketing approval. Restrictions under applicable federal and state healthcare laws and regulations include the following:

- the federal healthcare anti-kickback statute prohibits, among other things, persons from knowingly and willfully soliciting, offering, receiving, or providing remuneration, directly or indirectly, in cash or in kind, to induce or reward either the referral of an individual for, or the purchase, order, or recommendation of, any good or service, for which payment may be made under federal and state healthcare programs such as Medicare and Medicaid;
- the federal False Claims Act imposes criminal and civil penalties, including civil whistleblower or qui tam actions, against individuals or entities for knowingly presenting, or causing to be presented, to the federal government, claims for payment or approval from Medicare, Medicaid, or other government payors that are false or fraudulent or making a false statement to avoid, decrease, or conceal an obligation to pay money to the federal government, with potential liability including mandatory treble damages and significant per-claim penalties, currently set at $5,500 to $11,000 per false claim;
- the federal Health Insurance Portability and Accountability Act of 1996, as further amended by the Health Information Technology for Economic and Clinical Health Act, which imposes certain requirements, including mandatory contractual terms, with respect to safeguarding the privacy, security, and transmission of individually identifiable health information without appropriate authorization by entities subject to the rule, such as health plans, health care clearinghouses, and health care providers;
- the federal false statements statute, which prohibits knowingly and willfully falsifying, concealing, or covering up a material fact or making any materially false statement in connection with the delivery of or

payment for healthcare benefits, items, or services;

- the federal transparency requirements under the federal Physician Payment Sunshine Act, which requires manufacturers of drugs, devices, biologics, and medical supplies to report to the Department of Health and Human Services information related to payments and other transfers of value to physicians and teaching hospitals, and ownership and investment interests held by physicians and other healthcare providers and their immediate family members and applicable group purchasing organizations; and

- analogous state laws and regulations, such as state anti-kickback and false claims laws, which may apply to sales or marketing arrangements and claims involving healthcare items or services reimbursed by non-governmental third-party payors, including private insurers, and certain state laws that require pharmaceutical companies to comply with the pharmaceutical industry's voluntary compliance guidelines and the relevant compliance guidance promulgated by the federal government in addition to requiring drug manufacturers to report information related to payments to physicians and other health care providers or marketing expenditures.

Because of the breadth of these laws and the narrowness of the statutory exceptions and safe harbors available, it is possible that some of our business activities could be subject to challenge under one or more of such laws. If our operations are found to be in violation of any of the laws described above or any other government regulations that apply to us, we may be subject to penalties, including civil and criminal penalties, damages, fines, exclusion from participation in government health care programs, such as Medicare and Medicaid, imprisonment, and the curtailment or restructuring of our operations, any of which could adversely affect our business, financial condition, results of operations, and prospects.

The provision of benefits or advantages to physicians to induce or encourage the prescription, recommendation, endorsement, purchase, supply, order, or use of medicinal products is prohibited in the European Union. The provision of benefits or advantages to physicians is also governed by the national anti-bribery laws of European Union Member States, such as the UK Bribery Act 2010. Infringement of these laws could result in substantial fines and imprisonment.

Payments made to physicians in certain European Union Member States must be publicly disclosed. Moreover, agreements with physicians often must be the subject of prior notification and approval by the physician's employer, his or her competent professional organization, and/or the regulatory authorities of the individual European Union Member States. These requirements are provided in the national laws, industry codes, or professional codes of conduct applicable in the European Union Member States. Failure to comply with these requirements could result in reputational risk, public reprimands, administrative penalties, fines, or imprisonment.

Efforts to ensure that our business arrangements with third parties will comply with applicable healthcare laws and regulations will involve substantial costs. It is possible that governmental authorities will conclude that our business practices may not comply with current or future statutes, regulations, or case law involving applicable fraud and abuse or other healthcare laws and regulations. If our operations are found to be in violation of any of these laws or any other governmental regulations that may apply to us, we may be subject to significant civil, criminal, and administrative penalties, damages, fines, exclusion from government funded healthcare programs, such as Medicare and Medicaid, and the curtailment or restructuring of our operations. If any of the physicians or other providers or entities with whom we expect to do business are found to be not in compliance with applicable laws, they may be subject to criminal, civil, or administrative sanctions, including exclusions from government funded healthcare programs. Liabilities they incur pursuant to these laws could result in significant costs or an interruption in operations, which could have a material adverse effect on our business, financial condition, results of operations, and prospects.

***The efforts of the current presidential administration to pursue regulatory reform may limit the FDA's ability to engage in oversight and implementation activities in the normal course, and that could negatively impact our business.***

The current presidential administration has taken several executive actions, including the issuance of a number of executive orders, that could impose significant burdens on, or otherwise materially delay, the FDA's ability to engage

in routine regulatory and oversight activities such as implementing statutes through rulemaking, issuance of guidance, and review and approval of marketing applications. On January 30, 2017, the president issued an executive order, applicable to all executive agencies, including the FDA, that requires that for each notice of proposed rulemaking or final regulation to be issued in fiscal year 2017, the agency shall identify at least two existing regulations to be repealed, unless prohibited by law. These requirements are referred to as the "two-for-one" provisions. This executive order includes a budget neutrality provision that requires the total incremental cost of all new regulations in the 2017 fiscal year, including repealed regulations, to be no greater than zero, except in limited circumstances. For fiscal years 2018 and beyond, the executive order requires agencies to identify regulations to offset any incremental cost of a new regulation. In interim guidance issued by the Office of Information and Regulatory Affairs within the Office of Management and on February 2, 2017, the administration indicates that the "two-for-one" provisions may apply not only to agency regulations, but also to significant agency guidance documents. It is difficult to predict how these requirements will be implemented, and the extent to which they will impact the FDA's ability to exercise its regulatory authority. If these executive actions impose constraints on FDA's ability to engage in oversight and implementation activities in the normal course, our business may be negatively impacted.

***Recently enacted and future legislation may increase the difficulty and cost for us and any future collaborators to obtain marketing approval of and commercialize our product candidates and affect the prices we, or they, may obtain.***

In the United States and some foreign jurisdictions, there have been a number of legislative and regulatory changes and proposed changes regarding the healthcare system that could, among other things, prevent or delay marketing approval of our product candidates, restrict or regulate post-approval activities and affect our ability, or the ability of any future collaborators, to profitably sell any products for which we, or they, obtain marketing approval. We expect that current laws, as well as other healthcare reform measures that may be adopted in the future, may result in more rigorous coverage criteria and in additional downward pressure on the price that we, or any future collaborators, may receive for any approved products.

In the United States, the Medicare Prescription Drug, Improvement, and Modernization Act of 2003 (the "Medicare Modernization Act"), changed the way Medicare covers and pays for pharmaceutical products. The legislation expanded Medicare coverage for drug purchases by the elderly and introduced a new reimbursement methodology based on average sales prices for physician administered drugs. In addition, this legislation provided authority for limiting the number of drugs that will be covered in any therapeutic class. Cost reduction initiatives and other provisions of this legislation could decrease the coverage and price that we receive for any approved products. While the Medicare Modernization Act applies only to drug benefits for Medicare beneficiaries, private payors often follow Medicare coverage policy and payment limitations in setting their own reimbursement rates. Therefore, any reduction in reimbursement that results from the Medicare Modernization Act may result in a similar reduction in payments from private payors.

The Patient Protection and Affordable Care Act, as amended by the Health Care and Education Affordability Reconciliation Act (the "PPACA"), which became law in 2010, contains provisions of importance to our business, including, without limitation, our ability to commercialize and the prices we may obtain for any of our product candidates and that are approved for sale, the following:

- an annual, non-deductible fee on any entity that manufactures or imports specified branded prescription drugs and biologic agents;
- an increase in the statutory minimum rebates a manufacturer must pay under the Medicaid Drug Rebate Program;
- expansion of federal healthcare fraud and abuse laws, including the False Claims Act and the Anti-Kickback Statute, new government investigative powers and enhanced penalties for noncompliance;
- a new Medicare Part D coverage gap discount program, in which manufacturers must agree to offer 50% point-of-sale discounts off negotiated prices;

- extension of manufacturers' Medicaid rebate liability;
- expansion of eligibility criteria for Medicaid programs;
- expansion of the entities eligible for discounts under the Public Health Service pharmaceutical pricing program new requirements to report financial arrangements with physicians and teaching hospitals;
- a new requirement to annually report drug samples that manufacturers and distributors provide to physicians; and
- a new Patient-Centered Outcomes Research Institute to oversee, identify priorities in, and conduct comparative clinical effectiveness research, along with funding for such research.

In addition, other legislative changes have been proposed and adopted since the PPACA was enacted. In August 2011, the Budget Control Act of 2011, among other things, created measures for spending reductions by Congress. A Joint Select Committee on Deficit Reduction, tasked with recommending a targeted deficit reduction of at least $1.2 trillion for the years 2013 through 2021, was unable to reach required goals, thereby triggering the legislation's automatic reduction to several government programs. These changes included aggregate reductions to Medicare payments to providers of up to 2% per fiscal year, which went into effect in April 2013 and will remain in effect through 2024 unless additional Congressional action is taken. The American Taxpayer Relief Act of 2012, among other things, reduced Medicare payments to several providers and increased the statute of limitations period for the government to recover overpayments to providers from three to five years. These new laws may result in additional reductions in Medicare and other healthcare funding and otherwise affect the prices we may obtain for any of our product candidates for which we may obtain regulatory approval or the frequency with which any such product candidate is prescribed or used.

Since enactment of the ACA, there have been numerous legal challenges and Congressional actions to repeal and replace provisions of the law. For example, with enactment of the Tax Cuts and Jobs Act of 2017, which was signed by the president on December 22, 2017, Congress repealed the "individual mandate." The repeal of this provision, which requires most Americans to carry a minimal level of health insurance, became effective in 2019. According to the Congressional Budget Office, the repeal of the individual mandate will cause 13 million fewer Americans to be insured in 2027 and premiums in insurance markets may rise. Further, each chamber of the Congress has put forth multiple bills designed to repeal or repeal and replace portions of the ACA. Although none of these measures has been enacted by Congress to date, Congress may consider other legislation to repeal and replace elements of the ACA. The Congress will likely consider other legislation to replace elements of the ACA, during the next Congressional session. It is possible that repeal and replacement initiatives, if enacted into law, could ultimately result in fewer individuals having health insurance coverage or in individuals having insurance coverage with less generous benefits. While the timing and scope of any potential future legislation to repeal and replace ACA provisions is highly uncertain in many respects, it is also possible that some of the ACA provisions that generally are not favorable for the research-based pharmaceutical industry could also be repealed along with ACA coverage expansion provision.

We expect that these healthcare reforms, as well as other healthcare reform measures that may be adopted in the future, may result in additional reductions in Medicare and other healthcare funding, more rigorous coverage criteria, new payment methodologies and additional downward pressure on the price that we receive for any approved product and/or the level of reimbursement physicians receive for administering any approved product we might bring to market. Reductions in reimbursement levels may negatively impact the prices we receive or the frequency with which our potential products are prescribed or administered. Any reduction in reimbursement from Medicare or other government programs may result in a similar reduction in payments from private payors.

The current presidential administration has also taken executive actions to undermine or delay implementation of the ACA. Since January 2017, the president has signed two executive orders designed to delay the implementation of certain provisions of the ACA or otherwise circumvent some of the requirements for health insurance mandated by the ACA. One executive order directs federal agencies with authorities and responsibilities under the ACA to waive, defer, grant exemptions from, or delay the implementation of any provision of the ACA that would impose a fiscal or

regulatory burden on states, individuals, healthcare providers, health insurers, or manufacturers of pharmaceuticals or medical devices. The second executive order terminates the cost-sharing subsidies that reimburse insurers under the ACA. Several state Attorneys General filed suit to stop the administration from terminating the subsidies, but their request for a restraining order was denied by a federal judge in California on October 25, 2017. In addition, CMS has recently proposed regulations that would give states greater flexibility in setting benchmarks for insurers in the individual and small group marketplaces, which may have the effect of relaxing the essential health benefits required under the ACA for plans sold through such marketplaces. Further, on June 14, 2018, U.S. Court of Appeals for the Federal Circuit ruled that the federal government was not required to pay more than $12 billion in ACA risk corridor payments to third-party payors who argued were owed to them. The effects of this gap in reimbursement on third-party payors, the viability of the ACA marketplace, providers, and potentially our business, are not yet known.

The costs of prescription pharmaceuticals has also been the subject of considerable discussion in the United States, and members of Congress and the executive branch have stated that they will address such costs through new legislative and administrative measures. To date, there have been several recent U.S. congressional inquiries and proposed and enacted state and federal legislation designed to, among other things, bring more transparency to drug pricing, review the relationship between pricing and manufacturer patient programs, reduce the costs of drugs under Medicare and reform government program reimbursement methodologies for drug products. At the federal level, the executive branch's administration's budget proposal for fiscal year 2019 contains further drug price control measures that could be enacted during the 2019 budget process or in other future legislation, including, for example, measures to permit Medicare Part D plans to negotiate the price of certain drugs under Medicare Part B, to allow some states to negotiate drug prices under Medicaid, and to eliminate cost sharing for generic drugs for low-income patients. While any proposed measures will require authorization through additional legislation to become effective, Congress and the current presidential administration have each indicated that it will continue to seek new legislative and/or administrative measures to control drug costs. At the state level, legislatures are increasingly passing legislation and implementing regulations designed to control pharmaceutical and biological product pricing, including price or patient reimbursement constraints, discounts, restrictions on certain product access and marketing cost disclosure and transparency measures, and, in some cases, designed to encourage importation from other countries and bulk purchasing.

At the state level, individual states are increasingly aggressive in passing legislation and implementing regulations designed to control pharmaceutical and biological product pricing, including price or patient reimbursement constraints, discounts, restrictions on certain product access and marketing cost disclosure and transparency measures, and, in some cases, designed to encourage importation from other countries and bulk purchasing. In addition, regional health care authorities and individual hospitals are increasingly using bidding procedures to determine what pharmaceutical products and which suppliers will be included in their prescription drug and other health care programs. These measures could reduce the ultimate demand for our products, once approved, or put pressure on our product pricing. We expect that additional state and federal healthcare reform measures will be adopted in the future, any of which could limit the amounts that federal and state governments will pay for healthcare products and services, which could result in reduced demand for our product candidates or additional pricing pressures.

***Fast track designation by the FDA may not actually lead to a faster development or regulatory review or approval process, and does not assure FDA approval of our product candidates.***

If a product candidate is intended for the treatment of a serious or life threatening condition and the product candidate demonstrates the potential to address unmet medical need for this condition, the sponsor may apply for FDA fast track designation. However, a fast track designation does not ensure that the product candidate will receive marketing approval or that approval will be granted within any particular timeframe. As a result, while we may seek and receive fast track designation for our product candidates, we may not experience a faster development process, review or approval compared to conventional FDA procedures. In addition, the FDA may withdraw fast track designation if it believes that the designation is no longer supported by data from our clinical development program. Fast track designation alone does not guarantee qualification for the FDA's priority review procedures.

***Priority review designation by the FDA may not lead to a faster regulatory review or approval process and, in any event, does not assure FDA approval of our product candidates.***

If the FDA determines that a product candidate offers major advances in treatment or provides a treatment where no adequate therapy exists, the FDA may designate the product candidate for priority review. A priority review designation means that the goal for the FDA to review an application is six months, rather than the standard review period of ten months. We may request priority review for certain of our product candidates. The FDA has broad discretion with respect to whether or not to grant priority review status to a product candidate, so even if we believe a particular product candidate is eligible for such designation or status, the FDA may decide not to grant it. Moreover, a priority review designation does not necessarily mean a faster regulatory review process or necessarily confer any advantage with respect to approval compared to conventional FDA procedures. Receiving priority review from the FDA does not guarantee approval within the six-month review cycle or thereafter.

***We may not be able to obtain orphan drug exclusivity for one or more of our product candidates, and even if we do, that exclusivity may not prevent the FDA or the EMA from approving other competing products.***

Under the Orphan Drug Act, the FDA may designate a product as an orphan drug if it is a drug or biologic intended to treat a rare disease or condition. A similar regulatory scheme governs approval of orphan products by the EMA in the European Union. Generally, if a product candidate with an orphan drug designation subsequently receives the first marketing approval for the indication for which it has such designation, the product is entitled to a period of marketing exclusivity, which precludes the FDA or the EMA from approving another marketing application for the same product for the same therapeutic indication for that time period. The applicable period is seven years in the United States and ten years in the European Union. The exclusivity period in the European Union can be reduced to six years if a product no longer meets the criteria for orphan drug designation, in particular if the product is sufficiently profitable so that market exclusivity is no longer justified.

In order for the FDA to grant orphan drug exclusivity to one of our products, the agency must find that the product is indicated for the treatment of a condition or disease with a patient population of fewer than 200,000 individuals annually in the United States. The FDA may conclude that the condition or disease for which we seek orphan drug exclusivity does not meet this standard. Even if we obtain orphan drug exclusivity for a product, that exclusivity may not effectively protect the product from competition because different products can be approved for the same condition. In addition, even after an orphan drug is approved, the FDA can subsequently approve the same product for the same condition if the FDA concludes that the later product is clinically superior in that it is shown to be safer, more effective or makes a major contribution to patient care. Orphan drug exclusivity may also be lost if the FDA or EMA determines that the request for designation was materially defective or if the manufacturer is unable to assure sufficient quantity of the product to meet the needs of the patients with the rare disease or condition.

On August 3, 2017, the Congress passed the FDA Reauthorization Act of 2017 (“FDARA”). FDARA, among other things, codified the FDA’s pre-existing regulatory interpretation, to require that a drug sponsor demonstrate the clinical superiority of an orphan drug that is otherwise the same as a previously approved drug for the same rare disease in order to receive orphan drug exclusivity. The new legislation reverses prior precedent holding that the Orphan Drug Act unambiguously requires that the FDA recognize the orphan exclusivity period regardless of a showing of clinical superiority. The FDA may further reevaluate the Orphan Drug Act and its regulations and policies. We do not know if, when, or how the FDA may change the orphan drug regulations and policies in the future, and it is uncertain how any changes might affect our business. Depending on what changes the FDA may make to its orphan drug regulations and policies, our business could be adversely impacted.

***Our employees, principal investigators, consultants, and commercial partners may engage in misconduct or other improper activities, including non-compliance with regulatory standards and requirements and insider trading.***

We are exposed to the risk of fraud or other misconduct by our employees, consultants, and partners, and, if we commence clinical trials, our principal investigators. Misconduct by these parties could include intentional failures to comply with FDA regulations or the regulations applicable in the European Union and other jurisdictions, provide accurate information to the FDA, the European Commission, and other regulatory authorities, comply with healthcare

fraud and abuse laws and regulations in the United States and abroad, report financial information or data accurately, or disclose unauthorized activities to us. In particular, sales, marketing, and business arrangements in the healthcare industry are subject to extensive laws and regulations intended to prevent fraud, misconduct, kickbacks, self-dealing and other abusive practices. These laws and regulations restrict or prohibit a wide range of pricing, discounting, marketing and promotion, sales commission, customer incentive programs, and other business arrangements. Such misconduct also could involve the improper use of information obtained in the course of clinical trials or interactions with the FDA or other regulatory authorities, which could result in regulatory sanctions and cause serious harm to our reputation. We have adopted a code of conduct applicable to all of our employees, but it is not always possible to identify and deter employee misconduct, and the precautions we take to detect and prevent this activity may not be effective in controlling unknown or unmanaged risks or losses or in protecting us from government investigations or other actions or lawsuits stemming from a failure to comply with these laws or regulations. If any such actions are instituted against us, and we are not successful in defending ourselves or asserting our rights, those actions could have a significant impact on our business, financial condition, results of operations, and prospects, including the imposition of significant fines or other sanctions.

***Laws and regulations governing any international operations we may have in the future may preclude us from developing, manufacturing and selling certain product candidates outside of the United States and require us to develop and implement costly compliance programs.***

We are subject to numerous laws and regulations in each jurisdiction outside the United States in which we operate. The creation, implementation and maintenance of international business practices compliance programs is costly and such programs are difficult to enforce, particularly where reliance on third parties is required.

The Foreign Corrupt Practices Act ("FCPA") prohibits any U.S. individual or business from paying, offering, authorizing payment or offering of anything of value, directly or indirectly, to any foreign official, political party or candidate for the purpose of influencing any act or decision of the foreign entity in order to assist the individual or business in obtaining or retaining business. The FCPA also obligates companies whose securities are listed in the United States to comply with certain accounting provisions requiring the company to maintain books and records that accurately and fairly reflect all transactions of the corporation, including international subsidiaries, and to devise and maintain an adequate system of internal accounting controls for international operations. The anti-bribery provisions of the FCPA are enforced primarily by the Department of Justice. The SEC is involved with enforcement of the books and records provisions of the FCPA.

Compliance with the FCPA is expensive and difficult, particularly in countries in which corruption is a recognized problem. In addition, the FCPA presents particular challenges in the pharmaceutical industry, because, in many countries, hospitals are operated by the government, and doctors and other hospital employees are considered foreign officials. Certain payments to hospitals in connection with clinical trials and other work have been deemed to be improper payments to government officials and have led to FCPA enforcement actions.

Various laws, regulations and executive orders also restrict the use and dissemination outside of the United States, or the sharing with certain non-U.S. nationals, of information classified for national security purposes, as well as certain products and technical data relating to those products. Our expansion outside of the United States has required, and will continue to require, us to dedicate additional resources to comply with these laws, and these laws may preclude us from developing, manufacturing, or selling certain drugs and drug candidates outside of the United States, which could limit our growth potential and increase our development costs. The failure to comply with laws governing international business practices may result in substantial penalties, including suspension or debarment from government contracting. Violation of the FCPA can result in significant civil and criminal penalties. Indictment alone under the FCPA can lead to suspension of the right to do business with the U.S. government until the pending claims are resolved. Conviction of a violation of the FCPA can result in long-term disqualification as a government contractor. The termination of a government contract or relationship as a result of our failure to satisfy any of our obligations under laws governing international business practices would have a negative impact on our operations and harm our reputation and ability to procure government contracts. The SEC also may suspend or bar issuers from trading securities on U.S. exchanges for violations of the FCPA's accounting provisions.

**Risks Related to Employee Matters, Managing Growth and Information Technology**

***Our future success depends on our ability to attract and retain key executives and to attract, retain, and motivate qualified personnel.***

We are highly dependent on the principal members of our management and scientific teams. Each of these individuals is employed "at will," meaning we or the individual may terminate the employment relationship at any time. We do not maintain "key person" insurance for any of our executives or other employees. The loss of the services of any of these persons could impede the achievement of our research, development, and commercialization objectives. Additionally, although we have an interim Chief Executive Officer and interim Chief Financial Officer, we are actively trying to recruit candidates to fill these positions, as well as the role of Chief Medical Officer, permanently and any inability to fill these position in an expedient manner may have a material adverse effect on our business.

Recruiting and retaining qualified scientific, clinical, manufacturing, and sales and marketing personnel will also be critical to our success. We may not be able to attract and retain these personnel on acceptable terms given the competition among numerous pharmaceutical and biotechnology companies for similar personnel. We also experience competition for the hiring of scientific and clinical personnel from universities and research institutions. In addition, we rely on consultants and advisors, including scientific and clinical advisors, to assist us in formulating our research and development and commercialization strategy. Our consultants and advisors may be employed by employers other than us and may have commitments under consulting or advisory contracts with other entities that may limit their availability to us. The inability to recruit, or loss of services of certain executives, including a permanent Chief Executive Officer, Chief Financial Officer, and a Chief Medical Officer, other key employees, consultants, or advisors, may impede the progress of our research, development, and commercialization objectives and have a material adverse effect on our business, financial condition, results of operations, and prospects.

***We have expanded and expect to further expand our development, regulatory, clinical, manufacturing and future sales and marketing capabilities, and as a result, we may encounter difficulties in managing our growth, which could disrupt our operations.***

We expect to experience significant growth in the number of our employees and the scope of our operations, particularly in the areas of drug development, regulatory affairs, clinical development, manufacturing, and sales and marketing. For example, our total number of employees grew from 55 as of December 31, 2015 to 132 as of December 31, 2018. To manage our anticipated future growth, we must continue to implement and improve our managerial, operational, and financial systems, expand our facilities, and continue to recruit and train additional qualified personnel. Due to our limited financial resources and the limited experience of our management team in managing a company with such anticipated growth, we may not be able to effectively manage the expected expansion of our operations or recruit and train additional qualified personnel. Moreover, the expected physical expansion of our operations may lead to significant costs and may divert our management and business development resources. Any inability to manage growth could delay the execution of our business plans or disrupt our operations.

***Security breaches and other disruptions to our information technology structure could compromise our information, disrupt our business and expose us to liability, which would cause our business and reputation to suffer.***

In the ordinary course of our business, we collect, process and store sensitive data, including intellectual property, as well as our proprietary business information and that of our suppliers and business partners, employee data, and we may collect personally identifiable information of clinical trial participants when we begin clinical trials. We also rely to a large extent on information technology systems to operate our business, including our financial systems. We have outsourced elements of our confidential information processing and information technology structure, and as a result, we are managing independent vendor relationships with third parties who may or could have access to our confidential information. Similarly, our business partners and other third-party providers possess certain of our sensitive data. The secure maintenance of this information is important to our operations and business strategy. Despite our security measures, our information technology infrastructure (and those of our partners, vendors and third-party providers) may be vulnerable to attacks by hackers or breached due to employee error, malfeasance or other disruptions. We, our partners, vendors, and other third-party providers could be susceptible to third party attacks on our, and their,

information security systems, which attacks are of ever-increasing levels of sophistication and are made by groups and individuals with a wide range of motives and expertise, including organized criminal groups, hacktivists, nation states and others. While we have invested in information technology security measures and the protection of confidential information, there can be no assurance that our efforts will prevent service interruptions or security breaches. Any such interruptions or breach may substantially impair our ability to operate our business and would compromise our, and their, networks and the information stored could be accessed, publicly disclosed, lost, or stolen. Any such access, disclosure, or other loss of information could result in legal claims or proceedings, liability under laws that protect the privacy of personal information, disrupt our operations, and damage our reputation, any of which could adversely affect our business.

**Risks Related to Our Common Stock**

***An active trading market for our common stock may not be sustained.***

Our shares of common stock began trading on The Nasdaq Global Select Market in February 2016. Given the limited trading history of our common stock, there is a risk that an active trading market for our shares will not be sustained, which could put downward pressure on the market price of our common stock and thereby affect the ability of our stockholders to sell their shares.

***The market price of our common stock may be volatile, which could result in substantial losses for our stockholders.***

Our stock price has been, and is likely to remain, volatile. Some of the factors that may cause the market price of our common stock to fluctuate include:

- the success of existing or new competitive products or technologies;
- the timing and results of clinical trials for EDIT-101 and any preclinical studies and clinical trials of any other product candidates that we may develop;
- commencement or termination of collaborations for our product development and research programs;
- failure or discontinuation of any of our product development and research programs;
- results of preclinical studies, clinical trials, or regulatory approvals of product candidates of our competitors, or announcements about new research programs or product candidates of our competitors;
- developments or changing views regarding the use of genomic medicines, including those that involve genome editing;
- regulatory or legal developments in the United States and other countries;
- developments or disputes concerning patent applications, issued patents, or other proprietary rights;
- the recruitment, including of a Chief Executive Officer, Chief Financial Officer and Chief Medical Officer, or departure of key personnel;
- the level of expenses related to any of our research programs, clinical development programs, or product candidates that we may develop;
- the results of our efforts to develop additional product candidates or products;
- actual or anticipated changes in estimates as to financial results, development timelines, or recommendations by securities analysts;

- announcement or expectation of additional financing efforts;
- sales of our common stock by us, our insiders, or other stockholders;
- variations in our financial results or those of companies that are perceived to be similar to us;
- changes in estimates or recommendations by securities analysts, if any, that cover our stock;
- changes in the structure of healthcare payment systems;
- market conditions in the pharmaceutical and biotechnology sectors;
- general economic, industry, and market conditions; and
- the other factors described in this “Risk Factors” section.

In recent years, the stock market in general, and the market for pharmaceutical and biotechnology companies in particular, has experienced extreme price and volume fluctuations that have often been unrelated or disproportionate to changes in the operating performance of the companies whose stock is experiencing those price and volume fluctuations. Broad market and industry factors may seriously affect the market price of our common stock, regardless of our actual operating performance. Following periods of such volatility in the market price of a company’s securities, securities class action litigation has often been brought against that company. Because of the potential volatility of our stock price, we may become the target of securities litigation in the future. Securities litigation could result in substantial costs and divert management’s attention and resources from our business.

***If securities analysts do not publish research or reports about our business or if they publish negative evaluations of our stock, the price of our stock and trading volume could decline.***

The trading market for our common stock depends, in part, on the research and reports that industry or financial analysts publish about us or our business. If one or more of the analysts covering our business downgrade their evaluations of our stock, the price of our stock could decline. If one or more of these analysts cease to cover our stock or fail to regularly publish reports on us, we could lose visibility in the market for our stock, which in turn could cause our stock price to decline.

***A portion of our total outstanding shares may be sold into the market in the near future, which could cause the market price of our common stock to decline significantly, even if our business is doing well.***

Sales of a significant number of shares of our common stock in the public market could occur at any time. These sales, or the perception in the market that the holders of a large number of shares of common stock intend to sell shares, could reduce the market price of our common stock.

We have registered all shares of common stock that we may issue under our equity compensation plans. These shares can be freely sold in the public market upon issuance and once vested, subject to volume limitations applicable to affiliates. In addition, under the terms of certain of our license agreements and certain promissory notes that we may issue in the future in connection with these license agreements, we may elect to issue shares of our common stock in satisfaction of specified payment obligations of ours, which shares may be subject to rights requiring us to register such shares under the Securities Act of 1933, as amended (the “Securities Act”). Such an election by us could result in the issuance of a substantial number of shares and upon registration under the Securities Act these shares would be able to be freely sold in the public market, subject to volume limitations applicable to affiliates. If any of the additional shares described above are sold, or if it is perceived that they will be sold, in the public market, the market price of our common stock could decline.

In addition, certain of our employees, executive officers, directors, and affiliated stockholders have entered or

may enter into Rule 10b5-1 plans providing for sales of shares of our common stock from time to time. Under a Rule 10b5-1 plan, a broker executes trades pursuant to parameters established by the participant establishing the plan when entering into the plan, without further direction from such participant. A Rule 10b5-1 plan may be amended or terminated in some circumstances. Our employees, executive officers, directors, and affiliated stockholders also may buy or sell additional shares outside of a Rule 10b5-1 plan when they are not in possession of material, nonpublic information.

***We incur increased costs as a result of operating as a public company, and our management is required to devote substantial time to new compliance initiatives and corporate governance practices.***

As a public company we have incurred, and will continue to incur, significant legal, accounting, and other expenses that we did not incur as a private company. The Sarbanes-Oxley Act of 2002, the Dodd-Frank Wall Street Reform and Consumer Protection Act, the listing requirements of The Nasdaq Global Select Market, and other applicable securities rules and regulations impose various requirements on public companies, including establishment and maintenance of effective disclosure and financial controls and corporate governance practices. We have had to hire additional accounting, finance, and other personnel in connection with our becoming, and our efforts to comply with the requirements of being, a public company, and our management and other personnel devote a substantial amount of time towards maintaining compliance with these requirements. These requirements increase our legal and financial compliance costs and make some activities more time-consuming and costly. These rules and regulations are often subject to varying interpretations, in many cases due to their lack of specificity, and, as a result, their application in practice may evolve over time as new guidance is provided by regulatory and governing bodies. This could result in continuing uncertainty regarding compliance matters and higher costs necessitated by ongoing revisions to disclosure and governance practices.

Pursuant to SOX Section 404, we are required to furnish a report by our management on our internal control over financial reporting and are required to include an attestation report on internal control over financial reporting issued by our independent registered public accounting firm. To maintain compliance with SOX Section 404, we will continue to document and evaluate our internal control over financial reporting, which is both costly and challenging. In this regard, we will need to dedicate internal resources, engage outside consultants, adopt a detailed work plan to assess and document the adequacy of internal control over financial reporting, continue steps to improve control processes as appropriate, validate through testing that controls are functioning as documented, and implement a continuous reporting and improvement process for internal control over financial reporting. Despite our efforts, there is a risk that neither we nor our independent registered public accounting firm will be able to conclude, within the prescribed timeframe or at all, that our internal control over financial reporting is effective as required by SOX Section 404. If we identify one or more material weaknesses, it could result in an adverse reaction in the financial markets due to a loss of confidence in the reliability of our consolidated financial statements.

***We have broad discretion in the use of our cash reserves and may not use them effectively.***

Our management has broad discretion to use our cash reserves and could use our cash reserves in ways that do not improve our results of operations or enhance the value of our common stock. The failure by our management to apply these funds effectively could result in financial losses that could have a material adverse effect on our business, cause the price of our common stock to decline, and delay the development of our product candidates. Pending their use, we may invest our cash reserves in a manner that does not produce income or that loses value.

***We do not expect to pay any dividends for the foreseeable future. Accordingly, stockholders must rely on capital appreciation, if any, for any return on their investments.***

We have never declared or paid cash dividends on our common stock. We currently intend to retain all of our future earnings, if any, to finance the growth and development of our business. In addition, the terms of any future debt agreements may preclude us from paying dividends. As a result, capital appreciation, if any, of our common stock will be stockholders' sole source of gain for the foreseeable future.

***Provisions in our restated certificate of incorporation and amended and restated bylaws or Delaware law might discourage, delay, or prevent a change in control of our company or changes in our management and, therefore, depress the trading price of our common stock.***

Provisions in our restated certificate of incorporation and amended and restated bylaws or Delaware law may discourage, delay, or prevent a merger, acquisition, or other change in control that stockholders may consider favorable, including transactions in which you might otherwise receive a premium for your shares of our common stock. These provisions may also prevent or frustrate attempts by our stockholders to replace or remove our management. These provisions include:

- limitations on the removal of directors;
- a classified board of directors so that not all members of our board of directors are elected at one time;
- advance notice requirements for stockholder proposals and nominations;
- the inability of stockholders to act by written consent or to call special meetings;
- the requirement that at least 75% of the votes cast by all our stockholders approve the amendment or repeal of certain provisions of our amended and restated bylaws or restated certificate of incorporation;
- the ability of our board of directors to make, alter, or repeal our amended and restated bylaws; and
- the ability of our board of directors to designate the terms of and issue new series of preferred stock without stockholder approval, which could be used to institute a rights plan, or a poison pill, that would work to dilute the stock ownership of a potential hostile acquirer, likely preventing acquisitions that have not been approved by our board of directors.

In addition, Section 203 of the General Corporation Law of the State of Delaware prohibits a publicly held Delaware corporation from engaging in a business combination with an interested stockholder, generally a person which together with its affiliates owns, or within the last three years has owned, 15% of our voting stock, for a period of three years after the date of the transaction in which the person became an interested stockholder, unless the business combination is approved in a prescribed manner.

The existence of the foregoing provisions could deter potential acquirers of our company, thereby reducing the likelihood that our stockholders could receive a premium for their shares of common stock in an acquisition.

***Our restated certificate of incorporation designates the state courts in the State of Delaware or, if no state court located within the State of Delaware has jurisdiction, the federal court for the District of Delaware, as the sole and exclusive forum for certain types of actions and proceedings that may be initiated by our stockholders, which could discourage lawsuits against the company and our directors and officers.***

Our restated certificate of incorporation provides that, unless our board of directors otherwise determines, the state courts in the State of Delaware or, if no state court located within the State of Delaware has jurisdiction, the federal court for the District of Delaware, will be the sole and exclusive forum for any derivative action or proceeding brought on our behalf, any action asserting a claim of breach of a fiduciary duty owed by any of our directors or officers to our company or our stockholders, any action asserting a claim against us or any of our directors or officers arising pursuant to any provision of the General Corporation Law of the State of Delaware or our restated certificate of incorporation or amended and restated bylaws, or any action asserting a claim against us or any of our directors or officers governed by the internal affairs doctrine. This exclusive forum provision may limit the ability of our stockholders to bring a claim in a judicial forum that such stockholders find favorable for disputes with us or our directors or officers, which may discourage such lawsuits against us and our directors and officers.

**Item 6. Exhibits**

Exhibit Index

| Exhibit Number | Description of Exhibit |
|---|---|
| 10.1† | Co-Development and Commercialization Agreement, dated February 22, 2019, by and between the Registrant and Allergan Sales, LLC |
| 10.2 | Consulting Agreement, dated January 20, 2019, by and between the Registrant and Cynthia Collins |
| 10.3 | Letter Agreement, dated January 19, 2019, by and between the Registrant and Katrine Bosley |
| 10.4 | Form of Restricted Stock Unit Award Agreement under 2015 Stock Incentive Plan (incorporated by referenced to Exhibit 10.1 to Registrants Current Report on Form 8-K (File No. 001-37687) filed with the SEC on January 22, 2019) |
| 31.1 | Rule 13a-14(a) Certification of Principal Executive Officer |
| 31.2 | Rule 13a-14(a) Certification of Principal Financial Officer |
| 32.1 | Certification of Principal Executive Officer and Principal Financial Officer pursuant to 18 U.S.C. §1350 |
| 101.INS | XBRL Instance Document |
| 101.SCH | XBRL Taxonomy Extension Schema Document |
| 101.CAL | XBRL Taxonomy Extension Calculation Linkbase Document |
| 101.DEF | XBRL Taxonomy Extension Definition Linkbase Document |
| 101.LAB | XBRL Taxonomy Extension Label Linkbase Document |
| 101.PRE | XBRL Taxonomy Extension Presentation Linkbase Document |

† Certain portions of this exhibit are subject to confidential treatment.

**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 thereunto duly authorized.

**EDITAS MEDICINE, INC.**

Dated: May 8, 2019

By: /s/ Cynthia Collins
Cynthia Collins
Interim Chief Executive Officer
(Principal Executive Officer)

**EXECUTION COPY**
**CONFIDENTIAL**

**EXHIBIT 10.1**

**Certain identified information has been excluded from the exhibit because it is both (i) not material and (ii) would likely cause competitive harm to the Company, if publicly disclosed. Double asterisks denote omissions.**

# CO-DEVELOPMENT AND COMMERCIALIZATION AGREEMENT

**by and between**

**EDITAS MEDICINE, INC.**

**AND**

**ALLERGAN SALES, LLC**

**Dated as of February 22, 2019**

**TABLE OF CONTENTS**

# CO-DEVELOPMENT AND COMMERCIALIZATION AGREEMENT

This **CO-DEVELOPMENT AND COMMERCIALIZATION AGREEMENT** (this "**Agreement**") is entered into and made effective as of February 22, 2019 (the "**Effective Date**") by and between Editas Medicine, Inc., a Delaware corporation ("**Editas**") and Allergan Sales, LLC, a Delaware limited liability company ("**Allergan**"). Editas and Allergan are each referred to herein by name or as a "**Party**" or, collectively, as the "**Parties**."

## RECITALS

**WHEREAS**, Editas and Allergan Pharmaceuticals International Limited, an Affiliate of Allergan ("**APIL**"), entered into that certain Strategic Alliance and Option Agreement, dated as of March 14, 2017 (as may be amended and/or restated from time to time, the "**Alliance Agreement**"), pursuant to which APIL was granted and timely exercised an exclusive option to obtain an exclusive license to Develop, Commercialize, make, have made, use, offer for sale, sell and import Licensed Products arising from the LCA10 Program;

**WHEREAS**, pursuant to the terms of the Alliance Agreement, following exercise by APIL of its option with respect to the LCA10 Program, Editas had the right to elect to participate with APIL in the profits and losses resulting from the Development and Commercialization in the United States of all Licensed Products arising from the LCA10 Program;

**WHEREAS**, Editas has elected to participate with APIL in the profits and losses resulting from the Development and Commercialization in the United States of all Licensed Products arising from the LCA10 Program, following which the LCA Program became a Co-Co Program and any resulting product under such Program became a Co-Co Product under the Alliance Agreement;

**WHEREAS**, APIL and Allergan entered into that certain License Agreement, dated as of July 19, 2018, pursuant to which APIL sublicensed to Allergan APIL's rights and obligations under the Alliance Agreement with respect to the LCA10 Program, including, without limitation, the right and obligation to enter into this Agreement; and

**WHEREAS**, Editas and Allergan will share the costs and certain responsibilities of Development of all Co-Co Products in the United States, and profits and losses resulting from Commercialization, of all Co-Co Products in the United States, and Allergan will be responsible for Developing and Commercializing all Co-Co Products in other countries, in accordance with the terms and conditions of this Agreement and the Alliance Agreement.

## AGREEMENT

**NOW, THEREFORE**, in consideration of the foregoing and the covenants and promises contained in this Agreement and intending to be legally bound, the Parties agree as follows:

### 1. DEFINITIONS.

As used herein, the following terms shall have the following meanings:

**1.1** "**Allergan Trademarks**" means the Trademarks Controlled by Allergan, other than the Co-Co Product Trademarks, used in the Commercialization of any of the Co-Co Products.

**1.2** "**Applicable Laws**" means all applicable laws, rules, and regulations, including without limitation any rules, regulations, guidelines or other requirements of the Regulatory Authorities, that may be in effect from time to time in any relevant legal jurisdiction.

**1.3** "**BLA**" means a Biologics License Application for any of the Co-Co Products under Section 351 of the Public Health Service Act, as may be amended, supplemented, or replaced, or any foreign equivalent thereto.

**1.4** "**Calendar Quarter**" means the respective periods of three (3) consecutive calendar months ending on March 31, June 30, September 30, and December 31; *provided, however*, that (a) the first Calendar Quarter of the Term shall extend from the Effective Date to the end of the first complete Calendar Quarter thereafter, and (b) the last Calendar Quarter of the Term shall end upon the expiration or termination of this Agreement.

**1.5** "**Calendar Year**" means each successive period of twelve (12) months commencing on January 1 and ending on December 31; *provided, however*, that (a) the first Calendar Year of the Term shall extend from the Effective Date to December 31, and (b) the last Calendar Year of the Term shall end upon the expiration or termination of this Agreement.

**1.6** "**Co-Co Product**" means any Licensed Product arising from the LCA10 Program.

**1.7** "**Co-Co Product Trademarks**" means the Trademarks that pertain specifically to the Co-Co Products.

**1.8** "**Co-Co Territory**" means the United States, including its territories and possessions.

**1.9** "**Compulsory Sublicense**" means a license or sublicense granted to a Third Party through the order, decree or grant of a Governmental Authority having competent jurisdiction, authorizing such Third Party (each, a "**Compulsory Sublicensee**") to Manufacture, use, sell, offer for sale, import or export any of the Co-Co Products in the Territory.

**1.10** "**Dispute**" means any dispute, controversy, or Claim in connection with this Agreement or any other agreement entered into pursuant hereto, the construction hereof or thereof, or the rights, obligations, or liabilities of either Party hereunder or thereunder.

**1.11** "**Early Stage Governance Board**" or "**ESGB**" means Allergan's Early Stage Governance Board [**].

**1.12** "**Eye Care Governance Board**" or "**ECGB**" means Allergan's Eye Care Governance Board [**].

**1.13** "**Financial Appendix**" means the financial appendix attached as Exhibit 1.13.

**1.14** "**Global Development Strategy**" or "**GDS**" means the strategy for the Development of any of the Co-Co Products in the Territory, which strategy is to be created by the Core Team and subject to the approval of the ADB.

**1.15** "**Good Clinical Practices**" or "**GCP**" means the standards, practices and procedures set forth in the guidelines entitled "Good Clinical Practice: Consolidated Guidance", the related regulatory requirements imposed by the FDA, and, as applicable, any equivalent or similar standards in jurisdictions outside the Co-Co Territory.

**1.16** "**Good Laboratory Practices**" or "**GLP**" means the regulations set forth in 21 C.F.R. Part 58, the requirements thereunder imposed by the FDA, and, as applicable, any equivalent or similar standards in jurisdictions outside the Co-Co Territory.

**1.17** "**Good Manufacturing Practices**" or "**GMP**" means the regulations set forth in 21 C.F.R. Parts 210-211, 820 and 21 C.F.R. Subchapter C (Drugs), Quality System Regulations, the requirements thereunder imposed by the FDA, and, as applicable, any equivalent or similar standards in jurisdictions outside the Co-Co Territory.

**1.18** "**Growth Product Flow**" means Allergan's internal global, integrated cross-functional governance and decision-making processes which are utilized by Allergan to manage the progression of products, including the Co-Co Products, from early stage Development to Commercialization, as such processes may be updated by Allergan from time to time in its sole discretion.

**1.19** "**Information**" means ideas, inventions, discoveries, concepts, formulas, practices, procedures, processes, methods, knowledge, know-how, trade secrets, technology, designs, drawings, computer programs, skill, experience, documents, results, clinical and regulatory strategies, data, including without limitation pharmacological, toxicological, non-clinical and clinical data, analytical and quality control data, Manufacturing data and descriptions, patent and legal data, market data, financial data or descriptions, assay protocols, specifications, and the like, in written, electronic or other form, now known or hereafter developed, whether or not patentable.

**1.20** "**Initial Co-Co Product**" means the Co-Co Product that, as of the Effective Date, is the lead product candidate under Development for the LCA10 Program, also known as EDIT-101.

**1.21** "**Inventions**" means any and all inventions conceived or reduced to practice by or on behalf of either Party or its Affiliates or Sublicensees in the course of activities performed in connection with the Development activities conducted under this Agreement.

**1.22** "**Licensee Territory**" means the Territory excluding the Co-Co Territory.

**1.23** "**Pharmacovigilance Agreement**" means an agreement entered into by the Parties to set forth the protocols and procedures for reporting adverse events and complying with reporting requirements set forth by Regulatory Authorities.

**1.24** "**Phase 1/2 Clinical Trial**" means any clinical study that encompasses the activities contemplated by both a Phase 1 Clinical Trial and a Phase 2 Clinical Trial.

**1.25** "**Promotional Materials**" means all Sales Representative training materials and all written, printed, graphic, electronic, audio or video matter, including without limitation journal advertisements, sales visual aids, leave-behind items, formulary binders, reprints, direct mail, direct-to-consumer advertising, internet postings and sites and broadcast advertisements intended for use or used by or on behalf of Allergan or its Affiliates or Sublicensees in connection with any promotion of any of the Co-Co Products.

**1.26** "**Regulatory Filings**" means any and all regulatory applications, filings, approvals and associated correspondence required to Develop any of the Co-Co Products and for Regulatory Approval of such Co-Co Products in each country in the Territory.

**1.27** "**Sales Representative**" means a pharmaceutical sales representative who is trained with respect to any of the Co-Co Products, including its labeling and Promotional Materials, engaged or employed by Allergan or its Affiliates to conduct Detailing with respect to such Co-Co Product in accordance with the terms of this Agreement.

**1.28** "**Sublicensee**" means, with respect to any of the Co-Co Products, a Third Party to whom Allergan or its Affiliates has granted a sublicense under the Alliance Agreement for rights to such Co-Co Product, but excluding any Third Party acting solely as a distributor or manufacturer and any Compulsory Sublicensee.

**1.29** "**Target Product Profile**" or "**TPP**" means the target profile for Development of any of the Co-Co Products, which profile is to be created by the Core Team based on requirements of the applicable Regulatory Authorities subject to the approval of the ADB.

**1.30** "**Trademark**" means any word, name, symbol, color, designation or device or any combination thereof, whether registered or unregistered, including without limitation any trademark, trade dress, service mark, service name, brand mark, trade name, brand name, domain name, logo or business symbol.

**1.31** "**Withholding Taxes**" means any taxes, duties, levies, imposts, assessments, deductions, fees and other similar charges required to be deducted or withheld under Applicable Law or by any Governmental Authority.

**1.32** **Additional Definitions**. Capitalized terms used but not otherwise defined in this Agreement or Exhibit 1.13 shall have the meaning ascribed to them in the Alliance Agreement, it being agreed that references to a Licensed Product in such definitions shall, for purposes of this Agreement, be deemed to be references to a Co-Co Product, and shall apply to the Parties to this Agreement, *mutatis mutandis*. Each of the following definitions is set forth in the section of this Agreement indicated below:

| Definition | Section |
|---|---|
| ADB | 2.1(a) |

| Definition | Section |
|---|---|
| Administration Costs | Exhibit 1.13 |
| Agreement | Preamble |
| Allergan | Preamble |
| Allergan Indemnitees | 9.2 |
| Alliance Agreement | Recitals |
| Allocable Manufacturing Overhead | Exhibit 1.13 |
| Allowable Expenses | Exhibit 1.13 |
| Annual Update | 2.2(b)(ii) |
| APIL | Recitals |
| Balancing Statement | Exhibit 1.13 |
| Biosimilar Product | Exhibit 1.13 |
| Change in Tax Treatment Event | 8.4 |
| Claims | 9.1(a) |
| Clinical Plan | 2.2(b)(i) |
| Clinical Sub-Team | 2.1(b)(iii) |
| CMC | 2.1(b)(ii) |
| Code | 8.4 |
| Collaboration | Exhibit 1.13 |
| Commercialization Budget | 3.2 |
| Commercialization Costs | Exhibit 1.13 |
| Core Team | 2.1(b)(i) |
| Core Team Chairperson | 2.1(b)(ii) |
| Core Team Members | 2.1(b)(ii) |
| Cost of Goods | Exhibit 1.13 |
| CPI | Exhibit 1.13 |
| CWG | 3.1 |
| Designated Individual | 8.4 |
| Detail | Exhibit 1.13 |
| Detail Rate | Exhibit 1.13 |
| Development Budget | 2.2(b)(i) |
| Development Costs | Exhibit 1.13 |
| Development Labor Costs | Exhibit 1.13 |
| Development Plan | 2.2(b)(i) |
| Distribution/Warehousing Costs | Exhibit 1.13 |
| Editas | Preamble |
| Editas Indemnitee | 9.1(a) |
| Effective Date | Preamble |
| Executives | 11.2 |
| FTE | Exhibit 1.13 |
| FTE Rate | Exhibit 1.13 |
| Fully Burdened Manufacturing Costs | Exhibit 1.13 |
| IND Transfer | 2.1(b)(iv)(7) |

| Definition | Section |
|---|---|
| Industry Expert | 5.3(c) |
| Initial Development Plan and Budget | 2.2(b)(i) |
| Intended Tax Treatment | 8.4 |
| Interim Amendment | 2.2(b)(iii) |
| JFT | 2.1(b)(iii) |
| Losses | 9.1(a) |
| Marketing Costs | Exhibit 1.13 |
| Marketing Labor Costs | Exhibit 1.13 |
| NTS | 2.1(b)(ii) |
| Other Operating Income/Expense | Exhibit 1.13 |
| Other Overrun Cost | 5.3(b) |
| Overrun Cost | 5.3(a) |
| Parties | Preamble |
| Partnership Representative | 8.4 |
| Party | Preamble |
| Profit and Loss | Exhibit 1.13 |
| Profit Sharing Date | 4.1 |
| Regulatory Plan | 2.2(f) |
| Royalty & Milestone Payments | Exhibit 1.13 |
| Sales | Exhibit 1.13 |
| Sales Costs | Exhibit 1.13 |
| Sales Force Costs | Exhibit 1.13 |
| Sub-Teams | 2.1(b)(iii) |
| Subcontractors | 2.2(d) |
| Successor-in-Interest | 12.2 |
| Technology Transfer | 4.1 |
| Term | 10.1 |

## 2. DEVELOPMENT.

### 2.1 Governance of the Development of the LCA10 Program.

**(a) Allergan Decision Board.** The Development of each Co-Co Product will [**] be overseen and governed by the Allergan Decision Board (as such body may be reformed, renamed or reconstituted by Allergan, the "**ADB**"). [**]. Allergan shall have sole control over the ADB, including all decision-making by the ADB, provided that the ADB shall consider in good faith all comments and feedback as are reasonably provided by Editas, the ASC and/or the Core Team with respect to the Development of the Co-Co Products. The ADB shall have full and final decision-making authority for all matters related to the Development of the Co-Co Products, provided that (x) the ADB shall exercise such authority consistent with the terms of this Agreement and the applicable terms of the Alliance Agreement, including Allergan's obligations hereunder and Allergan's and/or APIL's obligations under the Alliance Agreement, (y) the ADB shall have no power to amend or waive compliance with this Agreement or the Alliance Agreement and

(z) the ADB's authority shall be subject to the provisions of Section 5.3(b). Allergan shall provide Editas with reasonable advanced notice of any ADB meeting in which issues concerning the Development of the Co-Co Products are reasonably expected to be discussed, and Editas shall be permitted to have a reasonable number of representatives attend such ADB meetings (in person or via telephone or video conference) solely to the extent and at such times as issues concerning the Development of the Co-Co Products are being addressed. The Parties acknowledge that the ASC shall continue to operate in accordance with the Alliance Agreement, and nothing herein shall limit any of the rights or responsibilities of the ASC under Section 3.1.4 of the Alliance Agreement or otherwise.

**(b) Core Team and Sub-Teams.**

**(i) General**. The ADB will establish and direct control over a Co-Co Products core team in accordance with Section 2.1(b)(ii) (the "**Core Team**"), which will oversee the Development of the Co-Co Products and review the annual Development Budget with respect to each Co-Co Product. Each of the Parties and their representatives on the Core Team shall (i) make decisions consistent with the goal of implementing those aspects of the Development Plan and the GDS for which it is responsible and (ii) use Commercially Reasonable Efforts to conduct the Development of the Initial Co-Co Product and any other Co-Co Product for which an IND has been filed in the Co-Co Territory.

**(ii) Membership**. Promptly after the Effective Date, but in no event more than [**] after the Effective Date, the Parties shall establish the Core Team to monitor and direct the Development activities set forth in Section 2.1(b)(iv) below. The Core Team shall be composed [**] ("**Core Team Members**"). The Parties each shall appoint Core Team Members with appropriate seniority and reasonable functional expertise. Each Party may replace any of its Core Team Members and appoint a person to fill the vacancy arising from each such replacement. A Party that replaces a Core Team Member shall notify the other Party at least [**] prior to the next scheduled meeting of the Core Team. Both Parties shall keep a reasonably appropriate level of knowledge and continuity in representation on the Core Team. Both Parties may invite a reasonable number of additional non-voting experts and/or other advisors to attend part or the whole Core Team meeting with prior notification to the Core Team, provided that such invitees shall be bound by obligations of confidentiality and non-use that are no less restrictive than the obligations set forth in Article 7. Core Team Members may be represented at any meeting by another person designated by the absent Core Team Member. The Core Team shall be chaired by a Core Team Member from Allergan ("**Core Team Chairperson**").

**(iii) Sub-Teams**. The Core Team shall establish a clinical sub-team (the "**Clinical Sub-Team**") and a joint finance team ("**JFT**") within [**] after the Effective Date. Additionally, the Core Team may establish additional sub-teams to monitor and direct the Parties' Development activities under this Agreement,

including, by way of example, a CMC sub-team, a regulatory sub-team, and an NTS sub-team (collectively with the Clinical Sub-Team and JFT, the "**Sub-Teams**"). Each Sub-Team shall be chaired by an Allergan representative. Each Party shall have representation on such Sub-Team as is reasonably reflective of the Development activities assigned to such Party under the applicable Development Plan within the purview of such Sub-Team, [**], and further provided that in no event will Editas' representation on each Sub-Team exceed that of Allergan. The Sub-Teams may also establish a number of satellite teams that report to the Sub-Teams with representation consistent with that set forth for Sub-Teams above.

**(iv) Responsibilities**. The Core Team shall monitor and direct the Development activities to be conducted under the GDS and the Development Plan, and shall monitor and direct the Sub-Teams (to the extent each Sub-Team exists). Without limiting the generality of this Section 2.1 and the foregoing, the Core Team shall:

**(1)** prepare the GDS with input from the Sub-Teams for approval by the ADB;

**(2)** prepare the TPP with input from the Sub-Teams for approval by the ADB;

**(3)** monitor the Development activities and obligations of the Parties under this Agreement and the GDS throughout the Co-Co Territory for the Co-Co Products;

**(4)** prepare the Development Plan and Development Budget on an annual basis, and propose adjustments and updates thereto from time to time as it deems appropriate, for each Co-Co Product, and present such Development Plan and Development Budget and any such adjustments or updates thereto in each case for approval in accordance with Section 2.2(b);

**(5)** review and discuss the preparation of Regulatory Filings for each Co-Co Product, including but not limited to INDs, applications for Regulatory Approval, and supportive filings with Regulatory Authorities for approval by the ADB;

**(6)** report to the ASC to the extent reasonably necessary for the ASC to perform its responsibilities relating to Co-Co Programs under Section 3.1.4 of the Alliance Agreement with respect to the LCA10 Program;

**(7)** facilitate the transfer of the IND for the Initial Co-Co Product to Allergan or its designee at such time as requested by Allergan (the "**IND Transfer**");

**(8)** discuss any issues elevated from any Sub-Team;

**(9)** meet in advance of each and any ADB meeting in which the Co-Co Products will be discussed; and

**(10)** perform such other functions as appropriate to further the purposes of this Agreement as determined by the ADB, including without limitation forming additional Sub-Teams and periodic evaluation of performance against goals.

**(v) Meetings, Agenda, and Minutes**. The Core Team shall meet at least [**] times per Calendar Year before the first Regulatory Approval of any Co-Co Product in the Co-Co Territory and at least [**] times per Calendar Year thereafter, unless otherwise agreed by the Core Team. Each Party shall bear all the meeting expenses of its representatives on the Core Team, including travel, accommodations and meals. The Core Team Chairperson or his/her delegate shall be responsible for sending invitations and agendas for all Core Team meetings to all Core Team Members at least [**] before the next scheduled meeting of the Core Team. The Core Team Chairperson shall be responsible for designating a Core Team Member, or an attending member of another committee or team, to record in reasonable detail and circulate draft minutes of Core Team meetings to all Core Team Members for comment and review within [**] after the relevant meeting. The Core Team Members shall have [**] from the date of circulation of such draft minutes to provide comments. The Core Team Member preparing the minutes shall incorporate timely received comments and, after receiving approval from the Core Team Chairperson, distribute finalized minutes to all Core Team Members within [**] after the relevant meeting.

**(vi) Decision Making**. The Core Team and each Sub-Team and satellite team shall decide matters within its jurisdiction by consensus. Notwithstanding the foregoing, neither the Core Team nor any Sub-Team or satellite team shall have the power to amend or waive compliance with this Agreement, the Development Plan, the GDS or the TPP. If any satellite team is unable to decide a matter by consensus for more than [**] after such satellite team first addresses such matter (or such longer period as the Parties may mutually agree upon), then such disagreement shall be submitted to the applicable Sub-Team for resolution pursuant to this Section 2.1(b)(vi). If any Sub-Team is unable to decide a matter by consensus for more than [**] after such Sub-Team first addresses such matter (or such longer period as the Parties may mutually agree upon), then such disagreement shall be submitted to the Core Team. If the Core Team is unable to reach consensus on any matter within the Core Team's jurisdiction under this Section 2.1(b)(iv) within [**] after it first addresses such matter (or such longer period as the Parties may mutually agree upon), then (1) if such matter relates to any material amendment to the then-current Development Plan or Development Budget (including any material changes to the timelines set forth therein) or any Annual Update such matter shall be handled in accordance with Section 2.2(b)(ii) or Section 2.2(b)(iii), as applicable, and (2) any matter not described in clause (1) shall be finally decided by the Core Team

Chairperson. For the avoidance of doubt, any Annual Update or Interim Amendment to be prepared by the Core Team and submitted to the ASC as contemplated by Section 2.2(b)(ii) or Section 2.2(b)(iii), as applicable, shall be submitted to the ASC upon approval by the Core Team Chairperson in the absence of consensus amongst the Core Team members.

**(vii) Lifetime**. The Core Team shall exist until such time as the ADB decides to dissolve the Core Team, provided that upon such dissolution, the ADB shall establish a replacement governance structure that is materially consistent with the governance structure that Allergan typically uses in governing its internal programs and will provide Editas with substantially consistent representation, consultation and other rights as provided to Editas under this Section 2.1(b). Each satellite team shall exist until such time as the applicable Sub-Team decides to dissolve such satellite team, and each Sub-Team shall exist until such time as the Core Team decides to dissolve such Sub-Team. In the event that any satellite team is dissolved, the applicable Sub-Team shall take on all of the responsibilities of such satellite team. In the event that any Sub-Team is dissolved, the Core Team shall take on all of the responsibilities of such Sub-Team.

**2.2 Development and Regulatory Matters**

**(a) Development Activities**. Allergan shall take the lead in and control the Development of the Co-Co Products. Without limiting the generality of the foregoing, Allergan shall, in good faith, assign reasonable activities and responsibilities to Editas in all phases of the Development of the Co-Co Products taking into consideration, and commensurate with, Editas' capabilities and experience and the nature of such activities or responsibilities, including, without limitation, Editas' scientific, financial and regulatory capabilities, expertise and experience, the cost of Editas performing any such activity or such responsibility compared to Allergan's cost and any other requirements of the relevant activity or responsibility. Editas shall be jointly responsible with Allergan for the Development of the Co-Co Products through the first Phase 1/2 Clinical Trial for the Initial Co-Co Product, including executing the protocol and managing and overseeing the clinical research organizations that may be conducting such Phase 1/2 Clinical Trial, in accordance with the applicable Development Plan. Without limiting the generality of the foregoing, each Party shall be responsible for conducting and shall use Commercially Reasonable Efforts to conduct the activities assigned to it in each Development Plan under the direction and supervision of the Core Team, provided, that neither Party shall be assigned obligations under such Development Plan without such Party's prior written approval, which shall not be unreasonably withheld, delayed or conditioned, it being understood that each Party has approved and consented to the Initial Development Plan and Budget. Each Party shall be responsible for selection and supervision of its personnel assigned to tasks related to Development activities. Subject to the role of Core Team, the ADB shall be responsible for making, and have authority to make, all decisions, and undertake any actions necessary as a result of such decisions, regarding Development (including additional preclinical and clinical Development and testing) and preparing and filing BLAs and any other applications for Regulatory Approval, all in a manner consistent with this Agreement, the Development Plan and the GDS.

**(b) Development Plan and Development Budget**.

**(i) Content**. The Development of each Co-Co Product shall be governed by a global Development plan (a "**Development Plan**"), and the costs and expenses relating to the Development of each Co-Co Product shall be governed by an annual Development budget (a "**Development Budget**"), the initial forms of which are attached as Exhibit 2.2(b)(i)(1) and Exhibit 2.2(b)(i)(2), respectively. The initial Development Plan and Development Budget shall govern the Development activities of the Initial Co-Co Product for an initial period beginning on the Effective Date through December 31, 2019 ("**Initial Development Plan and Budget**"). Each subsequent Development Plan shall include, without limitation, (i) an overview of the Clinical Trials anticipated to be conducted by the Parties to support Regulatory Approval of the applicable Co-Co Product(s), and related timelines (the "**Clinical Plan**"), (ii) other material activities necessary for Development of such Co-Co Product(s), (iii) the proposed overall program of Development for such Co-Co Product(s), (iv) at an appropriate stage of Development, a publication strategy, (v) the roles and responsibilities of each Sub-Team, (vi) at the appropriate stage, plans related to Manufacturing of the Co-Co Products, and (vii) the Regulatory Plan for the applicable period. Each Development Budget shall include an estimate regarding the number of FTEs for each Party that will be performing Development activities during the applicable period.

**(ii) Annual Updates**. On or prior to [**] of each Calendar Year during the Term, the Core Team shall update the Development Plan for each Co-Co Product and prepare the Development Budget for such Co-Co Product for the subsequent Calendar Year (an "**Annual Update**") and submit such Annual Update to the ASC for review and discussion. Following such review and discussion by the ASC, which review and discussion shall be held no later than [**] following submission to the ASC by the Core Team, the Annual Update prepared by the Core Team shall be submitted to the ADB for review and approval by the ADB. The ADB shall, within [**] following submission to the ADB, either approve the Annual Update prepared by the Core Team or approve a modified Annual Update reflecting such modifications as the ADB deems appropriate. Such Annual Update, as approved by the ADB, shall be the final Development Plan and Development Budget in respect of the Calendar Year for which it was prepared and shall be binding and conclusive on the Parties. Allergan shall have the right to call and to direct APIL to call special meetings of the ASC at its discretion for the purposes of reviewing and discussing any Annual Updates pursuant hereto.

**(iii) Interim Amendments**. From time to time in between Annual Updates, the Core Team may amend the Development Budget or Development Plan (an "**Interim Amendment**"), provided that any material Interim Amendments shall be subject to review and discussion by the ASC and approval by the ADB in the same manner and within the same timeframes that are applicable to Annual Updates

as set forth above in Section 2.2(b)(ii) and such provisions shall apply to Interim Amendments *mutatis mutandis*. The Development Plan and Development Budget, as modified by any Interim Amendment approved in accordance with this Agreement, shall be the final Development Plan and Development Budget for the Calendar Year specified therein and shall be binding and conclusive on the Parties. Allergan shall have the right to call and to direct APIL to call special meetings of the ASC at its discretion for the purposes of reviewing and discussing any material Interim Amendments. All Development Plans and Development Budgets, including Annual Updates and Interim Amendments shall be set in good faith, consistent with the principles set forth in Section 2.2(a).

**(c) Development Costs for the Co-Co Product**. The costs of the Development activities set out in each Development Plan as set forth in the applicable approved Development Budget will be split equally between the Parties as set out in Article 5, provided that any such activities of Allergan that support Regulatory Approval solely in the Licensee Territory shall be borne solely by Allergan.

**(d) Development Subcontracting**. Prior to subcontracting any of its Development obligations hereunder to a Third Party, Editas shall obtain the written consent of the Core Team Chairperson, provided that the Third Parties set forth in Exhibit 2.2(d) shall be deemed pre-approved. Allergan may subcontract its Development obligations to any Third Party without the prior written consent of the Core Team. Each Party shall reasonably inform the Core Team of any such subcontracting arrangement (such Third Parties, "**Subcontractors**"). The direct, out-of-pocket costs of engaging any such Subcontractor, to the extent related to a Co-Co Product, shall be included as Development Costs with respect to such Co-Co Product, provided, that such costs are contemplated by the applicable Development Budget or consist of Overrun Costs that are subject to cost sharing in accordance with Section 5.3. The Party engaging such Subcontractor shall ensure that, unless otherwise agreed by the Core Team, for each Subcontractor under this Section 2.2(d): (a) such Subcontractor has entered or shall enter into, prior to performing activities under this Agreement, an appropriate written agreement obligating such Subcontractor to be bound by obligations of confidentiality and non-use that are materially consistent with the obligations set forth in Article 7; and (b) the Party engaging such Subcontractor shall obtain and retain ownership of or otherwise obtain an exclusive, royalty free, fully paid up, perpetual, irrevocable, transferable, sublicenseable license to any and all Inventions, Know-How, Patents or other intellectual property rights generated or created by such Subcontractor or incorporated into any deliverables by such Subcontractor in performing such subcontracted activity. Notwithstanding the foregoing, the Party engaging such Subcontractor shall at all times be responsible for the performance of such Subcontractor as if such activities were performed by the responsible Party. Without limiting the generality of the foregoing, such Party shall include in its agreement with each of its Subcontractors under this Section 2.2(d), (i) a right for the other Party to receive, directly or through the Party engaging such Subcontractor, any confidential information of such Subcontractor disclosed under or related to such subcontract (including, without limitation, any information obtained in connection with any audit of such Subcontractor), and (ii) in the case where Editas is the Party engaging such Subcontractor, for each such subcontract entered into on or after the Effective Date, a right for Allergan to audit the performance of such Subcontractor

under such subcontract, including through audit of any applicable books, records, data or other Information of such Subcontractor; provided that if Editas cannot obtain such audit rights for Allergan following good faith efforts, Editas may, in lieu thereof, obtain a right for itself to audit such Subcontractor and Editas shall exercise any such audit rights at Allergan's request and direction and use good faith efforts to permit Allergan to participate in such audits). With respect to any subcontract entered into by Editas before the Effective Date, Editas shall, to the extent Editas has a right to audit the performance of such Subcontractor under such subcontract, exercise any such audit rights at Allergan's request and direction, promptly furnish any information obtained pursuant to such audit to Allergan and use good faith efforts to permit Allergan to participate in such audits.

**(e) Cooperation**. During the period of time in which any Co-Co Product is being Developed, the Parties shall cooperate with each other to provide reasonable support in the conduct of all activities that are reasonably necessary or useful for the Development of such Co-Co Product in the Co-Co Territory. Each Party shall use reasonable efforts to provide the other Party with copies of all correspondence with applicable Regulatory Authorities concerning each Co-Co Product in the Co-Co Territory and all copies of all material correspondence with applicable Regulatory Authorities concerning each Co-Co Product in the Licensee Territory. Each Party shall provide all information reasonably accessible to such Party that is reasonably requested by the other Party that materially impacts the Development or Commercialization of any Co-Co Product in the Co-Co Territory. For clarity, nothing herein shall limit Allergan's and/or APIL's obligations under Section 5.1.5 of the Alliance Agreement.

**(f) Regulatory Lead**. The Parties will develop and agree, through the Core Team, to a detailed regulatory plan for each Co-Co Product in or for the Co-Co Territory (the "**Regulatory Plan**"), which Regulatory Plan will be deemed to form part of the Development Plan. Subject to Sections 2.2(a) and 2.2(h) and unless otherwise agreed by the Core Team, Allergan will be responsible, on a country-by-country basis, for submitting Regulatory Filings to the respective Regulatory Authority with regard to each Co-Co Product for the purpose of filing, maintaining and operating Regulatory Approval, including pharmacovigilance and safety reporting for each Co-Co Product and the natural history study of LCA10 patients. Allergan shall provide Editas a meaningful opportunity to review and comment on, and Allergan shall in good faith consider incorporating such comments into, any such Regulatory Filings in the Co-Co Territory. Allergan shall use reasonable efforts to provide Editas with copies of minutes from any meetings with Regulatory Authorities with respect to each Co-Co Product, and filings submitted to, and correspondence with, the applicable Regulatory Authorities with respect to each Co-Co Product; *provided, however*, that Allergan shall only be required to provide Editas with copies of such minutes, filings and correspondence in the Licensee Territory to the extent they are material.

**(g) Ownership of Regulatory Filings and Regulatory Approvals**. Allergan shall be the owner of all Regulatory Filings and Regulatory Approvals covering the Co-Co Products, provided that, prior to the IND Transfer, Editas shall be the owner of the IND covering the Initial Co-Co Product in the Co-Co Territory. Allergan shall provide Editas, through a shared file system that allows for secured access, with a copy of all Regulatory Filings and Regulatory Approvals in the Co-Co Territory.

**(h) Interaction with Regulatory Authorities**. Allergan shall be responsible for all interactions with Regulatory Authorities relating to Development of the Co-Co Product. To the extent allowed by Applicable Law and as is reasonably practicable due to the nature and urgency of meetings with Regulatory Authorities, Allergan shall provide Editas reasonable advance notice of, and Editas shall have the right to attend, meetings with Regulatory Authorities (i) in the Co-Co Territory to the extent such meetings are related to the Development of the Co-Co Products, [**]. If Editas does not attend any such meeting to which it has a right to attend pursuant to the foregoing, Allergan shall provide Editas with a written summary regarding such meeting. Each Party shall be solely responsible for its costs and expenses related to such Party's participation in any such meetings to the extent that such meeting occurs outside the Co-Co Territory. Notwithstanding the foregoing, until the IND Transfer, Editas shall lead interactions with Regulatory Authorities related to Development of the Initial Co-Co Product in the Co-Co Territory, provided that: (1) Editas shall update Allergan as to and provide Allergan with copies of all communications and Regulatory Filings with such Regulatory Authorities; (2) Editas shall provide Allergan a meaningful opportunity to review and comment on, and Editas shall incorporate such comments into, any such communications and Regulatory Filings; and (3) to the extent allowed by Applicable Law and as is reasonably practicable due to the nature and urgency of meetings with Regulatory Authorities, Editas shall provide Allergan reasonable advance notice of meetings with such Regulatory Authorities, and Allergan shall have the right to participate in meetings with such Regulatory Authorities, and if Allergan does not attend any such meeting, Editas shall provide Allergan with a written summary regarding such meeting.

**(i) Scientific Record Keeping**. Each Party shall record, and shall require its Affiliates, Sublicensees, and Subcontractors to record, to the extent reasonably practical, all research and Development Information relating to the activities contemplated by this Agreement in accordance with its internal practices and industry standards. Such records shall be complete and accurate in all material respects and shall fully and properly reflect all such work done and results achieved in sufficient detail and in good scientific manner appropriate for regulatory purposes. Each Party shall have the right to receive and retain a copy of all such records at reasonable times, upon reasonable prior written notice to the other Party. Allergan shall also have the right to conduct reasonable quality assurance audits with respect to all facilities, operations and laboratories (and any records related thereto) operated by Editas, its Affiliates or its permitted Subcontractors and Sublicensees, where Development activities are conducted, as is reasonably necessary solely for the purpose of verifying Editas' compliance with this Agreement and applicable good laboratory practices, good clinical practices and other regulatory requirements in each country in the Co-Co Territory. All audits initiated by Allergan will be conducted at Allergan's sole expense, upon reasonable prior notice to Editas, and during regular business hours. To the extent practical, the notebooks of each Party for this Agreement shall be separate from notebooks documenting other research and development of such Party.

**(j) Pharmacovigilance**. Allergan and Editas shall execute a separate Pharmacovigilance Agreement that shall be reasonably acceptable to both Parties when appropriate, setting forth the procedures and timelines for compliance with Applicable Laws pertaining to safety reporting and their related activities with respect to each Co-Co Product in the Territory. Prior to the IND Transfer, Editas shall be responsible for safety data and maintaining

the safety database for the Initial Co-Co Product. Thereafter, Editas shall transfer the safety database to Allergan and Allergan will be responsible for safety data and maintaining the safety database for the Initial Co-Co Product.

## 3. COMMERCIALIZATION.

**3.1 Commercialization Activities**. Allergan shall be solely responsible for the Commercialization of the Co-Co Products, including planning and implementation, Detailing, booking of sales, pricing and reimbursement, in accordance with its internal practices and operation procedures. Within [**] following the acceptance for filing of the first BLA for any Co-Co Product in the Co-Co Territory, the Parties shall form a working group (the "**CWG**") comprised of at least one Editas representative and one Allergan representative. The CWG shall meet at least [**] in order to provide Editas with (a) updates regarding Commercialization of the Co-Co Products in the Co-Co Territory, (b) drafts of any Commercialization plans and/or Commercialization Budgets for the Co-Co Territory, (c) final Commercialization plans and Commercialization Budgets for the Co-Co Territory and (d) any other information reasonably accessible to Allergan and reasonably requested by Editas material to Commercialization of the Co-Co Products in the Co-Co Territory. At least one of Editas' CWG members shall be in attendance at all meetings. Editas shall be solely responsible for its costs and expenses related to its members' attendance at such meetings and participation in the CWG.

**3.2 Commercialization Budget for the Co-Co Territory**. Within [**] following the filing of the first BLA for each Co-Co Product in the Co-Co Territory, a Commercialization budget for such Co-Co Product in the Co-Co Territory (the "**Commercialization Budget**") shall be prepared by Allergan and updated in accordance with Article 4 of Exhibit 1.13. Nothing herein shall limit any of the responsibilities of the ASC under Section 3.1.4 of the Alliance Agreement, including the responsibility to review and discuss any Co-Co Product Commercialization plans.

**3.3 Recalls**. Allergan shall provide written notice to Editas in the event of a recall of any of the Co-Co Products in or for the Co-Co Territory, and shall be solely responsible for handling such recall. For clarity, the expenses of a recall of any of the Co-Co Products in or for the Co-Co Territory, including without limitation the expenses related to maintaining a call center and responding to consumer and physician inquiries, shall be included as an Allowable Expense.

**3.4 Trademarks**.

**(a) The Co-Co Product Trademarks**. Allergan shall select and solely own the Co-Co Product Trademarks.

**(b) Display of Trademarks**. To the extent allowed by Applicable Law, the Co-Co Product labeling and packaging, including without limitation package inserts and any Promotional Materials associated with the Co-Co Products, shall carry the Co-Co Product Trademark and an Allergan Trademark selected by Allergan.

**(c) Use of Trademarks**. Editas may use, subject to Allergan's prior review and written approval, which approval may not be unreasonably withheld, conditioned or delayed,

the Co-Co Product Trademarks on a non-exclusive basis during the Term, on its corporate website or in other Editas materials as approved in writing, on a case-by-case basis, by Allergan. In connection therewith, Editas shall comply with the Trademark style and usage standards of Allergan as communicated to Editas from time to time. Editas shall not at any time do or permit any act which may in any way impair the rights of Allergan in such Trademarks. Editas shall promptly remove any use of the Co-Co Product Trademarks upon expiration or termination of this Agreement or upon Allergan's earlier request. All rights in such Co-Co Product Trademarks and the goodwill related thereto shall remain with Allergan. Neither Party shall use any Trademark of the other Party outside the scope of this Agreement, or knowingly take any action that would materially adversely affect the value of any such Trademark. Each Party shall retain the right to monitor the quality of the goods on or with which its Trademark is used to the extent necessary to maintain its Trademark rights.

**(d) Registration and Maintenance**. Allergan shall be responsible for filing, seeking registration for and maintaining the Co-Co Product Trademarks and Allergan Trademarks, and conducting litigation with respect thereto, and Allergan shall bear all costs and expenses associated therewith, except that any costs and expenses incurred with respect to this Section 3.4(d) pertaining to the Co-Co Product Trademarks in the Co-Co Territory shall be included as Allowable Expenses.

## 4. MANUFACTURING.

**4.1 Manufacturing Responsibility**. Promptly following the Effective Date, the Parties shall mutually agree upon a reasonable Manufacturing technology transfer plan to provide for the orderly transition of Manufacturing activities and technology for the Initial Co-Co Product to Allergan or its Affiliate or Subcontractor (the "**Technology Transfer**"). Any such Affiliate or Subcontractor of Allergan shall be bound by obligations of confidentiality and non-use that are materially consistent with the obligations set forth in Article 7. The Initial Development Plan and Budget shall specify the Manufacturing activities to be performed by each Party prior to the Technology Transfer. Until the completion of the Technology Transfer, Editas shall be responsible for providing Manufacturing-related services to Allergan, including but not limited to the supply of quantities of the Co-Co Products as requested by Allergan for technical, non-clinical and clinical Development in the Territory. The Fully Burdened Manufacturing Costs related to such activities as requested by Allergan shall be allocated as set forth in Section 4.4, [**]. For purposes of clarity, all Fully Burdened Manufacturing Costs for clinical supply of the Co-Co Products already Manufactured as of August 3, 2018 (the "**Profit Sharing Date**"), as well as costs of stability testing incurred by Editas prior to the Profit Sharing Date, shall be borne solely by Editas, but costs incurred after the Profit Sharing Date for ongoing stability testing for such material will be shared as a Development Cost. After completion of the Technology Transfer, Allergan shall have sole responsibility for all Manufacturing-related activities for Development and Commercialization of the Co-Co Products in the Territory, and the Fully Burdened Manufacturing Cost or Cost of Goods incurred by Allergan of such activities shall be allocated as provided in Section 4.4. For clarity, nothing herein shall limit Editas' obligations under Section 4.3.3 of the Alliance Agreement.

**4.2 Manufacturing Approvals**. Editas shall be responsible for obtaining Regulatory Approval for the Manufacture of the Initial Co-Co Product until the IND Transfer. Thereafter, Allergan shall be responsible for obtaining Regulatory Approval for the Manufacture of Co-Co Products as part of the Regulatory Filings for such Co-Co Products. Such filings shall include the filing and maintenance of a drug master file with the FDA and the equivalent thereof in the other countries in the Territory.

**4.3 Compliance with Applicable Law**. Each Party shall Manufacture, or have an Affiliate or Subcontractor Manufacture, the Co-Co Products in full compliance with all aspects of Applicable Law, the applicable specifications, and all applicable FDA (or foreign equivalent) requirements, including without limitation then-current GMP, as applicable.

**4.4 Supply Expenses**. Except as otherwise set forth in Section 4.1, the Fully Burdened Manufacturing Cost of supplying the Co-Co Products for use in Development in or for the Co-Co Territory shall be included in Development Costs. The Cost of Goods for the Manufacture and supply of the Co-Co Products for Commercialization in or for the Co-Co Territory shall be included in Cost of Goods.

**4.5 Shortage of Supply**. In the event that Allergan is unable to Manufacture sufficient quantities of a Co-Co Product to satisfy worldwide demand, then Allergan shall (a) reasonably determine what quantity of such Co-Co Product shall be allocated to the Clinical Trials then on-going to obtain Regulatory Approval for such Co-Co Product and (b) allocate the remaining available quantities of such Co-Co Product pro rata on the basis of sales levels inside and outside of the Co-Co Territory during the prior year, subject to any limitations imposed by regulatory requirements.

**4.6 Capital Costs**. Each Party shall be solely responsible for all capital costs incurred by it in connection with the Manufacture of the Co-Co Products, including without limitation building out Manufacturing capacity for the Co-Co Products and final packaging of the Co-Co Products, provided that the depreciation on such capital expenditures will be included in Cost of Goods or Development Costs to the extent allocable to the Co-Co Product in the Co-Co Territory, in accordance with the applicable Party's internal accounting policies as consistently applied.

## 5. REVENUE AND EXPENSE SHARING.

**5.1 Payments under the Alliance Agreement**. During the Term, neither Allergan nor APIL shall have any obligation to pay the royalties set forth in Section 6.6 of the Alliance Agreement with respect to Net Sales of the Co-Co Products in the Co-Co Territory. During the Term, [**] percent ([**]%) of the Net Sales of the Co-Co Products in the Co-Co Territory (and, for the avoidance of doubt, [**] percent ([**]%) of the Net Sales of the Co-Co Products in the Licensee Territory) shall count towards calculating aggregate "worldwide" Net Sales for purposes of determining whether commercial milestone events have been achieved pursuant to Section 6.5 of the Alliance Agreement. Furthermore, subject to the provisions below, obligations of Allergan and/or APIL to make the clinical and regulatory milestone payments with respect to the Co-Co Products shall be as set forth in Section 6.2 and Section 6.4.3 of the Alliance Agreement. Net Sales

of the Co-Co Product in or for the Co-Co Territory shall [**] for purposes of determining the applicable royalty rate pursuant to Section 6.6 of the Alliance Agreement. Except as otherwise set forth herein, the royalty and milestone payment obligations of Allergan and/or APIL with respect to Net Sales of the Co-Co Products in the Licensee Territory shall otherwise remain payable as set forth in the Alliance Agreement. Editas hereby agrees that, notwithstanding Section 4.2.4(a) of the Alliance Agreement, Allergan (and not APIL), as a Sublicensee of APIL with respect to the LCA10 Program, shall be making, receiving and accounting for all payments due to Editas pursuant to this Agreement and the Alliance Agreement in respect of the LCA10 Program. Except as set forth in the immediately preceding sentence, nothing herein shall amend or modify the obligations of APIL as set forth in Section 4.2.4 of the Alliance Agreement.

**5.2 Sharing of Development Costs, Royalty & Milestone Payments and Profit and Loss**. Except as expressly provided otherwise in this Agreement, Allergan and Editas shall share equally in all Development Costs, Royalty & Milestone Payments and Profit and Loss with respect to the Co-Co Products in or for the Co-Co Territory (including global Development activities, to the extent the cost of such activities are included in Development Costs). The method and timing for reporting and payment of Development Costs, Royalty & Milestone Payments and Profit and Loss is set forth in Exhibit 1.13. Each Development Budget and Commercialization Budget shall only include Development Costs, Commercialization Costs and Royalty and Milestone Payments.

**5.3 Overruns**.

**(a) Generally**. Each Party will promptly notify the other Party upon becoming aware that the anticipated Development Costs to be incurred by such Party for a given Calendar Year will be in excess of the applicable Development Budget (such increase, an "**Overrun Cost**"). Overrun Costs shall be automatically eligible for cost sharing under this Agreement if and to the extent such Overrun Cost (A) results in an increase in the then-current Development Budget, on a development activity-by-development activity basis, of not more than [**] percent ([**]%) of the amount budgeted for such activity and not more than [**] dollars ($[**]), or (B) is or was attributable to: (i) a change in Applicable Law; (ii) a force majeure event; (iii) a change to a Clinical Trial protocol or delay required or requested by any Regulatory Authority; (iv) material unforeseen increases in the cost of raw materials; or (v) currency fluctuations.

**(b) Other Overrun Costs**. Any Overrun Cost that is not automatically eligible for cost sharing under Section 5.3(a) above (an "**Other Overrun Cost**") may nonetheless be eligible for cost sharing under this Agreement if approved as a Development Cost by the Core Team and the ADB, and then by the ASC or, if the ASC is unable to agree, if approved by an Industry Expert, all in accordance with Section 5.3(c) below. Each of the Parties and APIL shall have the right to call special meetings of the ASC at its discretion for the purpose of reviewing and approving such Other Overrun Costs.

**(c) Industry Expert**. Any Other Overrun Cost submitted to the ASC for approval shall be approved by the ASC within [**] of submission to the ASC. If the ASC is unable to agree on any Other Overrun Cost within such [**] period, including with respect to the amount of such Other Overrun Cost, then notwithstanding Section 3.1.5(b) of the Alliance Agreement,

neither Party nor APIL shall have final decision making authority with respect to such matter and either Party may refer such matter to an Industry Expert mutually acceptable to the Parties. An "**Industry Expert**" shall be a single expert who is not a current or former employee or director, or current stockholder, of either Party or any of their respective Affiliates and who has at least fifteen (15) years of biopharmaceutical industry experience, including familiarity with the prevailing costs of conducting drug development activities. The Parties shall select the Industry Expert within [**] of submission of such Other Overrun Cost to the ASC. Within [**] of the selection of the Industry Expert, each Party shall submit to the Industry Expert such Party's position on the amount of such Other Overrun Cost that should be approved as a Development Cost, together with such supporting materials in support of such Party's position that such Party reasonably deems appropriate or advisable in light of the timeframe for the Industry Expert to render his or her decision hereunder. The Industry Expert shall use "baseball"-style arbitration methodology pursuant to which the Industry Expert shall select without modification only one Party's position in his or her sole discretion. The Industry Expert shall render his or her decision within [**] of the due date for submissions by the Parties of their respective positions as provided above. The decision rendered by the Industry Expert shall be limited to the amount, if any, of the disputed Other Overrun Cost and shall be final and binding on both Parties. Any Other Overrun Cost determined to be allowable by the Industry Expert shall be included in the Development Budget and shared as a Development Cost hereunder. The Party whose position is not selected by the Industry Expert shall solely bear all fees, costs and expenses of the Industry Expert and any costs and expenses reasonably incurred by the other Party in connection herewith, and such fees, costs and expenses shall not be eligible for cost sharing under this Agreement.

## 6. RECORD KEEPING, RECORD RETENTION AND AUDITS.

### 6.1 Financial Record Keeping; Record Retention; Audit.

**(a) Records**. Each Party shall keep complete and accurate records pertaining to its Development Costs, Royalty & Milestone Payments and Profit and Loss, in reasonably sufficient detail to permit the other Party to confirm the accuracy of calculations of all costs incurred under this Agreement.

**(b) Audit**. Each Party further agrees, upon not less than [**] prior written notice, to permit, and to require its Affiliates, Sublicensees and, subject to Section 2.2(d), Subcontractors to permit, the books and records relating to Development Costs, Royalty & Milestone Payments and Profit and Loss (and each component thereof) for the Co-Co Products in or for the Co-Co Territory to be examined by an independent accounting firm selected by the auditing Party and reasonably acceptable to the audited Party for the purpose set forth in Section 6.1(a). Such audit shall not be performed more frequently than [**] period or [**] with respect to any reporting period, and shall be conducted under appropriate confidentiality provisions, for the sole purpose of verifying the accuracy and completeness of all financial, accounting and numerical information and calculations provided under this Agreement. The independent accounting firm shall have reasonable access, on reasonable notice and during the audited Party's normal business hours to individuals, records and responses to questions from auditors in a timely manner and have the right to make copies of relevant portions of the audited Party's books and records; provided

that, any such copies shall be the Confidential Information of the audited Party, shall be protected by appropriate confidentiality obligations and shall not be shared with the auditing Party or any other Person.

**(c) Cost**. Such examination is to be made at the expense of the auditing Party, except if the results of the audit reveal an underpayment or overcharge to the auditing Party of [**] percent ([**]%) or more in any Calendar Year, in which case reasonable audit fees for such examination shall be paid by the audited Party.

**6.2 Survival**. This Article 6 shall survive any termination or expiration of this Agreement for a period of [**] following the final payment made by either Party hereunder, or longer if required by Applicable Law.

## 7. CONFIDENTIALITY.

**7.1 Confidentiality**. Article 9 of the Alliance Agreement is hereby incorporated by reference as if expressly set forth herein, *mutatis mutandis*, and any information disclosed by one Party to the other Party hereunder shall be Confidential Information to the extent such information qualifies as Confidential Information thereunder.

**7.2 Public Disclosures and Publications Related to the Co-Co Products**. Notwithstanding Section 9.3.3 of the Alliance Agreement, any proposed public disclosure (whether written, electronic, oral or otherwise) by Editas relating to the Co-Co Products shall require the prior written consent of Allergan, provided that the foregoing shall not apply to Information which is in the public domain. [**].

## 8. REPRESENTATIONS, WARRANTIES, AND COVENANTS.

**8.1 Representations and Warranties of the Parties**. Each Party hereby represents and warrants to the other Party, as of the Effective Date, that:

**(a)** Such Party is duly organized, validly existing and in good standing under the laws of the jurisdiction of its incorporation and has full corporate power and authority to enter into this Agreement and to carry out the provisions hereof;

**(b)** Such Party has taken all necessary action on its part to authorize the execution and delivery of this Agreement and the performance of its obligations hereunder;

**(c)** This Agreement has been duly executed and delivered on behalf of such Party, and constitutes a legal, valid, binding obligation, enforceable against it in accordance with the terms hereof;

**(d)** The execution, delivery and performance of this Agreement by such Party does not conflict with any agreement or any provision thereof, or any instrument or understanding, oral or written, to which it is a party or by which it is bound, nor violate any law or regulation of

any court, governmental body or administrative or other agency having jurisdiction over such Party;

**(e)** No government authorization, consent, approval, license, exemption of or filing or registration with any court or governmental department, commission, board, bureau, agency or instrumentality, domestic or foreign, under any Applicable Laws currently in effect, is or will be necessary for, or in connection with, the transaction contemplated by this Agreement or any other agreement or instrument executed in connection herewith, or for the performance by it of its obligations under this Agreement and such other agreements, to conduct Clinical Trials or to seek or obtain Regulatory Approvals; and

**(f)** It has not (i) employed and has not used a contractor or consultant that has employed, any individual or entity debarred by the FDA (or subject to a similar sanction of EMA), or (ii) employed any individual who or entity that is the subject of an FDA debarment investigation or proceeding (or similar proceeding of EMA), in the conduct of any pre-clinical activities or clinical studies of the Co-Co Products.

**8.2 Additional Representations, Warranties, and Covenants of Editas**. Editas hereby represents, warrants and (with respect to Section 8.2(c)) covenants to Allergan, as of the Effective Date, that:

**(a)** Except as set forth in Exhibit 8.2(a), no claim or litigation has been brought or asserted against Editas or, to its knowledge, any Third Party by any Person alleging that any of the Co-Co Products or Editas' Genome Editing Technology utilized in connection with the Co-Co Products is infringing or if practiced or commercialized in connection with the Co-Co Products will infringe the rights of any Third Party;

**(b)** It has, as of the Effective Date, provided to Allergan or APIL all material Information in its possession regarding the safety and efficacy of any of the Co-Co Products;

**(c)** It will, during the Term, provide to Allergan all material Information in its possession regarding the safety and efficacy of any of the Co-Co Products; and

**(d)** To Editas' knowledge, all intellectual property under which a license from a Third Party is or may be required for the Commercialization of any of the Co-Co Products as Developed by Editas under the Alliance Agreement, other than intellectual property licensed pursuant to the In-Licenses, existing as of the Effective Date, is identified on Exhibit 8.2(d), excluding any Third Party Patents expiring before the end of 2022.

**8.3 Mutual Covenants**. Each Party hereby covenants to the other Party that:

**(a)** All employees, officers and consultants of a Party or its Affiliates or Subcontractors who are or will be working under this Agreement or who otherwise have access to any Confidential Information of the other Party shall have executed and delivered to such Party an assignment or other agreement, requiring such Person to protect the confidentiality of any such Confidential Information to which such Person may have access;

**(b)** All employees, officers and consultants of a Party or its Affiliates or Subcontractors who are or could reasonably be expected to develop Inventions or discoveries during the conduct of any activities under this Agreement shall have executed and delivered to such Party an assignment or other agreement requiring such Person to assign all right, title and interest in and to their Inventions and discoveries, whether or not patentable, to such Party as the sole owner thereof (unless such an assignment is not required under Applicable Law);

**(c)** Such Party will not (i) employ or use any Subcontractor, consultant or Affiliate that employs, any individual or entity debarred by the FDA (or subject to a similar sanction of EMA) or, (ii) employ or use any individual who or entity that is the subject of an FDA debarment investigation or proceeding (or similar proceeding of EMA), in each of clauses (i) and (ii) in the conduct of its activities under this Agreement or the Alliance Agreement. Each Party agrees to inform the other Party in writing promptly if it or any such Person who is performing services hereunder is debarred or is subject to an FDA debarment investigation or proceeding (or similar proceeding of EMA) or if any action, suit, claim, investigation or legal or administrative proceeding is pending or, to the best of its or its Affiliates' knowledge, is threatened, relating to the debarment or conviction of it or any such Person performing services hereunder; and

**(d)** Such Party shall (i) perform its activities pursuant to this Agreement in compliance in all material respects with Good Laboratory Practices and Good Clinical Practices and Good Manufacturing Practices, in each case as applicable under Applicable Laws; and (ii) with respect to any biological samples obtained from humans, obtain the appropriate informed consents in advance for the use of all such human biological samples, and use such samples at all times within the scope of the relevant informed consents.

**8.4 Characterization of Agreement**. Allergan and Editas agree and acknowledge that (a) each of Allergan and Editas will operate their own business as independent contractors pursuant to the terms of this Agreement, (b) neither Allergan nor Editas intends that the terms of this Agreement would create or give rise, in whole or in part, to a partnership for tax reporting or any other purposes (the "**Intended Tax Treatment**"), and (c) neither Allergan nor Editas shall take any position or cause their Affiliates to take any position inconsistent with such intention for tax purposes (including with respect to filing U.S. federal income tax returns and in the course of any audit, review or litigation), unless (1) there is a change in Applicable Laws which requires the same, (2) the other Party provides its prior written consent thereto, which consent shall not be unreasonably withheld, delayed or conditioned, or (3) there has been a final "determination" as defined in Section 1313(a) of the Internal Revenue Code of 1986, as amended, and the Treasury Regulations promulgated thereunder ("**Code**") or an applicable, analogous provision of state, local or non-U.S. law (such a determination, together with any change in Applicable Laws or position taken as described in clauses (1) and (2), hereinafter referred to as a "**Change in Tax Treatment Event**"). If any Change in Tax Treatment Event occurs, the Parties hereby consent and agree to the following: (i) Allergan Sales, LLC shall serve as the partnership's "partnership representative" as defined in Code Section 6223(a) (the "**Partnership Representative**") during the existence of the partnership, (ii) the Partnership Representative is authorized and required to appoint a "designated individual" with respect to the partnership under U.S. Treasury Regulations Section 301.6223-1 (the "**Designated Individual**"), (iii) the Partnership Representative and the

Designated Individual are each authorized and, as applicable, required to represent the partnership in connection with all examinations of the partnership's affairs by tax authorities, including any resulting administrative and judicial proceedings, (iii) the Partnership Representative and the Designated Individual are each authorized to make (A) all elections required or permitted to be made by the partnership, the Partnership Representative or the Designated Individual under the Code (or other applicable tax law), (B) all material decisions with respect to the calculation of its taxable income or taxable loss, including the establishment of "capital accounts" and determination of allocations of tax items with respect to the Parties for U.S. federal income tax purposes (including the Code Section 704 methods utilized with respect thereto) or other tax items under the Code (or other applicable tax law), and (C) all tax filings with respect to the partnership, (iv) expenses incurred by the Partnership Representative and the Designated Individual shall be borne one-half by Allergan and one-half by Editas, (v) to provide the Partnership Representative and the Designated Individual with any information or documentation required to fulfill its obligations with respect to the partnership, including under Code Section 6225(c), (vi) the Partnership Representative and the Designated Individual shall be authorized to deduct and withhold any Withholding Taxes, which amounts shall, subject to Section 12.2, be treated as having been received by the Party with respect to which such deduction or withholding was made, (vii) the Parties agree to file all tax returns and take tax positions in any audit, review or litigation consistent with the elections and decisions made by the Partnership Representative and the Designated Individual, and (viii) the Parties hereby consent and agree that the Parties and their Affiliates shall be treated for all tax purposes as independent contractors or licensees to such partnership. In the event that the Intended Tax Treatment is disputed by any tax authority, the Party receiving notice of such dispute shall promptly notify the other Party in writing of such notice and of the progress and resolution of the dispute. The Parties shall reasonably cooperate, as and to the extent reasonably requested by the other Party, and shall retain and, upon the other Party's request, furnish or cause to be furnished to the other Party, as promptly as practicable, such information and assistance relating to this Agreement and related data as is reasonably necessary for, and with regards to, the preparation and filing of any tax return, financial statement or other required or optional filings relating to tax matters, for the preparation for any tax audit or for the prosecution or defense of any suit or other proceeding relating to tax matters.

## 9. INDEMNIFICATION.

**9.1 Indemnification by Allergan(a)** . Allergan shall indemnify, defend and hold harmless:

**(a)** Editas and its Affiliates, and their respective directors, officers, employees and agents, (each, an "**Editas Indemnitee**") from and against any and all liabilities, damages, losses, costs and expenses, including the reasonable fees of attorneys and other professional Third Parties (collectively, "**Losses**") arising out of or resulting from any and all Third Party suits, claims, actions, proceedings or demands ("**Claims**") based upon: (a) the negligence, recklessness or wrongful intentional acts or omissions of an Allergan Indemnitee in connection with Allergan's performance of its obligations or exercise of its rights under this Agreement; (b) any breach of any representation or warranty or express covenant made by Allergan under Article 8 or any other provision under this Agreement; (c) failure by Allergan to comply with Applicable Law; except,

in each case, to the extent any such Losses or Claims (i) result from the gross negligence or willful misconduct of an Editas Indemnitee, (ii) arises from the breach of any representation or warranty or obligation under this Agreement by Editas and/or (iii) are subject to indemnification by Editas under Section 9.2.

**(b)** [**].

**9.2 Indemnification by Editas**. Editas shall indemnify, defend, and hold harmless Allergan and its Affiliates, and their respective directors, officers, employees and agents (the "**Allergan Indemnitees**") from and against any and all Losses arising out of or resulting from any and all Claims based upon (a) the negligence, recklessness or wrongful intentional acts or omissions of an Editas Indemnitee in connection with Editas' performance of its obligations or exercise of its rights under this Agreement; (b) any breach of any representation or warranty or express covenant made by Editas under Article 8 or any other provision under this Agreement; or (c) failure by Editas to comply with Applicable Law; except, in each case, to the extent any such Losses or Claims (i) result from the gross negligence or willful misconduct of an Allergan Indemnitee, (ii) arises from the breach of any representation or warranty or obligation under this Agreement by Allergan and/or (iii) are subject to indemnification by Allergan under Section 9.1.

**9.3 Process for Indemnification**. The procedure for indemnification provided in Section 11.3 of the Alliance Agreement (Procedure) shall apply to all indemnification claims made pursuant to this Article 9, *mutatis mutandis*.

**9.4 LIMITATION OF LIABILITY**. EXCEPT FOR A BREACH OF ARTICLE 7 OR FOR CLAIMS OF A THIRD PARTY THAT ARE SUBJECT TO INDEMNIFICATION UNDER THIS ARTICLE 9, NEITHER EDITAS NOR ALLERGAN, NOR ANY OF THEIR RESPECTIVE AFFILIATES, LICENSEES, OR SUBLICENSEES, WILL BE LIABLE TO THE OTHER PARTY TO THIS AGREEMENT, ITS AFFILIATES OR ANY OF THEIR LICENSEES OR SUBLICENSEES FOR ANY INDIRECT, CONSEQUENTIAL, SPECIAL OR PUNITIVE DAMAGES OR LOST PROFITS OR ROYALTIES, LOST DATA OR COST OF PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES, WHETHER LIABILITY IS ASSERTED IN CONTRACT, TORT (INCLUDING NEGLIGENCE AND STRICT PRODUCT LIABILITY) OR CONTRIBUTION, AND IRRESPECTIVE OF WHETHER THAT PARTY OR ANY REPRESENTATIVE OF THAT PARTY HAS BEEN ADVISED OF, OR OTHERWISE MIGHT HAVE ANTICIPATED THE POSSIBILITY OF, ANY SUCH LOSS OR DAMAGE.

## 10. TERM AND TERMINATION.

**10.1 Term**. This Agreement will become effective on the Effective Date and will continue until the termination or expiration of the Alliance Agreement (either in whole or with respect to the LCA10 Program), unless earlier terminated in accordance with this Article 10 (the "**Term**").

**10.2 Mutual Termination**. The Parties may agree in writing to terminate this Agreement by mutual consent.

**10.3 Editas Termination for Convenience**. Editas may terminate this Agreement for any or no reason (a before the date on which the first Co-Co Product obtains Regulatory Approval in the Co-Co Territory, by providing no less than six (6) months' written notice of termination to Allergan and (b) after the date on which the first Co-Co Product obtains Regulatory Approval in the Co-Co Territory, by providing ninety (90) days' written notice of termination to Allergan. For the avoidance of doubt, if Editas elects to terminate this Agreement for convenience pursuant to this Section 10.3, Editas shall not be entitled to any refund or credit for amounts that it may have paid under or with respect to this Agreement prior to termination (other than amounts that may be payable or creditable to Editas as a final reconciliation of its share of Development Costs, Royalty & Milestone Payments and Profit and Loss through termination) and Editas' prior exercise of its Profit-Sharing Option with respect to the LCA10 Program shall continue to count as one of Editas' two (2) permitted exercises of Profit-Sharing Options under Section 5.2.1 of the Alliance Agreement.

**10.4 Allergan Unilateral Termination Rights**. Allergan shall have the right, at its sole discretion, exercisable at any time during the Term, to terminate this Agreement, upon ninety (90) days' prior written notice to Editas solely in connection with the termination of the LCA10 Program pursuant to Section 12.4 of the Alliance Agreement.

**10.5 Termination for Material Breach**.

**(a) By Allergan**. Allergan may, without prejudice to any other remedies available to it under Applicable Law or in equity, terminate this Agreement if Editas shall have materially breached or defaulted in the performance of its obligations hereunder, and such default shall have continued for [**] (or, in the case of a payment breach, [**]) after written notice thereof was provided to Editas by Allergan, such notice describing the alleged breach. Subject to Section 10.5(c), any such termination of this Agreement under this Section 10.5(a) shall become effective at the end of such [**] or [**], as applicable, cure period, unless Editas has cured such breach or default prior to the expiration of such cure period, or if such breach is not susceptible to cure within such cure period even with the use of commercially reasonable efforts, Allergan's right to termination shall be suspended only if and for so long as Editas has provided to Allergan a written plan that is reasonably calculated to effect a cure, such plan is acceptable to Allergan, and Editas commits to and does carry out such plan; provided that, in no event shall such suspension of Allergan's right to terminate extend beyond [**] after the original cure period. The right of Allergan to terminate this Agreement as provided in this Section 10.5(a) shall not be affected in any way by Allergan's waiver or failure to take action with respect to any previous default.

**(b) By Editas**. Editas may, without prejudice to any other remedies available to it under Applicable Law or in equity, terminate this Agreement and terminate the Alliance Agreement with respect to the LCA10 Program, if (x) Allergan shall have breached or defaulted in the performance of its obligations under this Agreement, which breach is a material breach under this Agreement and the Alliance Agreement (treating, for purposes of such material breach determination, the Alliance Agreement and this Agreement as one agreement and taking into account all of Allergan's and its Affiliates' respective obligations and corresponding activities under both this Agreement and the Alliance Agreement), and (y) such default shall have continued

for [**] (or, in the case of a payment breach, [**]) after written notice thereof was provided to Allergan and APIL by Editas, such notice describing the alleged breach. Subject to Section 10.5(c) and the dispute resolution provisions of Section 11.2, any such termination of this Agreement and the Alliance Agreement with respect to the LCA10 Program under this Section 10.5(b) shall become effective at the end of such [**] or [**], as applicable, cure period, unless Allergan has cured such breach or default prior to the expiration of such cure period, or if such breach is not susceptible to cure within such cure period even with the use of commercially reasonable efforts, Editas' right to termination shall be suspended only if and for so long as Allergan has provided to Editas a written plan that is reasonably calculated to effect a cure, such plan is acceptable to Editas, and Allergan commits to and does carry out such plan; provided that, in no event shall such suspension of Editas' right to terminate extend beyond [**] after the original cure period. The right of Editas to terminate this Agreement or the Alliance Agreement as provided in this Section 10.5(b) shall not be affected in any way by Editas' waiver or failure to take action with respect to any previous default.

**(c)** If the Parties reasonably and in good faith disagree as to whether there has been a material breach, the Party that seeks to dispute that there has been a material breach may contest the allegation in accordance with Section 11.2. The cure period for any allegation made in good faith as to a material breach will, subject to Sections 10.5(a), 10.5(b) and 11.2 (including, for the avoidance of doubt, Section 13.3 of the Alliance Agreement), run from the date that written notice was first provided to the breaching Party by the non-breaching Party.

**10.6 Termination due to Safety Concern**. Allergan may terminate this Agreement, in whole or with respect to any of the Co-Co Products, at any time upon written notice to Editas in connection with a termination with respect to the LCA10 Program pursuant to Section 12.7 of the Alliance Agreement.

**10.7 Termination of Alliance Agreement**. Effective upon and concurrent with termination of the Alliance Agreement in its entirety or with respect to the LCA10 Program, this Agreement shall automatically terminate without any further action by either Party.

**10.8 Termination in Part in Connection with a Editas Change of Control or Assignment to a Successor-in-Interest**. Allergan may terminate this Agreement in part by providing written notice to Editas at any time within [**] of the later of (i) a Change of Control of Editas or assignment of this Agreement by Editas to a Successor-in-Interest or (ii) Allergan's receipt from Editas of notice thereof.

**10.9 Consequences of Termination of this Agreement**.

**(a) Effect of Termination by Mutual Agreement, by Allergan for Material Breach by Editas, or by Editas for Convenience**. Upon termination of this Agreement pursuant to Sections 10.2, 10.3 or Section 10.5(a): (i) the Co-Co Products shall continue to be Licensed Products but shall no longer be Co-Co Products under the Alliance Agreement for the remainder of the term of the Alliance Agreement with respect to such Licensed Products; (ii) the Parties shall cease to share the Development Costs, Royalty & Milestone Payments and Profit and Losses with

respect to the Co-Co Products and shall conduct a final accounting in accordance with Article 3 of Exhibit 1.13; (iii) Allergan's and/or APIL's obligation to pay the royalty set forth in Section 6.6.1 of the Alliance Agreement with respect to the Co-Co Products in the United States shall be reinstated; (iv) [**] percent ([**]%) of Co-Co Territory Net Sales shall begin to count towards aggregate Net Sales for purposes of calculating commercial milestones pursuant to Section 6.5 of the Alliance Agreement and the royalty rate pursuant to Section 6.6 of the Alliance Agreement; and (v) Allergan's and/or APIL's obligations to make the milestone payments with respect to the Co-Co Products shall be as set forth in Article 6 of the Alliance Agreement; provided, that in each case of clause (iv) and (v) of this Section 10.9(a), neither Allergan nor APIL shall have any obligation to make milestone payments with respect to milestones that have been achieved prior to the termination of this Agreement.

**(b) Effect of Termination by Allergan for Convenience or for Safety Concern or Termination by Editas for Material Breach by Allergan**. Upon termination of this Agreement pursuant to Section 10.4 or Section 10.5(b) or Section 10.6, the Parties shall cease to share the Development Costs, Royalty & Milestone Payments and Profit and Losses with respect to the Co-Co Products and shall conduct a final accounting in accordance with Article 3 of Exhibit 1.13, and the relevant provisions of Section 12.8.2 of the Alliance Agreement shall apply as if the LCA10 Program were an Allergan Development Program terminated pursuant to Sections 12.4, 12.5.1 or 12.7 of the Alliance Agreement, respectively.

**(c) Effect of Termination in Part for Editas Change of Control or Assignment to Successor-in-Interest**. Upon termination of this Agreement pursuant to Section 10.8, all of the rights and obligations of Editas hereunder shall terminate except for Editas' and/or its Successor-in-Interest's right and obligation to share equally in Development Costs, Royalty & Milestone Payments and Profit and Loss with respect to the Co-Co Products in or for the Co-Co Territory pursuant to Section 5.2, termination rights set forth in Article 10 and rights and obligations under Articles 6, 7, 8, 9, 11 and 12. The provisions of Sections 5.1 and Exhibit 1.13, and related definitions shall also survive such termination. For the avoidance of doubt, from and after such termination in part, (a) neither Editas nor its Successor-in-Interest shall be entitled to representation on Core Teams, Sub-Teams, satellite teams or the CWG, (b) all rights of Editas and/or its Successor-in-Interest with respect to Development or Commercialization of Co-Co Products set forth in this Agreement, including, without limitation, Editas' rights to Develop Co-Co Products in accordance with Article 2 and its rights with regard to decision-making, Regulatory Approval, interaction with Regulatory Authorities and information sharing (except for audit rights under Article 6), shall be held solely by and fully revert to Allergan, and (c) the Parties intend that the role of Editas and/or its Successor-in-Interest shall be limited to the (i) right and obligation to share equally in Development Costs, Royalty & Milestone Payments and Profit and Loss with respect to the Co-Co Products in or for the Co-Co Territory as provided in Section 5.2 and (ii) those rights and obligations of Editas and/or its Successor-in-Interest set forth in the Alliance Agreement in accordance with its terms. Nothing in this Section 10.9(c) shall serve to waive, amend or terminate any of Editas' rights pursuant to the Alliance Agreement, subject to Allergan and/or APIL's right to dissolve the ASC under such Section 3.1.7 of the Alliance Agreement.

**(d) Effect of Termination upon Termination of the Alliance Agreement**. Upon termination of this Agreement pursuant to Section 10.7, the Parties shall cease to share the Development Costs, Royalty & Milestone Payments and Profit and Losses with respect to the Co-Co Products and shall conduct a final accounting in accordance with Article 3 of Exhibit 1.13, and the provisions of Section 12.8 of the Alliance Agreement shall apply, as applicable.

**(e) Ancillary Agreements**. Unless otherwise agreed by the Parties, the termination of this Agreement shall cause the automatic termination of the Pharmacovigilance Agreement with respect to any and all Co-Co Products terminated hereunder, to the extent allowable under Applicable Laws and industry practices, if such agreement has been entered into by the Parties.

**10.10 Surviving Obligations**.

**(a) Ongoing Clinical Activities**. In case of any termination of this Agreement, if a Party that is not retaining rights to an applicable Co-Co Product is conducting a Clinical Trial for such Co-Co Product that is or will be ongoing as of the effective date of termination, then, upon the request of the other Party, such Party shall continue such Clinical Trial for a period of no longer than [**] if, and solely if:

**(i)** both Editas and Allergan in their reasonable judgment have concluded that continuing any such Clinical Trial does not present an unreasonable risk to patient safety;

**(ii)** neither Party shall have any obligation to recruit or enroll any additional patients after the date of termination; and

**(iii)** the Party retaining rights to such Co-Co Product (either as a Licensed Product or an Editas Product) agrees to reimburse the other Party for all of its Development Costs that arise after the effective date of termination in continuing such Clinical Trial.

Such Party shall fully cooperate to transfer the conduct of such Clinical Trial to the other Party within [**] after the termination effective date, and such other Party shall assume responsibility for the conduct of such transferred Clinical Trial after the effective date of such transfer.

**(b) Other Surviving Obligations**. The rights and obligations set forth in this Agreement shall extend beyond the expiration or termination of this Agreement only to the extent expressly provided for herein, provided that, such expiration or termination of this Agreement shall not relieve any Party of any obligation or liability incurred prior to such expiration or termination, including with respect to the final accounting provided for under the Financial Appendix and/or any other accrued payment obligations under this Agreement nor limit a Party's ability to enforce its rights with respect to the same. Without limiting the foregoing, in the event of expiration or termination of this Agreement for any reason, the following provisions shall survive in addition to others specified in this Agreement to survive in such event: Articles 6 (for the period specified therein), 7, 9 and 11, and Sections 2.2(d) (as pertains to Allergan's rights with respect to audits of

Editas' Subcontractors), 8.4, 10.9, 10.10, and 12.3 through 12.5, together with all related definitions. Expiration or termination of this Agreement for any reason shall be without prejudice to either Party's other rights and remedies hereunder or at law or in equity.

## 11. DISPUTE RESOLUTION.

**11.1 Exclusive Dispute Resolution Mechanism**. Except as otherwise provided in this Agreement, the procedures set forth in this Article 11 shall be the exclusive mechanism for resolving any Dispute between the Parties that may arise from time to time that cannot be resolved through good faith negotiation between the Parties.

**11.2 Resolution by Executives**. Except for the matters expressly provided in Section 2.1(b)(vi), if a Dispute between the Parties arises under this Agreement, either Party shall have the right to refer such Dispute in writing to the respective Executives, and such Executives shall attempt in good faith to resolve such Dispute. If the Parties are unable to resolve a given Dispute pursuant to this Section 11.2 within [**] after referring such Dispute to the Executives, either Party may have the given Dispute settled by binding arbitration pursuant to the provisions of Section 13.3 of the Alliance Agreement, which is hereby incorporated by reference as if expressly set forth herein, *mutatis mutandis*. For purposes of this Section 11.2, "**Executives**" shall mean (a) with respect to Disputes arising in connection with Article 2, Allergan's [**] and Editas' [**], and (b) with respect to all other Disputes, each Party's Chief Executive Officer.

**11.3 Right to Set-Off**. Without limiting either Party's rights under law or in equity, either Party may exercise a right of set-off against any and all amounts due to such Party as determined by a final judgment of a court or arbitrator of competent jurisdiction.

**11.4 Governing Law**. This Agreement and any Dispute arising from the performance or breach hereof shall be governed by and construed and enforced in accordance with the laws of the State of New York without reference to conflicts of laws principles; provided that, with respect to matters involving the enforcement of intellectual property rights, the laws of the applicable country shall apply. The provisions of the United Nations Convention on Contracts for the International Sale of Goods shall not apply to this Agreement or any subject matter hereof.

## 12. MISCELLANEOUS.

**12.1 Incorporation by Reference**. The miscellaneous provisions of Sections 13.6 – 13.7, 13.9 – 13.11, 13.14 – 13.17, 13.19 and 13.20 of the Alliance Agreement are hereby incorporated by reference as if expressly set forth herein, *mutatis mutandis*.

**12.2 Assignment**. Neither Party may assign this Agreement without the consent of the other Party, except as otherwise provided in this Section 12.2. Either Party may assign this Agreement in whole or in part to any Affiliate of such Party and, in the case of Allergan, to any Sublicensee of Allergan, without the consent of the other Party; provided that, such assignment is in connection with the transfer, sublicense or assignment of the LCA10 Program to the same assignee and the assigning Party provides the other Party with written notice of such assignment and the assignee agrees in writing to assume performance of all assigned obligations; further

provided that, subject to any reduction on account of tax benefits provided for below, if any assignment by Allergan or Editas to an Affiliate, or in the case of Allergan, to a Sublicensee, would change the assigning Party's jurisdiction of incorporation or residence for tax purposes and result in Withholding Taxes that would not exist if such assignment were not made, then the amount of any payment by such Affiliate or Sublicensee hereunder shall be increased so that the net amount payable to Editas or Allergan, as applicable, after the deduction of all incremental Withholding Taxes incurred as a result of such assignment equals the amount of the payment that would otherwise have been payable but for such assignment. Notwithstanding the foregoing, (a) if the non-assigning Party actually receives a tax benefit (including through the use of Tax credit, offset, or otherwise), determined on a with and without basis, as a result of such additional Withholding Taxes prior to any increased payment on account of Withholding Taxes being made, the assigning Party shall not be required to increase any payment to the extent of such tax benefit, and (b) if the non-assigning Party actually receives any such tax benefit within one year of an increased payment on account of Withholding Taxes having been made, the non-assigning Party shall promptly reimburse the assigning Party for the amount of any such benefit. In the event of an assignment of this Agreement by Allergan, including to a Sublicensee, Allergan shall require the assignee to provide Editas, after such assignment, comparable rights and obligations with respect to governance of the Development of Co-Co Products as provided hereunder. Further, subject to Section 10.8, each Party may assign this Agreement, and all of its rights and obligations, without the consent of the other Party to its successor-in-interest by way of merger, acquisition, or sale of all or substantially all of its business or assets to which this Agreement relates ("**Successor-in-Interest**"); *provided that*, such assignment is concurrent with the assigning Party's or its Affiliate's assignment of its obligations under the Alliance Agreement with respect to the LCA10 Program and the transfer or assignment of the LCA10 Program to the same assignee (including, in the case of Allergan, assignment or transfer by APIL, as applicable), such assigning Party provides the other Party with written notice of such assignment within [**] after such assignment, merger, acquisition or sale and the assignee agrees in writing to assume performance of all assigned obligations under this Agreement and the Alliance Agreement. Subject to the foregoing, the terms of this Agreement shall be binding upon and shall inure to the benefit of the successors, heirs, administrators and permitted assigns of the Parties. Any purported assignment in violation of this Section 12.2 shall be null and void. If a Party assigns this Agreement in whole or in part to an Affiliate or Third Party as permitted by this Section 12.2, (x) the assigning Party shall thereafter remain primarily liable for the performance by such assignee of all of such Party's financial obligations under this Agreement and the other Party may enforce such financial obligations against the assigning Party without first seeking to obtain performance from the assignee or exercising any other remedy or right that the enforcing Party may have, (y) the assigning Party shall thereafter remain primarily liable for causing such assignee to perform all of the assigning Party's non-financial obligations under this Agreement and the other Party may enforce such obligation against the assigning Party to cause the performance by such assignee of such non-financial obligations without first seeking to obtain performance from the assignee or exercising any other remedy or right that the enforcing Party may have and (z) if the Party other than the assigning Party decides to proceed first to exercise any other remedy or right, or to proceed against another Person, the assigning Party shall nonetheless remain primarily liable for the performance of such assignee of all of the assigning Party's financial obligations under this Agreement with respect to this Agreement and for causing such assignee to perform all of the assigning Party's

non-financial obligations under this Agreement with respect to this Agreement. Editas shall provide Allergan at least [**] prior written notice of any Change of Control of Editas or assignment by Editas to any Successor-in-Interest pursuant to this Section 12.2. Notwithstanding anything to the contrary in this Agreement, following any Change of Control of Editas or assignment by Editas to any Successor-in-Interest, Allergan shall have no obligation to disclose any non-financial information to or participate in any meetings with Editas or its Successor-in-Interest, and, at Allergan's sole discretion, neither Editas nor its Successor-in-Interest shall be entitled to representation on Core Teams, Sub-Teams, satellite teams or the CWG, in each case unless and until Allergan allows the 30-day period specified in Section 10.8 to expire without exercising its rights under Section 10.8.

**12.3 Notices**. Any notice or request required or permitted to be given under or in connection with this Agreement shall be deemed to have been sufficiently given if in writing and personally delivered or sent by certified mail (return receipt requested), facsimile transmission (receipt verified), or overnight express courier service (signature required), prepaid, to the Party for which such notice is intended, at the address set forth for such Party below:

| | |
|---|---|
| If to Editas, addressed to: | Editas Medicine, Inc.<br>11 Hurley Street<br>Cambridge, MA 02141<br>Attn: Chief Executive Officer<br>Copy to: Legal Affairs (email: legal@editasmed.com)<br>Facsimile: [**] |
| with a copy to: (which shall not constitute notice) | Wilmer Cutler Pickering Hale and Dorr LLP<br>60 State Street<br>Boston, MA 02109<br>Attention: Steven D. Barrett, Esq.<br><br>E-mail: Steven.Barrett@wilmerhale.com<br>Telephone: (617) 526-6000<br>Facsimile: (617) 526-5000 |
| If to Allergan, addressed to: | Allergan Sales, LLC<br>5 Giralda Farms<br>Madison, NJ 07940<br>Attention: General Counsel<br>Facsimile: [**] |
| with copies to: (which shall not constitute notice) | Allergan Pharmaceuticals International Limited<br>Clonshaugh Industrial Estate<br>Coolock<br>Dublin 17, Ireland<br>Attention: Secretary<br>Facsimile: [**] |

Allergan plc
5 Giralda Farms
Madison, NJ 07940
Attention: General Counsel
Facsimile: [**]

Latham & Watkins LLP
12670 High Bluff Drive
San Diego, CA 92130
Attention: Steven T. Chinowsky, Esq.

E-mail: Steven.chinowsky@lw.com
Telephone: (858) 523-5400
Facsimile: (858) 523-5450

or to such other address for such Party as it shall have specified by like notice to the other Parties, provided that, notices of a change of address shall be effective only upon receipt thereof. If delivered personally or by facsimile transmission, the date of delivery shall be deemed to be the date on which such notice or request was given. If sent by overnight express courier service, the date of delivery shall be deemed to be the next Business Day after such notice or request was deposited with such service. If sent by certified mail, the date of delivery shall be deemed to be the third (3rd) Business Day after such notice or request was deposited with the U.S. Postal Service.

**12.4 Entire Agreement**. This Agreement and the Alliance Agreement, together with the Exhibits hereto and thereto, including, if and when the Parties enter into it, the Pharmacovigilance Agreement, set forth all the covenants, promises, agreements, warranties, representations, conditions and understandings between the Parties hereto and supersede and terminate all prior agreements and understanding between the Parties. In particular, and without limitation, this Agreement supersedes and replaces any and all term sheets relating to the transactions contemplated by this Agreement and exchanged between the Parties prior to the Effective Date. There are no covenants, promises, agreements, warranties, representations, conditions or understandings, either oral or written, between the Parties other than as set forth herein and therein. No subsequent alteration, amendment, change or addition to this Agreement shall be binding upon the Parties hereto unless reduced to writing and signed by the respective authorized officers of the Parties. In case of a conflict between the explicit terms of this Agreement and the explicit terms of the Alliance Agreement, this Agreement will prevail and supersede such conflicting terms of the Alliance Agreement solely to the extent explicitly set forth herein. If sent by certified mail, the date of delivery shall be deemed to be the third (3rd) Business Day after such notice or request was deposited with the U.S. Postal Service.

**12.5 Independent Contractors**. Nothing herein shall be construed to create any relationship of employer and employee, agent and principal, partnership or joint venture between the Parties. Each Party is an independent contractor. Neither Party shall assume, either directly or indirectly, any liability of or for the other Party. Except as otherwise provided in Section 8.4, neither Party shall have the authority to bind or obligate the other Party and neither Party shall represent that it has such authority.

[*Signature Page Follows*]

**IN WITNESS WHEREOF**, and intending to be legally bound hereby, the Parties have caused this Agreement to be executed by their duly authorized representatives as of the Effective Date.

| **ALLERGAN SALES, LLC** | **EDITAS MEDICINE, INC.** |
|---|---|
| By: /s/ Stephen Kaufhold | By: /s/ Cynthia Collins |
| Name: Stephen Kaufhold | Name: Cynthia Collins |
| Title: Treasurer | Title: Interim CEO |

**Exhibit 10.2**

**EDITAS MEDICINE, INC.**

**CONSULTING AGREEMENT**

This Consulting Agreement (the "**Agreement**"), made this 20th day of January, 2019 is entered into by Editas Medicine, Inc., a Delaware corporation (the "**Company**"), and Cynthia Collins having an address set forth under his or her signature hereto (the "**Consultant**").

WHEREAS, the Consultant is a member of the Board of Directors of the Company; and

WHEREAS, the Company and the Consultant desire to establish the terms and conditions under which the Consultant will provide services including transition services and services as interim Chief Executive Officer to the Company.

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

1 Services. The Consultant agrees to perform such consulting, advisory and related services to and for the Company as may be reasonably requested from time to time by the Company, including, but not limited to, the services specified on Schedule A to this Agreement.

2 Term. This Agreement shall commence on February 1, 2019 (the "**Commencement Date**") and shall continue until the earlier of July 31, 2019 or the date the Company appoints a permanent Chief Executive Officer (such period, as it may be extended, or sooner terminated in accordance with the provisions of Section 4, being referred to as the "**Consultation Period**"). The Consultation Period may be extended by mutual agreement of the parties hereto.

3 Compensation.

3.1 Consulting Fees.

(a) The Company shall pay to the Consultant a consulting fee of $100,000 per month, payable in arrears on the last day of each month. Payment for any partial month shall be prorated. The monthly consulting fee is a fixed amount and shall not be subject to increase regardless of the number of hours expended in any given month by the Consultant in the provision of the services hereunder.

(b) In addition, subject to approval of the Board of Directors of the Company, the Company will grant to Consultant a restricted stock unit for that number of shares of the Company's Common Stock equal to $180,000 divided by the closing price of the Company's Common Stock on January 31, 2019, which restricted stock unit shall vest in full on the earliest to occur of: (i) the six month anniversary of the Commencement Date, (ii) the appointment by the Board of Directors of the Company of a permanent Chief Executive Officer or (iii) the termination by the Company of this Agreement in accordance with Section 4(a).

(c) Consultant will be eligible for a special bonus payable in the form of performance shares or another equity award. The amount of the special bonus, the form of award and the terms thereof shall be determined in the sole discretion of the Compensation Committee of the Board of Directors of the Company and shall be determined based upon the achievement of goals during the Consultation Period, which goals will be defined by the Compensation Committee of the Board of Directors upon consultation with Consultant no later than February 28, 2019. The determination of achievement of the goal shall be made in the sole discretion of the Compensation Committee of the Board of Directors of the Company.

3.2 Expenses. The Company shall reimburse the Consultant for all reasonable and necessary documented out of pocket expenses incurred or paid by the Consultant in connection with, or related to, the performance of Consultant's services under this Agreement, including without limitation all travel (first or business class) and hotel and ancillary expenses. The Consultant shall submit to the Company itemized monthly statements, in a form satisfactory to the Company, of such expenses incurred in the previous month. The Company shall pay to the Consultant amounts shown on each such statement within thirty (30) days after receipt thereof. The Consultant shall abide by the Company's expense reimbursement policy, except as otherwise set forth herein or with the prior written approval of the Chairman of the Board.

3.3 Benefits. The Consultant shall not be entitled to any benefits, coverages or privileges, including, without limitation, health insurance, social security, unemployment, medical or pension payments, made available to employees of the Company.

4 Termination. This Agreement may be terminated prior to the end of the Consultation Period in the following manner: (a) by the Company upon not less than ten (10) days prior written notice to the other party; (b) by the non-breaching party, upon twenty-four (24) hours prior written notice to the breaching party if one party has materially breached this Agreement; or (c) at any time upon the mutual written consent of the parties hereto. In the event of termination, the Consultant shall be entitled to payment for services performed and (subject to the limitation in Section 3.2) for expenses paid or incurred prior to the effective date of termination that have not been previously paid. Notwithstanding the foregoing, the Company may terminate this Agreement effective immediately by giving written notice to the Consultant if the Consultant breaches or threatens to breach any provision of Sections 6 or 7.

5 Cooperation. The Consultant shall use Consultant's best efforts in the performance of Consultant's obligations under this Agreement. The Company shall provide such access to its information and property as may be reasonably required in order to permit the Consultant to perform Consultant's obligations hereunder. The Consultant shall observe all rules, regulations and security requirements of the Company concerning the safety of persons and property.

6 Proprietary Information and Inventions.

6.1 Proprietary Information.

(a) The Consultant acknowledges that Consultant's relationship with the Company is one of high trust and confidence and that in the course of Consultant's service to the Company, Consultant will have access to and contact with Proprietary Information. The

Consultant will not disclose any Proprietary Information to any person or entity other than employees of the Company or use the same for any purposes (other than in the performance of the services) without written approval by an officer of the Company, either during or after the Consultation Period, unless and until such Proprietary Information has become public knowledge without fault by the Consultant.

(b) For purposes of this Agreement, Proprietary Information shall mean, by way of illustration and not limitation, all information, whether or not in writing, whether or not patentable and whether or not copyrightable, of a private, secret or confidential nature, owned, possessed or used by the Company, concerning the Company's business, business relationships or financial affairs, including, without limitation, any Invention, formula, vendor information, customer information, apparatus, equipment, trade secret, process, research, report, technical or research data, clinical data, know-how, computer program, software, software documentation, hardware design, technology, product, processes, methods, techniques, formulas, compounds, projects, developments, marketing or business plan, forecast, unpublished financial statement, budget, license, price, cost, customer, supplier or personnel information or employee list that is communicated to, learned of, developed or otherwise acquired by the Consultant in the course of Consultant's service as a consultant to the Company.

(c) The Consultant agrees that all files, documents, letters, memoranda, reports, records, data sketches, drawings, models, laboratory notebooks, program listings, computer equipment or devices, computer programs or other written, photographic, or other tangible material containing Proprietary Information, whether created by the Consultant or others, which shall come into Consultant's custody or possession, shall be and are the exclusive property of the Company to be used by the Consultant only in the performance of Consultant's duties for the Company and shall not be copied or removed from the Company premises except in the pursuit of the business of the Company. All such materials or copies thereof and all tangible property of the Company in the custody or possession of the Consultant shall be delivered to the Company, upon the earlier of (i) a request by the Company or (ii) the termination of this Agreement. After such delivery, the Consultant shall not retain any such materials or copies thereof or any such tangible property.

(d) The Consultant agrees that Consultant's obligation not to disclose or to use information and materials of the types set forth in paragraphs (b) and (c) above, and Consultant's obligation to return materials and tangible property set forth in paragraph (c) above extends to such types of information, materials and tangible property of customers of the Company or suppliers to the Company or other third parties who may have disclosed or entrusted the same to the Company or to the Consultant.

(e) The Consultant acknowledges that the Company from time to time may have agreements with other persons or with the United States Government, or agencies thereof, that impose obligations or restrictions on the Company regarding inventions made during the course of work under such agreements or regarding the confidential nature of such work. The Consultant agrees to be bound by all such obligations and restrictions that are known to Consultant and to take all action necessary to discharge the obligations of the Company under such agreements.

(f) The Consultant's obligations under this Section 6.1 shall not apply to any information that (i) is or becomes known to the general public under circumstances involving no breach by the Consultant or others of the terms of this Section 6.1, (ii) is generally disclosed to third parties by the Company without restriction on such third parties, or (iii) is approved for release by written authorization of an officer of the Company. Further, nothing herein prohibits the Consultant from communicating with government agencies about possible violations of federal, state, or local laws or otherwise providing information to government agencies or participating in government agency investigations or proceedings. In addition, notwithstanding the Consultant's confidentiality and nondisclosure obligations, the Consultant is hereby advised as follows pursuant to the Defend Trade Secrets Act: "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. An individual who files a lawsuit for retaliation by an employer for reporting a suspected violation of law may disclose the trade secret to the attorney of the individual and use the trade secret information in the court proceeding, if the individual (A) files any document containing the trade secret under seal; and (B) does not disclose the trade secret, except pursuant to court order."

6.2 Inventions.

(a) All inventions, ideas, creations, discoveries, computer programs, works of authorship, data, developments, technology, designs, innovations and improvements (whether or not patentable and whether or not copyrightable) which are made, conceived, reduced to practice, created, written, designed or developed by the Consultant, solely or jointly with others or under Consultant's direction and whether during normal business hours or otherwise, (i) during the Consultation Period if related to the business of the Company or (ii) after the Consultation Period if resulting or directly derived from Proprietary Information (as defined below) (collectively under clauses (i) and (ii), "**Inventions**"), shall be the sole property of the Company. The Consultant hereby assigns to the Company all Inventions and any and all related patents, copyrights, trademarks, trade names, and other industrial and intellectual property rights and applications therefor, in the United States and elsewhere and appoints any officer of the Company as Consultant's duly authorized attorney to execute, file, prosecute and protect the same before any government agency, court or authority. However, this paragraph shall not apply to Inventions which do not relate to the business or research and development conducted or planned to be conducted by the Company at the time such Invention is created, made, conceived or reduced to practice and which are made and conceived by the Consultant not during normal working hours, not on the Company's premises and not using the Company's tools, devices, equipment or Proprietary Information. The Consultant further acknowledges that each original work of authorship which is made by the Consultant (solely or jointly with others) within the scope of the Agreement and which is protectable by copyright is a "work made for hire," as that term is defined in the United States Copyright Act.

(b) The Consultant agrees that if, in the course of performing the services pursuant to this Agreement, the Consultant incorporates into any Invention developed under this Agreement any preexisting invention, improvement, development, concept, discovery

or other proprietary information owned by the Consultant or in which the Consultant has an interest ("**Prior Inventions**"), (i) the Consultant will inform the Company, in writing before incorporating such Prior Inventions into any Invention, and (ii) the Company is hereby granted a nonexclusive, royalty-free, perpetual, irrevocable, transferable worldwide license with the right to grant and authorize sublicenses, to make, have made, modify, use, import, offer for sale, sell, reproduce, distribute, modify, adapt, prepare derivative works of, display, perform, and otherwise exploit such Prior Inventions, without restriction, including, without limitation, as part of or in connection with such Invention, and to practice any method related thereto. The Consultant will not incorporate any invention, improvement, development, concept, discovery or other proprietary information owned by any third party into any Invention without the Company's prior written permission.

(c) Upon the request of the Company and at the Company's expense, the Consultant shall execute such further assignments, documents and other instruments as may be necessary or desirable to fully and completely assign all Inventions to the Company and to assist the Company 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. The Consultant also hereby waives all claims to moral rights in any Inventions.

(d) The Consultant shall promptly disclose to the Company all Inventions and will maintain adequate and current written records (in the form of notes, sketches, drawings and as may be specified by the Company) to document the conception and/or first actual reduction to practice of any Invention. Such written records shall be available to and remain the sole property of the Company at all times.

7 Non-Solicitation. During the Consultation Period and for a period of six (6) months thereafter, the Consultant shall not, either alone or in association with others, (i) solicit, or permit any organization directly or indirectly controlled by the Consultant to solicit, any employee of the Company to leave the employ of the Company; (ii) solicit for employment, hire or engage as an independent contractor, or permit any organization directly or indirectly controlled by the Consultant to solicit for employment, hire or engage as an independent contractor, any person who is employed or engaged by the Company; and/or (iii) solicit, divert or take away, the business or patronage of any of the clients, customers or accounts or prospective clients, customers or accounts, of the Company that were contacted, solicited or served by the Consultant on behalf of the Company during the Consultation Period.

8 Non-Exclusivity. The Company retains the right to contract with other companies and/or individuals for consulting services without restriction. Similarly, the Consultant retains the right to contract with other companies or entities for the Consultant's consulting services without restriction.

9 Other Agreements; Warranty.

9.1 The Consultant hereby represents that, except as the Consultant has disclosed in writing to the Company, the Consultant is not bound by the terms of any agreement with any third party to refrain from using or disclosing any trade secret or confidential or proprietary information in the course of Consultant's consultancy with the Company, to refrain from competing, directly or indirectly, with the business of such third party or to refrain from

soliciting employees, customers or suppliers of such third party. The Consultant further represents that Consultant's performance of all the terms of this Agreement and the performance of the services as a consultant of the Company do not and will not breach any agreement with any third party to which the Consultant is a party (including, without limitation, any nondisclosure or non-competition agreement), and that the Consultant will not disclose to the Company or induce the Company to use any confidential or proprietary information or material belonging to any current or previous employer or others.

9.2 The Consultant hereby represents, warrants and covenants that Consultant has the skills and experience necessary to perform the services, that Consultant will perform said services in a professional, competent and timely manner, that Consultant has the power to enter into this Agreement and that Consultant's performance hereunder will not infringe upon or violate the rights of any third party or violate any federal, state or municipal laws.

10 Independent Contractor Status.

10.1 The Consultant shall perform all services under this Agreement as an "independent contractor" and not as an employee or agent of the Company.

10.2 The Consultant shall have the right to control and determine the time, place, methods, manner and means of performing the services. In performing the services, the amount of time devoted by the Consultant on any given day will be entirely within the Consultant's control, and the Company will rely on the Consultant to put in the amount of time necessary to fulfill the requirements of this Agreement.

10.3 In the performance of the services, the Consultant has the authority to control and direct the performance of the details of the services, the Company being interested only in the results obtained. However, the services contemplated by the Agreement must meet the Company's standards and approval and shall be subject to the Company's general right of inspection and supervision to secure their satisfactory completion.

10.4 The Consultant shall be solely responsible for all state and federal income taxes, unemployment insurance and social security taxes in connection with this Agreement. The Consultant shall indemnify, defend and hold harmless the Company and its successors and assigns from and against any claim or liability of any kind (including penalties, fees or charges) resulting from the Consultant's failure to pay the taxes, penalties, and payments referenced in this Section 10 of this Agreement.

11 Remedies. The Consultant acknowledges that any breach of the provisions of Sections 6 or 7 of this Agreement shall result in serious and irreparable injury to the Company for which the Company cannot be adequately compensated by monetary damages alone. The Consultant agrees, therefore, that, in addition to any other remedy the Company may have, the Company shall be entitled to enforce the specific performance of this Agreement by the Consultant and to seek both temporary and permanent injunctive relief (to the extent permitted by law) without the necessity of proving actual damages or posting a bond.

12 Notices. All notices required or permitted under this Agreement shall be in writing and shall be deemed effective upon personal delivery or upon deposit in the United States Post

Office, by registered or certified mail, postage prepaid, addressed to the other party at the address shown above, or at such other address or addresses as either party shall designate to the other in accordance with this Section 12.

13 Pronouns. Whenever the context may require, any pronouns used in this Agreement shall include the corresponding masculine, feminine or neuter forms, and the singular forms of nouns and pronouns shall include the plural, and vice versa.

14 Entire Agreement. This Agreement constitutes the entire agreement between the parties and supersedes all prior agreements and understandings, whether written or oral, relating to the subject matter of this Agreement.

15 Amendment. This Agreement may be amended or modified only by a written instrument executed by both the Company and the Consultant.

16 Non-Assignability of Contract. This Agreement is personal to the Consultant and the Consultant shall not have the right to assign any of Consultant's rights or delegate any of Consultant's duties without the express written consent of the Company. Any non-consented-to assignment or delegation, whether express or implied or by operation of law, shall be void and shall constitute a breach and a default by the Consultant.

17 Governing Law. This Agreement shall be governed by and construed in accordance with the laws of the Commonwealth of Massachusetts without giving effect to any choice or conflict of law provision or rule that would cause the application of laws of any other jurisdiction.

18 Successors and Assigns. This Agreement shall be binding upon, and inure to the benefit of, both parties and their respective successors and assigns, including any corporation with which, or into which, the Company may be merged or which may succeed to its assets or business, provided, however, that the obligations of the Consultant are personal and shall not be assigned by Consultant.

19 Interpretation. If any restriction set forth in Section 6 or Section 7 is found by any court of competent jurisdiction to be unenforceable because it extends for too long a period of time or over too great a range of activities or in too broad a geographic area, it shall be interpreted to extend only over the maximum period of time, range of activities or geographic area as to which it may be enforceable.

20 Survival. Sections 4 through 21 shall survive the expiration or termination of this Agreement.

21 Miscellaneous.

21.1 No delay or omission by the Company in exercising any right under this Agreement shall operate as a waiver of that or any other right. A waiver or consent given by the Company on any one occasion shall be effective only in that instance and shall not be construed as a bar or waiver of any right on any other occasion.

21.2 The captions of the sections of this Agreement are for convenience of reference only and in no way define, limit or affect the scope or substance of any section of this Agreement.

21.3 In the event that any provision of this Agreement shall be invalid, illegal or otherwise unenforceable, the validity, legality and enforceability of the remaining provisions shall in no way be affected or impaired thereby.

[Remainder of Page Intentionally Left Blank]

IN WITNESS WHEREOF, the parties hereto have executed this Consulting Agreement as of the date and year first above written.

**COMPANY:**

**EDITAS MEDICINE, INC.**

By: /s/ James C. Mullen
James C. Mullen
Chairman of the Board

**CONSULTANT:**

/s/ Cynthia Collins
Name: Cynthia Collins

**SCHEDULE A**

**DESCRIPTION OF SERVICES**

- Consultant will serve as interim Chief Executive Officer during the pendency of search for a permanent CEO.

- Consultant will oversee, in consultation with the Board (and any committees thereof), the search for a permanent CEO, CFO and CMO.

- Company acknowledges that Consultant has existing commitments, including as a member of the board of several companies and industry organizations, all of which have been disclosed to the Board of Directors of the Company, and nothing herein is intended to prohibit or prevent her continued service in those roles.

**VIA HAND DELIVERY**

January 19, 2019

Katrine Bosley

Dear Katrine:

I am writing to confirm the arrangements with respect to your transition and separation from employment with Editas Medicine, Inc. (the "Company").

As we have discussed, provided you sign and return this letter agreement to me by January 21, 2019, you will have the opportunity to remain employed by the Company as President and Chief Executive Officer through March 1, 2019 (the "Separation Date"), pursuant to the terms and conditions set forth below, with your resignation from such employment and offices effective on that date. We agree that all public communication by the Company regarding your resignation will be substantially consistent with the press release in the form attached hereto as Attachment 1. Further, provided you sign and return the Additional Release of Claims attached hereto as Exhibit A (the "Additional Release") on the Separation Date and do not revoke the Additional Release, you will have the opportunity to receive the post-separation consideration described in paragraph 2 below.

By timely signing and returning this letter agreement, and by timely signing and returning the Additional Release and not revoking your acceptance, you will be entering into binding agreements with the Company and will be agreeing to the terms and conditions set forth in the numbered paragraphs below, including the releases of claims set forth in paragraph 3 and in the Additional Release. Therefore, you are advised to consult with an attorney before signing this letter agreement or the Additional Release, and you have been given a reasonable amount of time to consider this letter agreement, and at least twenty-one (21) days to consider the Additional Release. If you sign the Additional Release, you may change your mind and revoke your agreement during the seven (7) day period after you have signed it (the "Revocation Period") by notifying me in writing. If you do not so revoke, the Additional Release will become a binding agreement between you and the Company upon the expiration of the Revocation Period.

The following sets forth the terms and conditions that will apply should you timely sign and return this letter agreement:

1. **Resignation; Transition Period** – You hereby resign (a) effective as of the Separation Date, from employment with, and from your offices as President and Chief Executive Officer of, the Company, and (b) effective immediately as of the date you sign this letter agreement, from your membership on the Company's Board of Directors (the "Board"), and from any and all other positions as an officer of the Company and/or a member of any Board committees of the Company and any positions with Editas Securities Corporation. You further agree to execute and deliver any documents reasonably necessary to effectuate such resignations described in the previous sentence, as requested by the Company. The period between the date you sign and return this letter

agreement and the Separation Date will be a transition period (the "Transition Period"), during which you will perform transition duties as may be reasonably requested by and at the direction of the Board, which will entail assisting with the transition of your duties and responsibilities to an interim Chief Executive Officer (collectively, the "Transition Duties") and the interim CEO will be responsible for all Company decisions during this period. Further, for purposes of clarity, you will not be required to sign any documents as CEO of the Company. Also, during the Transition Period, you will not work from the offices of the Company except as occasionally requested by the Chairman of the Board or the interim CEO. During the Transition Period, you will continue to receive your regular base salary at its current rate, to participate in the Company's benefit plans (pursuant to the terms and conditions of such plans), and to be entitled to vacation time in accordance with Company policy; provided, however, that you will not be eligible for or entitled to participate in any Company bonus plan for the 2019 fiscal year or future fiscal years. You will, however, be eligible to receive a bonus for 2018 equal to your target bonus times the percentage achievement of the Company's 2018 goals as assessed by the Board of Directors of the Company in connection with the determination of bonuses for the executive team, with any such bonus to be payable to you in the first quarter of 2019, no later than March 15, 2019. Notwithstanding any of the foregoing, the Company retains the right to terminate your employment prior to the Separation Date for Cause (as defined in the Company's Severance Benefits Plan adopted on December 10, 2015 (the "Severance Plan"), in which case your employment with the Company shall end immediately and you will not be eligible to receive any further payment, including bonus, or benefit from the Company, except for your final wages and any unused vacation time accrued through the last day of your employment and, if eligible and at your own cost, group medical insurance pursuant to the law known as "COBRA".

2. **Post-Separation Consideration** – If you timely sign and return this letter agreement, continue employment through the Transition Period in accordance with the terms hereof, and timely sign and return the Additional Release (and do not revoke your acceptance within the Revocation Period), you will be eligible to receive the following:

(a) **COBRA Contribution**. Should you timely elect and be eligible to continue receiving group health and/or dental insurance pursuant to applicable "COBRA" law, the Company will, until the earlier of (x) February 28, 2020, and (y) the date on which you become eligible to receive group health insurance from a new employer (as applicable, the "COBRA Contribution Period"), continue to pay on your behalf the share of the premiums for such coverage that it pays on behalf of active and similarly situated employees who receive the same type of coverage and any administrative fee. The remaining balance of any premium costs during the COBRA Contribution Period, and all premium costs thereafter, shall be paid by you on a monthly basis for as long as, and to the extent that, you remain eligible for COBRA continuation. You agree that, should you obtain alternative health and/or dental insurance coverage prior to February 28, 2020, you will so inform the Company in writing within five (5) business days of obtaining such coverage.

(b) **Advisory Services Agreement**. The Company will engage you as an advisor pursuant to the terms set forth in the fully executed Advisory Services Agreement attached hereto as Exhibit B (the "Advisory Agreement").

You acknowledge that you will not be eligible for, nor shall you have a right to receive, any payments or benefits from the Company following the Separation Date other than as set forth in this paragraph, including, for the avoidance of doubt, any payments or benefits pursuant to the employment letter agreement between you and the Company dated June 12, 2014 (the "Employment Agreement") or the Severance Plan.

3. **Release of Claims** – In exchange for the consideration described in this letter agreement, which you acknowledge you would not otherwise be entitled to receive, you hereby fully, forever, irrevocably and unconditionally release, remise and discharge the Company, its affiliates, subsidiaries, parent companies, predecessors, and successors, and all of their respective past and present officers, directors, stockholders, partners, members, employees, agents, representatives, plan administrators, attorneys, insurers and fiduciaries (each in their individual and corporate capacities) (collectively, the "Released Parties") from any and all claims, charges, complaints, demands, actions, causes of action, suits, rights, debts, sums of money, costs, accounts, reckonings, covenants, contracts, agreements, promises, doings, omissions, damages, executions, obligations, liabilities, and expenses (including attorneys' fees and costs), of every kind and nature that you ever had or now have against any or all of the Released Parties, whether known or unknown, including, but not limited to, any and all claims arising out of or relating to your employment with and/or separation from the Company, including, but not limited to, all claims under Title VII of the Civil Rights Act, the Americans With Disabilities Act, the Genetic Information Nondiscrimination Act, the Family and Medical Leave Act, the Worker Adjustment and Retraining Notification Act, the Rehabilitation Act, Executive Order 11246, Executive Order 11141, the Fair Credit Reporting Act, and the Employee Retirement Income Security Act, all as amended; all claims arising out of the Massachusetts Fair Employment Practices Act, Mass. Gen. Laws ch. 151B, § 1 et seq., the Massachusetts Wage Act, Mass. Gen. Laws ch. 149, § 148 et seq. (Massachusetts law regarding payment of wages and overtime), the Massachusetts Civil Rights Act, Mass. Gen. Laws ch. 12, §§ 11H and 11I, the Massachusetts Equal Rights Act, Mass. Gen. Laws. ch. 93, § 102 and Mass. Gen. Laws ch. 214, § 1C, the Massachusetts Labor and Industries Act, Mass. Gen. Laws ch. 149, § 1 et seq., Mass. Gen. Laws ch. 214, § 1B (Massachusetts right of privacy law), the Massachusetts Maternity Leave Act, Mass. Gen. Laws ch. 149, § 105D, and the Massachusetts Small Necessities Leave Act, Mass. Gen. Laws ch. 149, § 52D, all as amended; all common law claims including, but not limited to, actions in defamation, intentional infliction of emotional distress, misrepresentation, fraud, wrongful discharge, and breach of contract (including, without limitation, any claims arising out of or related to the Employment Agreement and/or the Severance Plan); all claims to any non-vested ownership interest in the Company, contractual or otherwise; all state and federal whistleblower claims to the maximum extent permitted by law; and any claim or damage arising out of your employment with and/or separation from the Company (including a claim for retaliation) under any common law theory or any federal, state or local statute or ordinance not expressly referenced above; *provided, however, that this release of claims does not prevent you from filing a charge with,*

*cooperating with, or participating in any investigation or proceeding before, the Equal Employment Opportunity Commission or a state fair employment practices agency (except that you acknowledge that you may not recover any monetary benefits in connection with any such charge, investigation, or proceeding, and you further waive any rights or claims to any payment, benefit, attorneys' fees or other remedial relief in connection with any such charge, investigation or proceeding).* Further, notwithstanding anything to the contrary herein, you are not releasing any rights you may have to vested benefits and equity, your rights set out in the Advisory Agreement (subject to the terms and conditions thereof and hereof), and/or any rights you may have to indemnification and defense (recognizing that such indemnification or defense rights are not guaranteed by this Agreement and shall be governed by common law and the instrument(s), if any, providing for such indemnification and defense).

4. **Continuing Obligations** – You acknowledge your continuing obligation, both during the Transition Period and at all times thereafter, to keep confidential and not to use or disclose any and all non-public information concerning the Company that you acquired during the course of your employment with the Company, including any non-public information concerning the Company's business affairs, business prospects, and financial condition, except as otherwise permitted by paragraph 8 below. Further, you remain subject to your continuing obligations to the Company as set forth in the Invention and Non-Disclosure Agreement and the Non-Competition and Non-Solicitation Agreement that you previously signed in connection with your employment by the Company (the "Restrictive Covenant Agreements"), which remain in full force and effect during the Transition Period and survive your separation from employment with the Company.

5. **Non-Disparagement** – You understand and agree that, to the extent permitted by law, including receiving a subpoena, and except as otherwise permitted by paragraph 8 below, you will not, in public or private, make any false, disparaging, derogatory or defamatory statements, online (including, without limitation, on any social media, networking, or employer review site) or otherwise, to any person or entity, including, but not limited to, any media outlet, industry group, financial institution or current or former employee, board member, consultant, client or customer of the Company, regarding the Company or any of the other Released Parties, or regarding the Company's business affairs, business prospects, or financial condition.

6. **Return of Company Property** – You agree that you will, no later than the Separation Date (and earlier upon request by the Company), return to the Company all keys, files, records (and copies thereof), equipment (including, but not limited to, computer hardware, software, printers, flash drives and other storage devices, wireless handheld devices, cellular phones, tablets, etc.), Company identification, and any other Company owned property in your possession or control, and that you will leave intact all, and will otherwise not destroy, delete, or made inaccessible to the Company any, electronic Company documents, including, but not limited to, those that you developed or helped to develop during your employment, and that following the Separation Date you will not (a) retain any copies in any form or media; (b) maintain access to any copies in any form, media, or location; (c) store any copies in any physical or electronic locations that are not readily accessible or not known to the Company or that remain accessible to

you; or (d) send, give, or make accessible any copies to any persons or entities that the Company has not authorized to receive such electronic or hard copies. You further confirm that you will cancel all accounts for your benefit, if any, in the Company's name, including but not limited to, credit cards, telephone charge cards, cellular phone accounts, and computer accounts.

7. **Confidentiality** – You understand and agree that, to the extent permitted by law, including receiving a subpoena, and except as otherwise permitted by paragraph 8 below, the contents of the negotiations and discussions resulting in this letter agreement shall be maintained as confidential by you and your agents and representatives and shall not be disclosed except as otherwise agreed to in writing by the Company.

8. **Scope of Disclosure Restrictions** – Nothing in this letter agreement or elsewhere prohibits you from communicating with government agencies about possible violations of federal, state, or local laws or otherwise providing information to government agencies, filing a complaint with government agencies, or participating in government agency investigations or proceedings. You are not required to notify the Company of any such communications; provided, however, that nothing herein authorizes the disclosure of information you obtained through a communication that was subject to the attorney-client privilege. Further, notwithstanding your confidentiality and nondisclosure obligations, you are hereby advised as follows pursuant to the Defend Trade Secrets Act: "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. An individual who files a lawsuit for retaliation by an employer for reporting a suspected violation of law may disclose the trade secret to the attorney of the individual and use the trade secret information in the court proceeding, if the individual (A) files any document containing the trade secret under seal; and (B) does not disclose the trade secret, except pursuant to court order."

9. **Cooperation** – You agree that, to the extent permitted by law, you shall cooperate fully with the Company in the investigation, defense or prosecution of any claims or actions which already have been brought, are currently pending, or which may be brought in the future against the Company by a third party or by or on behalf of the Company against any third party, whether before a state or federal court, any state or federal government agency, or a mediator or arbitrator. Your full cooperation in connection with such claims or actions shall include, but not be limited to, being available to meet with the Company's counsel, at reasonable times and locations designated by the Company, to investigate or prepare the Company's claims or defenses, to prepare for trial or discovery or an administrative hearing, mediation, arbitration or other proceeding and to act as a witness when requested by the Company. You further agree that, to the extent permitted by law, you will notify the Company with in two business days in the event that you are served with a subpoena (other than a subpoena issued by a government agency), or in the event that you are asked to provide a third party (other than a government agency) with information concerning any actual or potential complaint or claim against the Company.

The Company agrees to pay your reasonable and documented out-of-pocket expenses incurred to comply with this section.

10. **Amendment and Waiver** – This letter agreement shall be binding upon the parties and may not be modified in any manner, except by an instrument in writing of concurrent or subsequent date signed by duly authorized representatives of the parties hereto. This letter agreement is binding upon and shall inure to the benefit of the parties and their respective agents, assigns, heirs, executors, successors and administrators. No delay or omission by the Company in exercising any right under this letter agreement shall operate as a waiver of that or any other right. A waiver or consent given by the Company on any one occasion shall be effective only in that instance and shall not be construed as a bar to or waiver of any right on any other occasion.

11. **Validity** – Should any provision of this letter agreement be declared or be determined by any court of competent jurisdiction to be illegal or invalid, the validity of the remaining parts, terms or provisions shall not be affected thereby and said illegal or invalid part, term or provision shall be deemed not to be a part of this letter agreement.

12. **Nature of Agreement –** You understand and agree that this letter agreement is a separation agreement and does not constitute an admission of liability or wrongdoing on the part of the Company or you.

13. **Acknowledgments –** You acknowledge that you have been given a reasonable amount of time to consider this letter agreement, and at least twenty-one (21) days to consider the Additional Release, and that the Company is hereby advising you to consult with an attorney of your own choosing prior to signing each of this letter agreement and the Additional Release. You understand that you may revoke the Additional Release for a period of seven (7) days after you sign it by notifying me in writing, and the Additional Release shall not be effective or enforceable until the expiration of this seven (7) day revocation period. You understand and agree that by entering into the Additional Release, you will be waiving any and all rights or claims you might have under the Age Discrimination in Employment Act, as amended by the Older Workers Benefit Protection Act, and that you will be receiving consideration beyond that to which you were previously entitled.

14. **Voluntary Assent –** You affirm that no other promises or agreements of any kind have been made to or with you by any person or entity whatsoever to cause you to sign this letter agreement, and that you fully understand the meaning and intent of this letter agreement. You further state and represent that you have carefully read this letter agreement, understand the contents herein, freely and voluntarily assent to all of the terms and conditions hereof, and sign your name of your own free act.

15. **Applicable Law** – This letter agreement, including Exhibits A and B, shall be interpreted and construed by the laws of the Commonwealth of Massachusetts, without regard to conflict of laws provisions. You hereby irrevocably submit to and acknowledge and recognize the jurisdiction of the courts of the Commonwealth of Massachusetts, or if appropriate, a federal court located in the Commonwealth of Massachusetts (which

courts, for purposes of this letter agreement, are the only courts of competent jurisdiction), over any suit, action or other proceeding arising out of, under or in connection with this letter agreement or the subject matter hereof.

16. **Entire Agreement** – This letter agreement, including Exhibits A and B, contains and constitutes the entire understanding and agreement between the parties hereto with respect to your separation from and the settlement of claims against the Company and cancels all previous oral and written negotiations, agreements, and commitments in connection therewith.

17. **Tax Acknowledgement** – In connection with the benefits to be provided to you pursuant to this letter agreement, the Company shall withhold and remit to the tax authorities the amounts required under applicable law, and you shall be responsible for all applicable taxes with respect to such benefits under applicable law. You acknowledge that you are not relying upon the advice or representation of the Company with respect to the tax treatment of any of the benefits described in this letter agreement.

If you have any questions about the matters covered in this letter agreement, please call me.

Very truly yours,

By: /s/ James C. Mullen
James C. Mullen
Chairman of the Board

I hereby agree to the terms and conditions set forth above. I further understand that the consideration set forth in paragraph 2 is contingent upon my timely execution, return and non-revocation of the Additional Release, and that I am being given at least twenty-one (21) days to consider such Additional Release, and will have seven (7) days in which to revoke my acceptance after I sign such Additional Release.

| | |
|---|---|
| /s/ Katrine Bosley | January 19, 2019 |
| Katrine Bosley | Date |

To be returned in a timely manner as set forth on the first page of this letter agreement.

**Exhibit A**

**ADDITIONAL RELEASE OF CLAIMS**

*1.* **Release** – In exchange for the consideration set forth in the letter agreement dated January 19, 2019 between you (Katrine Bosley) and the Company (Editas Medicine, Inc.) to which this Additional Release of Claims (the "Additional Release") is attached (the "Separation Agreement"), which you acknowledge you would not otherwise be entitled to receive, you hereby fully, forever, irrevocably and unconditionally release, remise and discharge the Company, its affiliates, subsidiaries, parent companies, predecessors, and successors, and all of their respective past and present officers, directors, stockholders, partners, members, employees, agents, representatives, plan administrators, attorneys, insurers and fiduciaries (each in their individual and corporate capacities) (collectively, the "Released Parties") from any and all claims, charges, complaints, demands, actions, causes of action, suits, rights, debts, sums of money, costs, accounts, reckonings, covenants, contracts, agreements, promises, doings, omissions, damages, executions, obligations, liabilities, and expenses (including attorneys' fees and costs), of every kind and nature that you ever had or now have against any or all of the Released Parties, whether known or unknown, including, but not limited to, any and all claims arising out of or relating to your employment with and/or separation from the Company, including, but not limited to, all claims under Title VII of the Civil Rights Act, the Americans With Disabilities Act, the Age Discrimination in Employment Act, the Genetic Information Nondiscrimination Act, the Family and Medical Leave Act, the Worker Adjustment and Retraining Notification Act, the Rehabilitation Act, Executive Order 11246, Executive Order 11141, the Fair Credit Reporting Act, and the Employee Retirement Income Security Act, all as amended; all claims arising out of the Massachusetts Fair Employment Practices Act, Mass. Gen. Laws ch. 151B, § 1 et seq., the Massachusetts Wage Act, Mass. Gen. Laws ch. 149, § 148 et seq. (Massachusetts law regarding payment of wages and overtime), the Massachusetts Civil Rights Act, Mass. Gen. Laws ch. 12, §§ 11H and 11I, the Massachusetts Equal Rights Act, Mass. Gen. Laws. ch. 93, § 102 and Mass. Gen. Laws ch. 214, § 1C, the Massachusetts Labor and Industries Act, Mass. Gen. Laws ch. 149, § 1 et seq., Mass. Gen. Laws ch. 214, § 1B (Massachusetts right of privacy law), the Massachusetts Maternity Leave Act, Mass. Gen. Laws ch. 149, § 105D, and the Massachusetts Small Necessities Leave Act, Mass. Gen. Laws ch. 149, § 52D, all as amended; all common law claims including, but not limited to, actions in defamation, intentional infliction of emotional distress, misrepresentation, fraud, wrongful discharge, and breach of contract (including, without limitation, any claims arising out of or related to the Employment Agreement and/or the Severance Plan (both as defined in the Separation Agreement); all claims to any non-vested ownership interest in the Company, contractual or otherwise; all state and federal whistleblower claims to the maximum extent permitted by law; and any claim or damage arising out of your employment with and/or separation from the Company (including a claim for retaliation) under any common law theory or any federal, state or local statute or ordinance not expressly referenced above; *provided, however, that this release of claims does not prevent you from filing a charge with, cooperating with, or participating in any investigation or proceeding before, the Equal Employment Opportunity Commission or a state fair employment practices agency (except that you acknowledge that you may not recover any monetary benefits in connection with any such charge, investigation, or proceeding, and you further waive any rights or claims to any payment, benefit, attorneys' fees or other remedial relief in connection with any such charge, investigation or proceeding). Further, notwithstanding anything to the contrary*

*herein, you are not releasing any rights you may have to vested benefits and equity, your rights set out in the Advisory Agreement (subject to the terms and conditions thereof and hereof), and/or any rights you may have to indemnification and defense (recognizing that such indemnification or defense rights are not guaranteed by this Agreement and shall be governed by the common law and such instrument(s), if any, providing for such indemnification and defense).*

2. **Business Expenses and Final Compensation** – You acknowledge that you have been reimbursed by the Company for all business expenses incurred in conjunction with the performance of your employment and that no other reimbursements are owed to you. You further acknowledge that you have received payment in full for all services rendered in conjunction with your employment by the Company, including payment for all wages and bonuses, and that no other compensation or consideration is owed to you except as provided in the Agreement.

3. **Return of Company Property** – You confirm that you have returned to the Company all keys, files, records (and copies thereof), equipment (including, but not limited to, computer hardware, software, printers, flash drives and other storage devices, wireless handheld devices, cellular phones, tablets, etc.), Company identification, and any other Company owned property in your possession or control, and that you have left intact all, and have otherwise not destroyed, deleted, or made inaccessible to the Company any, electronic Company documents, including, but not limited to, those that you developed or helped to develop during your employment, and that you have not (a) retained any copies in any form or media; (b) maintained access to any copies in any form, media, or location; (c) stored any copies in any physical or electronic locations that are not readily accessible or not known to the Company or that remain accessible to you; or (d) sent, given, or made accessible any copies to any persons or entities that the Company has not authorized to receive such electronic or hard copies. You further confirm that you have canceled all accounts for your benefit, if any, in the Company's name, including but not limited to, credit cards, telephone charge cards, cellular phone accounts, and computer accounts.

4. **Acknowledgments** – You acknowledge that you have been given at least twenty-one (21) days to consider this Additional Release, and that the Company advised you in writing to consult with an attorney of your own choosing prior to signing this Additional Release. You understand that you may revoke this Additional Release for a period of seven (7) days after you sign it by notifying me in writing, and the Additional Release shall not be effective or enforceable until the expiration of this seven (7) day revocation period. You understand and agree that by entering into this Additional Release, you are waiving any and all rights or claims you might have under the Age Discrimination in Employment Act, as amended by the Older Workers Benefit Protection Act, and that you have received consideration beyond that to which you were previously entitled.

5. **Voluntary Assent** – You affirm that no other promises or agreements of any kind have been made to or with you by any person or entity whatsoever to cause you to sign this Additional Release, and that you fully understand the meaning and intent of this Additional Release. You state and represent that you have had an opportunity to fully discuss and review the terms of this Additional Release with an attorney. You further state and represent that you have carefully read this Additional Release, understand the contents herein, freely and

voluntarily assent to all of the terms and conditions hereof, and sign your name of your own free act.

*I hereby provide this Additional Release as of the current date and acknowledge that the execution of this Additional Release is in further consideration of the benefits described in the letter agreement to which this Additional Release is attached, to which I acknowledge I would not be entitled if I did not sign this Additional Release. I intend that this Additional Release will become a binding agreement between me and the Company if I do not revoke my acceptance in seven (7) calendar days.*

| | |
|---|---|
| Katrine Bosley | Date |

To be signed and returned on the Separation Date.

**Exhibit B**

**EDITAS MEDICINE, INC.**

**ADVISORY SERVICE AGREEMENT**

This Advisory Services Agreement (the "**Agreement**"), is signed concurrently with the Separation Agreement dated January 19, 2019, to which this Agreement is attached as Exhibit B (the "Separation Agreement") and effective as of March 1, 2019 (the "**Effective Date**") is entered into by Editas Medicine, Inc., a Delaware corporation (the "**Company**"), and Katrine Bosley, having an address set forth under his or her signature hereto (the "**Advisor**").

WHEREAS, the Company and the Advisor desire to establish the terms and conditions under which the Advisor will provide services to the Company.

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

1. Advisory Services. The Advisor agrees to perform such advisory and related services to and for the Company as specified on Schedule A to this Agreement with the time limits set out in section 5 below.

2. Term. This Agreement shall commence on the Effective Date and shall continue until December 31, 2019 unless sooner terminated in accordance with the provisions of Section 4 (such period, the "**Advisory Period**").

3. Compensation.

3.1 Advising Fees. The Company shall pay to the Advisor a fee of $56,000 per month, payable in arrears on the last day of each month. Payment for any partial month shall be prorated. The monthly advising fee is a fixed amount and shall not be subject to increase regardless of the number of hours expended in any given month by the Advisor in the provision of the services hereunder.

3.2 Expenses. The Company shall reimburse the Advisor for all reasonable and necessary documented out of pocket expenses incurred or paid by the Advisor in connection with, or related to, the performance of Advisor's services under this Agreement. The Advisor shall submit to the Company itemized monthly statements, in a form satisfactory to the Company, of such expenses incurred in the previous month. The Company shall pay to the Advisor amounts shown on each such statement within thirty (30) days after receipt thereof. Notwithstanding the foregoing, the Advisor shall not incur total expenses in excess of $500.00 per month without the prior written approval of the Company.

3.3 Benefits. The Advisor shall not be entitled to any benefits, coverages or privileges, including, without limitation, health insurance, social security, unemployment, medical or pension payments, made available to employees of the Company. Any stock options granted to Advisor while an employee by the Company shall be subject to the terms and

conditions of the stock option agreement and the 2015 Stock Incentive Plan under which they were granted.

4. Termination. This Agreement, shall terminate upon the first to occur of (a) December 31, 2019; (b) the date the Company provides the Advisor with written notice of material breach of this Agreement or the Separation Agreement to which this Agreement is attached as Exhibit B; (c) the date the Advisor fails to timely sign the Additional Release of Claims attached to the Separation Agreement as Exhibit A (the "Additional Release"), (d) the date the Advisor revokes the Additional Release; and (e) the date the Advisor terminates, or the parties to this Agreement mutually terminate, this Agreement for convenience on not less than sixty (60) days' prior written notice, unless a shorter notice period is mutually agreed. Upon termination of this Agreement, the Company shall have no further liability other than for payment in accordance with the terms of this Agreement for Advisory Services provided prior to the termination date and (subject to the limitation in Section 3.2 for expenses paid or incurred prior to the effective date of termination that have not been previously paid). Such payment shall constitute full settlement of any and all claims of the Advisor of every description against the Company.

5. Cooperation. The Advisor shall use Advisor's commercially reasonable efforts in the performance of Advisor's obligations set out in Attachment A to this Agreement. The Company shall provide such access to its information and property as may be reasonably required in order to permit the Advisor to perform Advisor's obligations hereunder. The Advisor shall cooperate with the Company's personnel, shall not interfere with the conduct of the Company's business and shall observe all rules, regulations and security requirements of the Company concerning the safety of persons and property. For purposes of clarity, the Advisor will not be required to work more than 10 hours a week during the Advisory Period.

6. Proprietary Information and Inventions.

6.1 Proprietary Information.

(a) The Advisor acknowledges that Advisor's relationship with the Company is one of high trust and confidence and that in the course of Advisor's service to the Company, Advisor will have access to and contact with Proprietary Information. The Advisor will not disclose any Proprietary Information to any person or entity other than employees of the Company or use the same for any purposes (other than in the performance of the services) without written approval by an officer of the Company, either during or after the Advisory Period, unless and until such Proprietary Information has become public knowledge without fault by the Advisor.

(b) For purposes of this Agreement, Proprietary Information shall mean, by way of illustration and not limitation, all information, whether or not in writing, whether or not patentable and whether or not copyrightable, of a private, secret or confidential nature, owned, possessed or used by the Company, concerning the Company's business, business relationships or financial affairs, including, without limitation, any Invention, formula, vendor information, customer information, apparatus, equipment, trade secret, process, research, report, technical or research data, clinical data, know-how, computer program, software, software

documentation, hardware design, technology, product, processes, methods, techniques, formulas, compounds, projects, developments, marketing or business plan, forecast, unpublished financial statement, budget, license, price, cost, customer, supplier or personnel information or employee list that is communicated to, learned of, developed or otherwise acquired by the Advisor in the course of Advisor's service as an advisor to the Company.

(c) The Advisor agrees that all files, documents, letters, memoranda, reports, records, data sketches, drawings, models, laboratory notebooks, program listings, computer equipment or devices, computer programs or other written, photographic, or other tangible material containing Proprietary Information, whether created by the Advisor or others, which shall come into Advisor's custody or possession, shall be and are the exclusive property of the Company to be used by the Advisor only in the performance of Advisor's duties for the Company and shall not be copied or removed from the Company premises except in the pursuit of the business of the Company. All such materials or copies thereof and all tangible property of the Company in the custody or possession of the Advisor shall be delivered to the Company, upon the earlier of (i) a request by the Company or (ii) the termination of this Agreement. After such delivery, the Advisor shall not retain any such materials or copies thereof or any such tangible property.

(d) The Advisor agrees that Advisor's obligation not to disclose or to use information and materials of the types set forth in paragraphs (b) and (c) above, and Advisor's obligation to return materials and tangible property set forth in paragraph (c) above extends to such types of information, materials and tangible property of customers of the Company or suppliers to the Company or other third parties who may have disclosed or entrusted the same to the Company or to the Advisor.

(e) The Advisor acknowledges that the Company from time to time may have agreements with other persons or with the United States Government, or agencies thereof, that impose obligations or restrictions on the Company regarding inventions made during the course of work under such agreements or regarding the confidential nature of such work. The Advisor agrees to be bound by all such obligations and restrictions that are known to Advisor and to take all action necessary to discharge the obligations of the Company under such agreements.

(f) The Advisor's obligations under this Section 6.1 shall not apply to any information that (i) is or becomes known to the general public under circumstances involving no breach by the Advisor or others of the terms of this Section 6.1, (ii) is generally disclosed to third parties by the Company without restriction on such third parties, (iii) is approved for release by written authorization of an officer of the Company, or (iv) is independently learned by the Advisor with no reliance on any propriety information or resources of the Company. Further, nothing herein prohibits the Advisor from communicating with government agencies about possible violations of federal, state, or local laws or otherwise providing information to government agencies or participating in government agency investigations or proceedings. In addition, notwithstanding the Advisor's confidentiality and nondisclosure obligations, the Advisor is hereby advised as follows pursuant to the Defend Trade Secrets Act: "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. An individual who files a lawsuit for retaliation by an employer for reporting a suspected violation of law may disclose the trade secret to the attorney of the individual and use the trade secret information in the court proceeding, if the individual (A) files any document containing the trade secret under seal; and (B) does not disclose the trade secret, except pursuant to court order."

6.2 Inventions.

(a) All inventions, ideas, creations, discoveries, computer programs, works of authorship, data, developments, technology, designs, innovations and improvements (whether or not patentable and whether or not copyrightable) which are made, conceived, reduced to practice, created, written, designed or developed by the Advisor, solely or jointly with others or under Advisor's direction and whether during normal business hours or otherwise, (i) during the Advisory Period if related to the business of the Company or (ii) after the Advisory Period if resulting or directly derived from Proprietary Information (as defined below) (collectively under clauses (i) and (ii), "**Inventions**"), shall be the sole property of the Company. The Advisor hereby assigns to the Company all Inventions and any and all related patents, copyrights, trademarks, trade names, and other industrial and intellectual property rights and applications therefor, in the United States and elsewhere and appoints any officer of the Company as Advisor's duly authorized attorney to execute, file, prosecute and protect the same before any government agency, court or authority. However, this paragraph shall not apply to Inventions which do not relate to the business or research and development conducted or planned to be conducted by the Company at the time such Invention is created, made, conceived or reduced to practice and which are made and conceived by the Advisor not during normal working hours, not on the Company's premises and not using the Company's tools, devices, equipment or Proprietary Information. The Advisor further acknowledges that each original work of authorship which is made by the Advisor (solely or jointly with others) within the scope of the Agreement and which is protectable by copyright is a "work made for hire," as that term is defined in the United States Copyright Act.

(b) The Advisor agrees that if, in the course of performing the services pursuant to this Agreement, the Advisor incorporates into any Invention developed under this Agreement any preexisting invention, improvement, development, concept, discovery or other proprietary information owned by the Advisor or in which the Advisor has an interest ("**Prior Inventions**"), (i) the Advisor will inform the Company, in writing before incorporating such Prior Inventions into any Invention, and (ii) the Company is hereby granted a nonexclusive, royalty-free, perpetual, irrevocable, transferable worldwide license with the right to grant and authorize sublicenses, to make, have made, modify, use, import, offer for sale, sell, reproduce, distribute, modify, adapt, prepare derivative works of, display, perform, and otherwise exploit such Prior Inventions, without restriction, including, without limitation, as part of or in connection with such Invention, and to practice any method related thereto. The Advisor will not incorporate any invention, improvement, development, concept, discovery or other proprietary information owned by any third party into any Invention without the Company's prior written permission.

(c) Upon the request of the Company and at the Company's expense, the Advisor shall execute such further assignments, documents and other instruments as may be necessary or desirable to fully and completely assign all Inventions to the Company and to assist the Company 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. The Advisor also hereby waives all claims to moral rights in any Inventions.

(d) The Advisor shall promptly disclose to the Company all Inventions and will maintain adequate and current written records (in the form of notes, sketches, drawings and as may be specified by the Company) to document the conception and/or first actual reduction to practice of any Invention. Such written records shall be available to and remain the sole property of the Company at all times.

7. Non-Exclusivity. The Company retains the right to contract with other companies and/or individuals for advising services without restriction. Similarly, the Advisor retains the right, subject to the Advisor's continuing obligations under the Restrictive Covenant Agreements referenced in the Separation Agreement, to contract with other companies or entities for the Advisor's advising services.

8. Other Agreements; Warranty.

8.1 The Advisor hereby represents that, except as the Advisor has previously disclosed in writing to the Company, the Advisor is not bound by the terms of any agreement with any third party to refrain from using or disclosing any trade secret or confidential or proprietary information in the course of Advisor's advising the Company, to refrain from competing, directly or indirectly, with the business of such third party or to refrain from soliciting employees, customers or suppliers of such third party. The Advisor further represents that Advisor's performance of all the terms of this Agreement and the performance of the services as an Advisor of the Company do not and will not breach any agreement with any third party to which the Advisor is a party (including, without limitation, any nondisclosure or non-competition agreement), and that the Advisor will not disclose to the Company or induce the Company to use any confidential or proprietary information or material belonging to any current or previous employer or others.

8.2 The Advisor hereby represents, warrants and covenants that Advisor has the skills and experience necessary to perform the services, that Advisor will perform said services in a professional, competent and timely manner, that Advisor has the power to enter into this Agreement and that Advisor's performance hereunder will not infringe upon or violate the rights of any third party or violate any federal, state or municipal laws.

9. Independent Contractor Status.

9.1 The Advisor shall perform all services under this Agreement as an "independent contractor" and not as an employee or agent of the Company. The Advisor is not authorized to assume or create any obligation or responsibility, express or implied, on behalf of, or in the name of, the Company or to bind the Company in any manner.

9.2 The Advisor shall have the right to control and determine the time, place, methods, manner and means of performing the services within reasonable business hours. In performing the services, the amount of time devoted by the Advisor on any given day will be entirely within the Advisor's control, and the Company will rely on the Advisor to put in the amount of time necessary to fulfill the requirements of this Agreement, subject to the maximum number of hours per month as stated above. The Advisor is not required to attend regular meetings at the Company. However, upon reasonable notice, the Advisor shall meet with representatives of the Company at a location to be designated by the parties to this Agreement.

9.3 In the performance of the services, the Advisor has the authority to control and direct the performance of the details of the services, the Company being interested only in the results obtained. However, the services contemplated by the Agreement must meet the Company's standards and approval and shall be subject to the Company's general right of inspection and supervision to secure their satisfactory completion.

9.4 The Advisor shall not use the Company's trade names, trademarks, service names or service marks without the prior approval of the Company.

9.5 The Advisor shall be solely responsible for all state and federal income taxes, unemployment insurance and social security taxes in connection with this Agreement and for maintaining adequate workers' compensation insurance coverage. The Advisor shall indemnify, defend and hold harmless the Company and its successors and assigns from and against any claim or liability of any kind (including penalties, fees or charges) resulting from the Advisor's failure to pay the taxes, penalties, and payments referenced in this Section 10.

10. Remedies. The Advisor acknowledges that any breach of the provisions of Sections 6 or 7 of this Agreement shall result in serious and irreparable injury to the Company for which the Company cannot be adequately compensated by monetary damages alone. The Advisor agrees, therefore, that, in addition to any other remedy the Company may have, the Company shall be entitled to enforce the specific performance of this Agreement by the Advisor and to seek both temporary and permanent injunctive relief (to the extent permitted by law) without the necessity of proving actual damages or posting a bond.

11. Notices. All notices required or permitted under this Agreement shall be in writing and shall be deemed effective upon personal delivery or upon deposit in the United States Post Office, by registered or certified mail, postage prepaid, addressed to the other party at the address shown above, or at such other address or addresses as either party shall designate to the other in accordance with this Section 12.

12. Pronouns. Whenever the context may require, any pronouns used in this Agreement shall include the corresponding masculine, feminine or neuter forms, and the singular forms of nouns and pronouns shall include the plural, and vice versa.

13. Entire Agreement. This Agreement constitutes the entire agreement between the parties and supersedes all prior agreements and understandings, whether written or oral, relating to the subject matter of this Agreement (provided, for the avoidance of doubt, that it does not

supersede the Separation Agreement or the Restrictive Covenant Agreements referenced therein).

14. Amendment. This Agreement may be amended or modified only by a written instrument executed by both the Company and the Advisor.

15. Non-Assignability of Contract. This Agreement is personal to the Advisor and the Advisor shall not have the right to assign any of Advisor's rights or delegate any of Advisor's duties without the express written consent of the Company. Any non-consented-to assignment or delegation, whether express or implied or by operation of law, shall be void and shall constitute a breach and a default by the Advisor.

16. Governing Law. This Agreement shall be governed by and construed in accordance with the laws of the Commonwealth of Massachusetts without giving effect to any choice or conflict of law provision or rule that would cause the application of laws of any other jurisdiction.

17. Successors and Assigns. This Agreement shall be binding upon, and inure to the benefit of, both parties and their respective successors and assigns, including any corporation with which, or into which, the Company may be merged or which may succeed to its assets or business, provided, however, that the obligations of the Advisor are personal and shall not be assigned by Advisor.

18. Interpretation. If any restriction set forth in Section 6 is found by any court of competent jurisdiction to be unenforceable because it extends for too long a period of time or over too great a range of activities or in too broad a geographic area, it shall be interpreted to extend only over the maximum period of time, range of activities or geographic area as to which it may be enforceable.

19. Survival. Sections 4 through 20 shall survive the expiration or termination of this Agreement.

20. Miscellaneous.

20.1 No delay or omission by the Company in exercising any right under this Agreement shall operate as a waiver of that or any other right. A waiver or consent given by the Company on any one occasion shall be effective only in that instance and shall not be construed as a bar or waiver of any right on any other occasion.

20.2 The captions of the sections of this Agreement are for convenience of reference only and in no way define, limit or affect the scope or substance of any section of this Agreement.

20.3 In the event that any provision of this Agreement shall be invalid, illegal or otherwise unenforceable, the validity, legality and enforceability of the remaining provisions shall in no way be affected or impaired thereby.

[Remainder of Page Intentionally Left Blank]

IN WITNESS WHEREOF, the parties hereto have executed this Advisory Services Agreement as of the date and year first above written.

**COMPANY:**

**EDITAS MEDICINE, INC.**

By: _____
James C. Mullen
Chairman of the Board of Directors

**ADVISOR:**

_____
Name: Katrine S. Bosley

**SCHEDULE A**

**DESCRIPTION OF SERVICES**

- The advising would be at the request of the interim CEO and the new CEO to support transition, provide historical information on the Company and partnerships, and act as Company representative at policy forums and provide additional expertise to the interim and new CEOs regarding the Company's industry and business.

**Exhibit 31.1**

**CERTIFICATIONS**

I, Cynthia Collins, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Editas Medicine, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
    a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
    b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
    c. Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
    d. Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
    a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
    b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: May 8, 2019

By: /s/ Cynthia Collins
Cynthia Collins
*Principal Executive Officer*

**Exhibit 31.2**

**CERTIFICATIONS**

I, Eric Ek, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Editas Medicine, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
    a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
    b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
    c. Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
    d. Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
    a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
    b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: May 8, 2019

By: /s/ Eric Ek
Eric Ek
*Principal Financial Officer*

**Exhibit 32.1**

**CERTIFICATIONS OF CEO AND CFO PURSUANT TO 18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

In connection with this Quarterly Report on Form 10-Q of Editas Medicine, Inc. (the "Company") for the period ended March 31, 2019, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), each of the undersigned officers of the Company hereby certifies, pursuant to 18 U.S.C. (section) 1350, as adopted pursuant to (section) 906 of the Sarbanes-Oxley Act of 2002, that to the best of her or his knowledge:

(1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: May 8, 2019

By: /s/ Cynthia Collins
Cynthia Collins
Principal Executive Officer

Date: May 8, 2019

By: /s/ Eric Ek
Eric Ek
Principal Financial Officer