Filed Pursuant to Rule 424(b)(4)
Registration No. 333-224278

PROSPECTUS

5,312,500 Shares

COMMON STOCK

Evelo Biosciences, Inc. is offering 5,312,500 shares of its common stock. This is our initial public offering and, prior to this offering, no public market existed for our shares. The public offering price for our common stock is $16.00 per share.

Our common stock has been approved for listing on The Nasdaq Global Select Market under the symbol "EVLO".

We are an "emerging growth company" as defined under the federal securities laws, and as such, we have elected to comply with certain reduced reporting requirements for this prospectus and may elect to do so in future filings. Investing in our common stock involves risks. Please see "Risk Factors" beginning on page 10.

	Per Share	*Total*
Initial public offering price	*$16.00*	*$85,000,000*
Underwriting discount and commissions (1)	*$1.12*	*$5,950,000*
Proceeds, before expenses, to us	*$14.88*	*$79,050,000*

(1) See the section titled "Underwriting" for a description of the compensation payable to underwriters.

We have granted the underwriters the right to purchase up to 796,875 additional shares of common stock from us to cover over-allotments.

Certain of our existing stockholders, including entities affiliated with certain of our directors, have indicated an interest in purchasing an aggregate of approximately $40.0 million in shares of our common stock in this offering at the initial public offering price. However, because indications of interest are not binding agreements or commitments to purchase, the underwriters may determine to sell more, fewer or no shares in this offering to any or all of these stockholders, or any or all of these stockholders may determine to purchase more, fewer or no shares in this offering. The underwriters will receive the same underwriting discount on any shares purchased by these stockholders as they will on any other shares sold to the public in this offering.

The Securities and Exchange Commission and state securities regulators have not approved or disapproved of these securities, or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

The underwriters expect to deliver the shares of common stock to purchasers on or about May 11, 2018.

MORGAN STANLEY *COWEN* *BMO CAPITAL MARKETS*

JMP SECURITIES

The date of this prospectus is May 8, 2018.

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Neither we nor the underwriters have authorized anyone to provide any information or to make any representations other than those contained in this prospectus or in any free writing prospectus prepared by or on behalf of us or to which we have referred you. We take no responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you. This prospectus is an offer to sell only the shares offered hereby, but only under circumstances and in jurisdictions where it is lawful to do so. The information contained in this prospectus or in any applicable free writing prospectus is accurate only as of its date, regardless of its time of delivery or any sale of shares of our common stock. Our business, financial condition, results of operations and prospects may have changed since that date.

Through and including June 2, 2018 (25 days after the date of this prospectus), all dealers effecting transactions in these securities, whether or not participating in this offering, may be required to deliver a prospectus. This delivery requirement is in addition to the obligation of dealers to deliver a prospectus when acting as underwriters and with respect to their unsold allotments or subscriptions.

For investors outside the United States: Neither we nor the underwriters have done anything that would permit this offering or possession or distribution of this prospectus in any jurisdiction where action for that purpose is required, other than in the United States. Persons outside the United States who come into possession of this prospectus must inform themselves about, and observe any restrictions relating to, the offering of the shares of common stock and the distribution of this prospectus outside the United States.

Solely for convenience, the trademarks, trade names and service marks may appear in this prospectus with the ® or ™ symbols, but any such references are not intended to indicate, in any way, that we forgo or will not assert, to the fullest extent under applicable law, our rights or the rights of the applicable licensors to these trademarks, trade names and service marks. All trademarks, trade names and service marks appearing in this prospectus are the property of their respective owners.

PROSPECTUS SUMMARY

This summary highlights information contained elsewhere in this prospectus. This summary does not contain all of the information you should consider before investing in our common stock. You should read this entire prospectus carefully, especially the sections entitled "Risk Factors," "Special Note Regarding Forward-Looking Statements," "Management's Discussion and Analysis of Financial Condition and Results of Operations" and our consolidated financial statements and the related notes appearing at the end of this prospectus, before making an investment decision.

As used in this prospectus, unless the context otherwise requires, references to "we," "us," "our," "the Company," "our Company," "Evelo" and "Evelo Biosciences" refer to the consolidated operations of Evelo Biosciences, Inc. and its consolidated subsidiary.

Overview

Evelo Biosciences is discovering and developing potential therapies designed to act on the gut-body network. The action of our therapies is based on our growing understanding of the central role of the gut in controlling immune and biological activity throughout the body. The gut-body network represents the connections of the gut to all organs and tissues, which enables the gut to exert a significant level of control over the body's immune and biological systems. The centrality of the gut-body network to the immune system has only recently become appreciated, and modern medicine and drug discovery have largely overlooked the importance of the gut-body network in fighting disease. We believe that we have the potential to use the unexplored biology of the gut-body network to develop novel therapies that could transform the treatment of many major diseases, potentially driving profound benefits to patients and society.

The gut, or the gastrointestinal tract, is the largest part of the immune system and is a central hub of the body's network of lymphatic vessels. Immune cells from around the body circulate via these lymphatic vessels through tissues of the gut, where they are conditioned by exposure to the many antigens and immunomodulatory agents that continuously pass through the gut. These conditioned immune cells then continue to travel throughout the body and can impact disease and health at all sites of the body. Microbes, in particular, have the ability to condition immune cells in the gut.

We are developing orally-delivered pharmaceutical compositions of specific strains of naturally-occurring microbes derived from a single clone, which we refer to as monoclonal microbials. Our monoclonal microbials are designed to act on the gut-body network. We and our collaborators have observed in preclinical studies that specific monoclonal microbials can downregulate or upregulate immune responses throughout the body by acting on the gut-body network with naturally-evolved pharmacology. We believe that monoclonal microbials exert their effects through interactions with host immune cells as they pass through the gut. Based on our preclinical studies, we believe that our product candidates could significantly improve the treatment of many diseases.

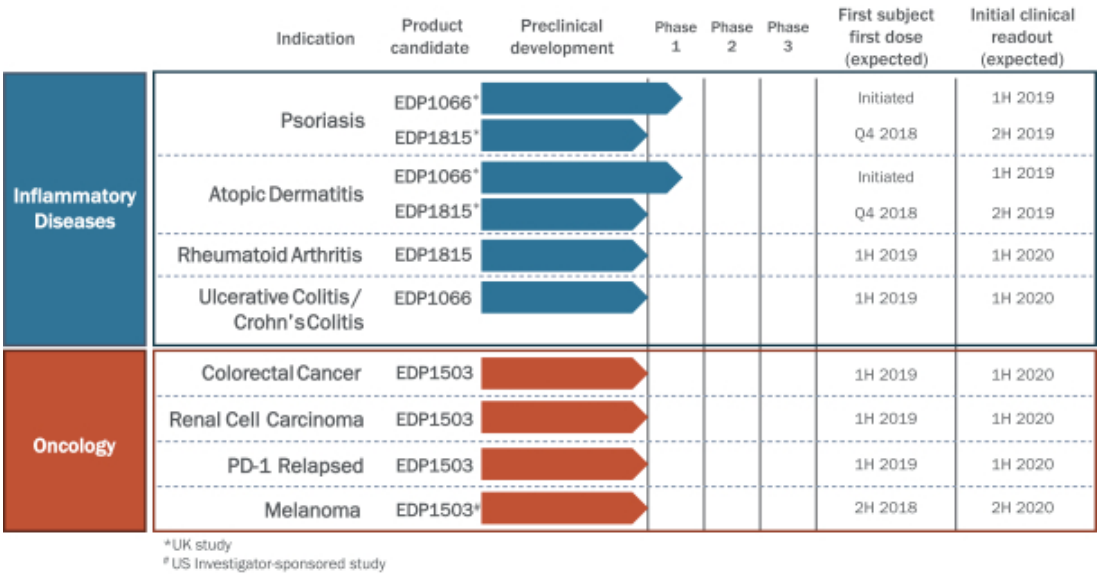
We have built a proprietary platform designed to develop monoclonal microbials as therapeutics. Our platform integrates tools and capabilities necessary to source, select, develop and manufacture monoclonal microbials as therapies. The efficiency of our platform has, in a relatively short period of time, allowed us to produce three product candidates for a range of inflammatory diseases and cancer that we are advancing into clinical trials in 2018, beginning with a trial of EDP1066, in which we dosed our first subject in April 2018.

We believe that monoclonal microbials have the potential to address significant patient need at various stages of disease. We believe this is due to their potentially superior characteristics over current therapies and the advantages of our platform, specifically:

- We have observed activity in preclinical animal models for each of our lead product candidates. Each of our monoclonal microbials acts through multiple naturally-evolved biological pathways. By acting on multiple pathways simultaneously, we believe monoclonal microbials can impact disease in ways that are not addressable with current single-target therapies.
- We believe our monoclonal microbials are likely to be well tolerated given that they are single strains of naturally-evolved human commensal microbes that act on the gut-body network without significant risk of systemic exposure. If we validate this profile in clinical trials, we believe monoclonal microbials have the potential to be used at earlier stages of disease and, by extension, in many more patients than current immunomodulatory drugs.
- Our development of monoclonal microbials has the potential to be more efficient than those other therapeutic classes such as cell therapy, monoclonal antibodies and small molecules. We believe that monoclonal microbials do not require the lengthy target validation and compound discovery requirements of conventional drug discovery. Additionally, we believe the manufacture of monoclonal microbials is meaningfully faster than that of certain other biologics and can further accelerate our path to clinical testing and commercialization.

Our product development strategy is to evaluate a range of monoclonal microbials with different activities in clinical trials across multiple diseases. The initial trials for our product candidates are expected to provide information on safety and biomarkers of immune response at and beyond the site of disease. We believe this biomarker data will enable expansion into a broad range of clinical indications. We dosed the first subject in our clinical trial of our first monoclonal microbial candidate in inflammatory diseases, EDP1066, in April 2018, and expect to initiate a clinical trial for our second candidate in inflammatory diseases, EDP1815, in the fourth quarter of 2018. We expect initial biomarker and clinical data in the first half of 2019 for EDP1066 and the second half of 2019 for EDP1815. We are also developing monoclonal microbial therapies in oncology. The first oncology product candidate is EDP1503, for which we expect to initiate clinical trials in the second half of 2018 and the first half of 2019 and to obtain clinical data in 2020.

Our initial clinical product candidates and intended plan for initial clinical trials are illustrated below.



Beyond our first set of clinical product candidates, we have identified several other potential candidates from our discovery program, and we are continuing to invest in the discovery of additional potential candidates. We believe monoclonal microbials and our platform have broad potential utility beyond our initial therapeutic focus areas of inflammatory diseases and oncology, and we plan to pursue many opportunities in which our platform has the potential to transform medicine.

Our Strategy

Our goal is to create and develop a new class of therapies that has the potential to transform the treatment of a broad range of diseases by focusing on the gut-body network. We have begun to translate this biology to the clinic and intend to fully explore therapeutic applications. Key elements of our strategy to achieve this goal are to:

- realize the full potential of the gut-body network to create an expansive and diversified product portfolio;
- develop best-in-class therapies to improve outcomes across various stages of disease;
- generate early clinical readouts with biomarker driven validation to efficiently advance our product candidates;
- industrialize monoclonal microbials to advance and scale our platform;
- strengthen and expand our intellectual property to protect our platform; and
- collaborate to realize the potential of the gut-body network and monoclonal microbials.

Evelo and Flagship Pioneering

Evelo Biosciences, a Flagship Pioneering company, was founded by the Flagship VentureLabs® unit. Evelo Biosciences emerged from VentureLabs' proprietary innovation and company-origination process, building upon explorations that focused on the interface between microbes and the immune system, ultimately revealing the privileged relationship between the two as well as means to use microbes to control the immune system. The VentureLabs founding team recognized the potential for microbes administered to the gut to drive specific and reproducible immune responses through their direct engagement with the immune system, opening an opportunity for novel therapies that harness natural mechanisms to control immune biology.

Risk Factors

Our business is subject to numerous risks and uncertainties, including those highlighted in the section titled "Risk Factors" immediately following this prospectus summary. Some of these risks are:

- we have a limited operating history, have incurred significant losses since our inception, expect to incur losses for the foreseeable future and may never achieve or maintain profitability;
- even if this offering is successful, we will need additional funding before we can expect to become profitable from the sales of our products, if approved, and if we are unable to raise capital when needed, we could be forced to delay, reduce or discontinue our product development programs or commercialization efforts;
- we are in clinical and preclinical stages of our development efforts and our product candidates, including EDP1066, EDP1815 and EDP1503, may not be successful in clinical trials and, as a result, may never be approved as marketable therapeutics;
- our product candidates are based on monoclonal microbials, which are an unproven approach to therapeutic intervention;
- our product candidates are intended to act on the gut-body network, which may not function in humans the way we have observed in mice, and our product candidates may not reproduce the systemic effects we have seen in preclinical data;
- clinical drug development involves a lengthy and expensive process, with an uncertain outcome, and we may incur additional costs or experience delays in completing, or ultimately be unable to complete, the development and commercialization of our product candidates;
- we rely, and expect to continue to rely, on third parties to conduct our clinical trials, for biological materials, including human samples containing microbes, and to manufacture our product candidates for preclinical and clinical testing, and those third parties may not perform satisfactorily, which could delay our product development activities;
- our existing collaborations are important to our business and future licenses may also be important to us, and if we are unable to maintain any of these collaborations, or if these arrangements are not successful, our business could be adversely affected;
- if we are unable to adequately protect our proprietary technology, or obtain and maintain issued patents that are sufficient to protect our product candidates, others could compete against us more directly, which would have a material adverse impact on our business, results of operations, financial condition and prospects; and
- our future success depends on our ability to retain key executives or to attract, retain and motivate qualified personnel.

Implications of Being an Emerging Growth Company

As a company with less than $1.07 billion in revenue during our last fiscal year, we qualify as an "emerging growth company" as defined in the Jumpstart Our Business Startups Act, or JOBS Act, enacted in April 2012. An "emerging growth company" may take advantage of reduced reporting requirements that are otherwise applicable to public companies. These provisions include, but are not limited to:

- being permitted to present only two years of audited financial statements and only two years of related Management's Discussion and Analysis of Financial Condition and Results of Operations in this prospectus;
- not being required to comply with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act of 2002, as amended;
- not being required to comply with any requirement that may be adopted by the Public Company Accounting Oversight Board regarding mandatory audit firm rotation or a supplement to the auditor's report providing additional information about the audit and the financial statements;
- reduced disclosure obligations regarding executive compensation in our periodic reports, proxy statements and registration statements; and
- exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and stockholder approval of any golden parachute payments not previously approved.

We may take advantage of these provisions until the last day of our fiscal year following the fifth anniversary of the completion of this offering. However, if any of the following events occur prior to the end of such five-year period, (i) our annual gross revenue exceeds $1.07 billion, (ii) we issue more than $1.0 billion of non-convertible debt in any three-year period or (iii) if we become a "large accelerated filer," we will cease to be an emerging growth company prior to the end of such five-year period. We will be deemed to be a "large accelerated filer" at such time that we (a) have an aggregate worldwide market value of common equity securities held by non-affiliates of $700 million or more as of the last business day of our most recently completed second fiscal quarter, (b) have been required to file annual and quarterly reports under the Securities Exchange Act of 1934, as amended, or the Exchange Act, for a period of at least 12 months and (c) have filed at least one annual report pursuant to the Exchange Act.

We have elected to take advantage of certain of the reduced disclosure obligations in the registration statement of which this prospectus is a part and may elect to take advantage of other reduced reporting requirements in future filings. As a result, the information that we provide to our stockholders may be different than you might receive from other public reporting companies in which you hold equity interests.

In addition, the JOBS Act provides that an emerging growth company can take advantage of an extended transition period for complying with new or revised accounting standards. We have elected to use the extended transition period for complying with new or revised accounting standards; and as a result of this election, our financial statements may not be comparable to companies that comply with public company effective dates.

Corporate Information

We were incorporated under the laws of the State of Delaware in May 2014. Our principal executive offices are located at 620 Memorial Drive, Suite 200, Cambridge, Massachusetts 02139 and our telephone number is (617) 577-0300. Our website address is *www.evelobio.com*. The information contained in, or accessible through, our website does not constitute a part of this prospectus. We have included our website address in this prospectus solely as an inactive textual reference.

The Offering

Common stock offered by us	5,312,500 shares
Common stock to be outstanding after this offering	31,870,854 shares (or 32,667,729 shares if the underwriters exercise their over-allotment option to purchase additional shares in full).
Over-allotment option to purchase additional shares	The underwriters have a 30-day option to purchase up to 796,875 additional shares of our common stock.
Use of proceeds	We estimate that we will receive net proceeds from this offering of approximately $75.9 million (or $87.7 million if the underwriters exercise their over-allotment option in full), based on the initial public offering price of $16.00 per share, and after deducting the underwriting discounts and commissions and estimated offering expenses payable by us. We anticipate that we will use the net proceeds of this offering, together with our cash and cash equivalents as of March 31, 2018, to fund proof of concept clinical trials in our inflammatory diseases programs, to fund proof of concept clinical trials in our oncology programs, to invest in our platform and to advance additional preclinical development activities, and the remainder, if any, to fund working capital, capital expenditures and other general corporate purposes. See “Use of Proceeds” beginning on page 57.
Risk factors	See “Risk Factors” beginning on page 10 and the other information included in this prospectus for a discussion of factors you should consider carefully before deciding to invest in our common stock.
Nasdaq Global Select Market symbol	“EVLO”

Certain of our existing stockholders, including entities affiliated with certain of our directors, have indicated an interest in purchasing an aggregate of approximately $40.0 million in shares of our common stock in this offering at the initial public offering price. However, because indications of interest are not binding agreements or commitments to purchase, the underwriters may determine to sell more, fewer or no shares in this offering to any or all of these stockholders, or any or all of these stockholders may determine to purchase more, fewer or no shares in this offering. The underwriters will receive the same underwriting discount on any shares purchased by these stockholders as they will on any other shares sold to the public in this offering.

The number of shares of our common stock to be outstanding after this offering is based on 4,171,677 shares of our common stock outstanding as of April 18, 2018, which includes 226,319 shares of issued but unvested restricted stock subject to repurchase and excludes:

- 4,451,244 shares of our common stock issuable upon exercise of stock options outstanding as of April 18, 2018, at a weighted-average exercise price of $4.30 per share;
- 56,006 shares of our common stock issuable upon the exercise of warrants to purchase shares of preferred stock that will become warrants to purchase common stock, at a weighted average exercise price of $3.53 per share, upon the closing of this offering;

- 390,777 shares of our common stock issuable upon the exercise of stock options granted in connection with this offering under our 2018 Incentive Award Plan, or the 2018 Plan, which became effective in connection with this offering, to certain of our directors, executive officers and employees, at an exercise price per share equal to the initial public offering price in this offering;
- 953,915 shares of our common stock reserved for future issuance under the 2018 Plan, as well as shares of our common stock that become available pursuant to provisions in the 2018 Plan that automatically increase the share reserve under the 2018 Plan as described in "Executive and Director Compensation—Incentive Plans—2018 Incentive Award Plan"; and
- 336,356 shares of our common stock available for future issuance under our 2018 Employee Stock Purchase Plan, or the 2018 ESPP, which became effective in connection with this offering, as well as shares of our common stock that become available pursuant to provisions in the 2018 ESPP that automatically increase the share reserve under the 2018 ESPP as described in "Executive and Director Compensation—Incentive Plans—2018 Employee Stock Purchase Plan."

Unless otherwise indicated, this prospectus reflects and assumes the following:

- the sale by us of 25,232,199 shares of Series C preferred stock from February 2018 to March 2018 for gross proceeds of $81.5 million and the automatic conversion of such shares of preferred stock into 6,185,870 shares of common stock upon the closing of this offering;
- the issuance by us of 250,000 shares of Series B preferred stock in January 2018 to a consultant as partial consideration for services rendered and the automatic conversion of such shares of preferred stock into 61,289 shares of common stock upon the closing of this offering;
- a 1-for-4.079 reverse split of our common stock, which became effective on April 27, 2018;
- the automatic conversion of all outstanding shares of our preferred stock at December 31, 2017 into an aggregate of 16,139,518 shares of our common stock upon the closing of this offering;
- the exercise of a warrant to purchase 134 shares of common stock for an aggregate purchase price of $5.49, which occurred on April 9, 2018;
- the outstanding warrants to purchase our preferred stock becoming warrants to purchase an aggregate of 56,006 shares of our common stock upon the closing of this offering;
- no exercise of outstanding options or warrants after April 18, 2018;
- the filing of our restated certificate of incorporation and the adoption of our amended and restated bylaws, which will occur in connection with the closing of this offering; and
- no exercise by the underwriters of their over-allotment option to purchase additional shares of our common stock.

Summary Consolidated Financial Data

You should read the following summary consolidated financial data together with our consolidated financial statements and the related notes appearing at the end of this prospectus and the "Selected Consolidated Financial Data" and "Management's Discussion and Analysis of Financial Condition and Results of Operations" sections of this prospectus. We have derived the consolidated statement of operations data for the years ended December 31, 2017 and 2016 and the consolidated balance sheet data as of December 31, 2017 from our audited consolidated financial statements appearing at the end of this prospectus. Our historical results are not necessarily indicative of the results that should be expected in the future.

	Year Ended December 31,	
	2017	2016
	(in thousands, except share and per share amounts)	
Statement of Operations Data:		
Operating expenses:		
Research and development	$ 19,957	$ 9,134
General and administrative	7,574	3,891
Total operating expenses	27,531	13,025
Loss from operations	(27,531)	(13,025)
Other (expense) income:		
Interest expense, net	(215)	(287)
Other expenses	(301)	(20)
Other income (expense), net	(516)	(307)
Net loss	(28,047)	(13,332)
Convertible preferred stock dividends	(6,085)	(1,645)
Net loss attributable to common stockholders	$ (34,132)	$ (14,977)
Net loss per share attributable to common stockholders, basic and diluted(1)	$ (9.10)	$ (5.28)
Weighted average number of common shares outstanding, basic and diluted(1)	3,750,790	2,834,733
Pro forma net loss per share attributable to common stockholders, basic and diluted (unaudited)(2)	$ (1.48)	
Pro forma weighted average common shares outstanding, basic and diluted (unaudited)(2)	18,807,993	

(1) See Note 2 to our audited consolidated financial statements appearing at the end of this prospectus for further details on the calculation of basic and diluted net loss per share attributable to common stockholders.

(2) See Note 13 to our audited consolidated financial statements appearing at the end of this prospectus for further details on the calculation of our unaudited basic and diluted pro forma net loss per share attributable to common stockholders.

	As of December 31, 2017		
	Actual	Pro Forma(2)	Pro Forma as Adjusted(3)
Consolidated Balance Sheet Data:			
Cash and cash equivalents	$ 38,246	$ 124,556	$ 200,406
Working capital(1)	34,938	116,956	192,806
Total assets	43,788	130,098	205,948
Long-term debt	9,966	14,851	14,851
Preferred stock warrant liability	424	—	—
Convertible preferred stock	83,702	—	—
Accumulated deficit	(56,411)	(56,411)	(56,411)
Total stockholders' (deficit) equity	(54,723)	111,492	187,342

(1) We define working capital as current assets less current liabilities.

(2) The pro forma consolidated balance sheet data give effect to:

- the sale by us of 25,232,199 shares of Series C preferred stock from February 2018 to March 2018 for gross proceeds of $81.5 million and the automatic conversion of such shares of preferred stock into 6,185,870 shares of common stock upon the closing of this offering;
- the issuance by us of 250,000 shares of Series B preferred stock in January 2018 to a consultant as partial consideration for services rendered and the automatic conversion of such shares of preferred stock into 61,289 shares of common stock upon the closing of this offering;
- the additional drawdown of $5.0 million under our loan and security agreement with Pacific Western Bank on February 7, 2018, including the issuance of a warrant to purchase our preferred stock that will become a warrant to purchase an aggregate of 8,512 shares of our common stock upon the closing of this offering;
- the automatic conversion of all outstanding shares of our preferred stock at December 31, 2017 into an aggregate of 16,139,158 shares of our common stock upon the closing of this offering;
- the exercise of a warrant to purchase 134 shares of common stock for an aggregate purchase price of $5.49, which occurred on April 9, 2018; and
- the outstanding warrants to purchase our shares of preferred stock becoming warrants to purchase an aggregate of 47,494 shares of our common stock upon the closing of this offering.

(3) The pro forma as adjusted consolidated balance sheet data give further effect to the sale by us of shares of our common stock in this offering at an initial public offering price of $16.00 per share, after deducting the underwriting discounts and commissions and estimated offering expenses payable by us.

RISK FACTORS

Investing in our common stock involves a high degree of risk. You should carefully consider the risks described below, as well as the other information in this prospectus, including our consolidated financial statements and the related notes and "Management's Discussion and Analysis of Results of Operations and Financial Condition," before deciding whether to invest in our common stock. The occurrence of any of the events or developments described below could harm our business, financial condition, results of operations and growth prospects. In such an event, the market price of our common stock could decline, and you may lose all or part of your investment.

Risks Related to Our Financial Position and Need for Additional Capital

We are a development-stage company and have incurred significant losses since our 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 loss was $28.0 million and $13.3 million for the years ended December 31, 2017 and 2016, respectively. As of December 31, 2017, we had an accumulated deficit of $56.4 million. To date, we have financed our operations through private placements of our preferred stock and borrowings under our loan and security agreement with Pacific Western Bank. We have devoted substantially all of our financial resources and efforts to developing our monoclonal microbial platform, identifying potential product candidates and conducting preclinical studies. We are in the early stages of developing our product candidates, and we have not completed the development of any monoclonal microbial therapies or other drugs or biologics. We expect to continue to incur significant expenses and operating losses for the foreseeable future. We anticipate that our expenses will increase substantially as we:

- seek to enhance our monoclonal microbial platform and discover and develop additional product candidates;
- seek regulatory approvals for any product candidates that successfully complete clinical trials;
- seek to establish a sales, marketing and distribution infrastructure and scale-up manufacturing capabilities to commercialize any products for which we may obtain regulatory approval;
- maintain, expand and protect our intellectual property portfolio; and
- add clinical, scientific, operational, financial and management information systems and personnel, including personnel to support our product development and potential future commercialization efforts and to support our transition to a public company.

In addition, we anticipate that our expenses will increase substantially if we experience any delays or encounter any issues with any of the above, including but not limited to failed studies, complex results, safety issues or other regulatory challenges.

To become and remain profitable, we must succeed in developing and eventually commercializing products that generate significant revenue. This will require us to be successful in a range of challenging activities, including completing preclinical testing and clinical trials of our product candidates, discovering additional product candidates, obtaining regulatory approval for these product candidates and manufacturing, marketing and selling any products for which we may obtain regulatory approval. We are only in the preliminary stages of most of these activities. We may never succeed in these activities and, even if we do, may never generate revenue that is significant enough to achieve profitability.

Because of the numerous risks and uncertainties associated with pharmaceutical product and biological product development, we are unable to accurately predict the timing or amount of increased expenses or when, or if, we will be able to achieve profitability. If we are required by the U.S. Food and Drug Administration, or FDA,

or the European Medicines Agency, or EMA, or other regulatory authorities to perform preclinical or clinical studies in addition to those currently expected, or if there are any delays in completing our preclinical studies or clinical trials or the development of any of our product candidates, our expenses could increase and revenue could be further delayed.

Even 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 depress our value and could impair our ability to raise capital, expand our business, maintain our research and development efforts, diversify our product offerings or even continue our operations.

Even if this offering is successful, we will need additional funding in order to complete development of our product candidates and commercialize our products, if approved. If we are unable to raise capital when needed, we could be forced to delay, reduce or discontinue our product development programs or commercialization efforts.

We expect our expenses to increase in connection with our ongoing activities, particularly as we conduct clinical trials, build manufacturing capacity and expand into additional therapeutic areas.

We expect that our cash and cash equivalents as of March 31, 2018, together with anticipated net proceeds from this offering, will enable us to fund our operating expenses and capital expenditure requirements into the second half of 2020. We have based this estimate on assumptions that may prove to be wrong, and we could use our capital resources sooner than we currently expect. Our future capital requirements will depend on many factors, including:

- the progress and results of any future clinical trials;
- the cost of manufacturing clinical supplies of our product candidates, including EDP1066, EDP1815 and EDP1503;
- the scope, progress, results and costs of preclinical development, laboratory testing and clinical trials for any other future product candidates;
- the costs, timing and outcome of regulatory review of our product candidates;
- the costs and timing of future commercialization activities, including manufacturing, marketing, sales and distribution, for any of our product candidates for which we receive marketing approval;
- the revenue, if any, received from commercial sales of our product candidates for which we receive marketing approval;
- the costs and timing of preparing, filing and prosecuting patent applications, maintaining and enforcing our intellectual property rights and defending any intellectual property-related claims;
- the effect of competing technological and market developments; and
- the extent to which we acquire or invest in businesses, products and technologies, including entering into licensing or collaboration arrangements for product candidates, although we currently have no commitments or agreements to complete any such transactions.

Any additional fundraising efforts may divert our management from their day-to-day activities, which may adversely affect our ability to develop and commercialize our product candidates. In addition, we cannot guarantee that future financing will be available in sufficient amounts or on terms acceptable to us, if at all. Moreover, the terms of any financing may adversely affect the holdings or the rights of our stockholders and the issuance of additional securities, whether equity or debt, by us, or the possibility of such issuance, may cause the market price of our shares to decline. The sale of additional equity or convertible securities would dilute all of our stockholders. The incurrence of indebtedness could result in increased fixed payment obligations and we may

be required to agree to certain restrictive covenants, such as limitations on our ability to incur additional debt, limitations on our ability to acquire, sell, or license intellectual property rights and other operating restrictions that could adversely impact our ability to conduct our business. We could also be required to seek funds through arrangements with collaborators or others at an earlier stage than otherwise would be desirable and we may be required to relinquish rights to some of our technologies or product candidates or otherwise agree to terms unfavorable to us, any of which may have a material adverse effect on our business, operating results and prospects.

If we are unable to obtain funding on a timely basis, we may be required to significantly curtail, delay, or discontinue one or more of our research or product development programs or the commercialization of any product candidates. In addition, we may be unable to make milestone and royalty payments due under our intellectual property license agreements or other payments under our agreements with contract research organizations, or CROs, and academic research collaborators, or expand our operations or otherwise capitalize on our business opportunities, as desired, which could materially affect our business, financial condition and results of operations.

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

Since our inception in 2014, we have devoted substantially all of our resources to identifying and developing our product candidates, building our intellectual property portfolio, process development and manufacturing function, planning our business, raising capital and providing general and administrative support for these operations. All of our product candidates are in clinical or preclinical development. We dosed the first subjects in our clinical trial of our first monoclonal microbial candidate in our inflammation portfolio, EDP1066, in April 2018 and expect to commence a clinical trial for our second inflammation candidate, EDP1815, in the fourth quarter of 2018, and the first clinical trials of our oncology product candidate, EDP1503, in the second half of 2018 and the first half of 2019, but have not completed any clinical trials for these or any other product candidates. We have not yet demonstrated our ability to successfully complete any non-clinical toxicology study, Phase 1 clinical study, Phase 2 clinical study or any Phase 3 or other pivotal clinical trials, obtain regulatory approvals, manufacture a commercial scale product, or arrange for a third party to do so on our behalf, or conduct sales and marketing activities necessary for successful product commercialization. Additionally, we expect our financial condition and operating results to 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.

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.

The terms of our loan and security agreement place restrictions on our operating and financial flexibility. If we raise additional capital through debt financing, the terms of any new debt could further restrict our ability to operate our business.

We have a $15.0 million term loan credit facility with Pacific Western Bank, or the loan and security agreement, that is secured by a lien covering substantially all of our personal property, excluding intellectual property. As of December 31, 2017, the outstanding principal balance under the loan and security agreement was $10.0 million. In February 2018, we drew the additional $5 million under the loan and security agreement. The loan and security agreement contains customary affirmative and negative covenants and events of default applicable to us and our subsidiaries.

The affirmative covenants include, among others, covenants requiring us (and us to cause our subsidiaries) to maintain our legal existence and governmental approvals, deliver certain financial reports and notifications, maintain proper books of record and account, timely file and pay tax returns, maintain inventory and insurance

coverage, maintain cash with Pacific Western Bank (subject to exceptions) and in accounts subject to control agreements (subject to exceptions), and protect material intellectual property. The negative covenants include, among others, restrictions on us and our subsidiaries transferring collateral, changing businesses, dissolving, liquidating, engaging in mergers or acquisitions, adding new offices or locations, making certain organizational changes, incurring additional indebtedness, encumbering assets (including a negative pledge on intellectual property), paying cash dividends or making other distributions, making investments, selling assets, making certain capitalized expenditures, undergoing a change in control, and engaging in certain non-ordinary course material transactions with affiliates, in each case subject to certain exceptions. If we default under the loan and security agreement, Pacific Western Bank may accelerate all of our repayment obligations and take control of our pledged assets, potentially requiring us to renegotiate our agreement on terms less favorable to us or to immediately cease operations. Further, if we are liquidated, the lenders' right to repayment would be senior to the rights of the holders of our common stock to receive any proceeds from the liquidation. Pacific Western Bank could declare a default upon the occurrence of any event that they interpret as a material adverse effect as defined under the loan and security agreement, thereby requiring us to repay the loan immediately or to attempt to reverse the declaration of default through negotiation or litigation. Any declaration by the lenders of an event of default could significantly harm our business and prospects and could cause the price of our common stock to decline. If we raise any additional debt financing, the terms of such additional debt could further restrict our operating and financial flexibility.

Risks Related to the Discovery, Development and Regulatory Approval of Our Product Candidates

We are very early in our development efforts and may not be successful in our efforts to use our platform to build a pipeline of product candidates and develop marketable drugs.

We are using our monoclonal microbial platform, with an initial focus on developing therapies in immunology, specifically inflammatory diseases, and also oncology. While we believe our preclinical studies to date have validated our platform to a degree, we are at an early stage of development and our platform has not yet, and may never lead to, approvable or marketable products. We are developing these product candidates and additional product candidates that we intend to use to treat broader immunological diseases, respiratory diseases, neuro-inflammation and degeneration, liver diseases, type I diabetes, food allergy, neurobehavior, cardiovascular disease and diseases of metabolism. We may have problems applying our technologies to these other areas, and our new product candidates may not demonstrate a comparable ability in treating disease as our initial product candidates. Even if we are successful in identifying additional product candidates, they may not be suitable for clinical development as a result of our inability to manufacture more complex monoclonal microbials, limited efficacy, unacceptable safety profiles or other characteristics that indicate that they are unlikely to be products that will receive marketing approval and achieve market acceptance. The success of our product candidates will depend on several factors, including the following:

- completion of preclinical studies and clinical trials with positive results;
- receipt of marketing approvals from applicable regulatory authorities;
- obtaining and maintaining patent and trade secret protection and regulatory exclusivity for our product candidates;
- making arrangements with third-party manufacturers for, or establishing our own, commercial manufacturing capabilities;
- launching commercial sales of our products, if and when approved, whether alone or in collaboration with others;
- entering into new collaborations throughout the development process as appropriate, from preclinical studies through to commercialization;

- acceptance of our products, if and when approved, by patients, the medical community and third-party payors;
- effectively competing with other therapies;
- obtaining and maintaining coverage and adequate reimbursement by third-party payors, including government payors, for our products, if approved;
- protecting our rights in our intellectual property portfolio;
- operating without infringing or violating the valid and enforceable patents or other intellectual property of third parties;
- maintaining a continued acceptable safety profile of the products following approval; and
- maintaining and growing an organization of scientists and business people who can develop and commercialize our products and technology.

If we do not successfully develop and commercialize product candidates based upon our technological approach, we will not be able to obtain product revenue in future periods, which likely would result in significant harm to our financial position and adversely affect our stock price.

Our product candidates are intended to act on the gut-body network to produce systemic effects with limited systemic exposure. This biological interaction between the gut and the rest of the body may not function in humans the way we have observed in mice and our drugs may not reproduce the systemic effects we have seen in preclinical data.

We believe our product candidates, including EDP1066, EDP1815 and EDP1503, work by modulating the systemic immune response via the gut-body network. This requires our monoclonal microbials, when dosed, to pass safely through the tissues of the gut, where they can interact with the immune cells in the interior of the gut called the lumen. Dosing to achieve sufficient exposure may require an inconvenient dosing regimen. Even with successful formulation and delivery to achieve proper exposure of our microbes to the gut, we may not get sufficient or even any immune activity at the site of disease. This may be because our understanding of the mechanisms of the gut-body network do not work in humans the way we believe they do. Despite there being strong academic literature to support the concept of the gut-body network and our observations in preclinical studies in mice, these principles and the ability to use monoclonal microbials to modulate the immune system through the gut-body network has not yet been proven in humans.

Our product candidates are based on monoclonal microbials, which are an unproven approach to therapeutic intervention.

All of our product candidates are based on monoclonal microbials. We have not, nor to our knowledge has any other company, received regulatory approval for an oral therapeutic based on this approach. We cannot be certain that our approach will lead to the development of approvable or marketable products. In addition, our monoclonal microbial therapies may have different safety profiles and efficacy in various indications. Finally, the FDA or other regulatory agencies may lack experience in evaluating the safety and efficacy of products based on monoclonal microbials, which could result in a longer than expected regulatory review process, increase our expected development costs and delay or prevent commercialization of our product candidates.

Our platform relies on third parties for biological materials to expand our microbial library.

Our monoclonal microbial platform relies on third parties for biological materials, including human samples containing bacteria, to expand our microbial library. Some biological materials have not always met our expectations or requirements, and any disruption in the supply of these biological materials could materially adversely affect our business and ability to build our pipeline of product candidates. For example, if any supplied

biological materials are contaminated, we would not be able to use such biological materials. Although we have quality control processes and screening procedures, biological materials are susceptible to damage and contamination. Improper storage of these materials, by us or any third party suppliers, may require us to destroy some of our raw materials or products.

Even if our product candidates do not cause off target adverse events, there may be immunotoxicity associated with the fundamental pharmacology of our product candidates.

Our product candidates, including EDP1066, EDP1815 and EDP1503, are designed to work by modulating the immune system. While we have observed in preclinical studies that our monoclonal microbials have limited systemic exposure, the pharmacological immune effects we induce are systemic. Systemic immunomodulation from taking our monoclonal microbials could lead to immunotoxicity in patients, which may cause us or regulatory authorities to delay, limit or suspend clinical development. Other immunomodulatory agents have shown immunotoxicity. This includes immune suppressive agents, such as HUMIRA or REMICADE, which have shown an increased risk of infection or in rare instances certain types of blood cancer. In the case of immune activating agents, such as YERVOY, induction of adverse auto-immune events has been observed in some patients. Immunotoxicity in one program could cause regulators to view these adverse events as a class effect of our monoclonal microbials which may impact the timing of the development of our pipeline of potential product candidates. Even if the adverse events are manageable, the profile of the drug may be such that it limits or diminishes the possible number of patients who could receive our therapy.

Our product candidates may cause undesirable side effects or have other properties that could delay or prevent their regulatory approval, limit the commercial profile of an approved label, or result in significant negative consequences following marketing approval, if any.

Undesirable side effects caused by our product candidates could cause us or regulatory authorities to interrupt, delay or halt clinical trials and could result in a more restrictive label or the delay or denial of regulatory approval by the FDA, EMA or comparable foreign regulatory authorities. Results of our clinical trials could reveal a high and unacceptable severity and prevalence of side effects or unexpected characteristics. For example, some of our product candidates may consist of live biological material that may remain viable in humans, which carries a risk of causing infections in patients. Some infections may require treatment with antibiotics to eliminate the monoclonal microbial. All our product candidates are screened for antibiotic sensitivity but it is possible that if antibiotic therapy does not eliminate the live biological material, a resistant version of our strain could remerge. These events, while unlikely, could cause a delay in our clinical development and/or could increase the regulatory standards for the entire class of monoclonal microbials. In an instance where the infection risk of taking our product candidates is high, this may cause the benefit risk profile of therapy to be non-competitive in the market and may lead to discontinuation of development of the product.

In addition, it is possible that infections from our product candidates could be rare and not frequently observed in our clinical trials. In larger post marketing authorization trials, however, data could show that the infection risk, while small, does exist. If unacceptable side effects arise in the development of our product candidates, we, the FDA, EMA or comparable foreign regulatory authorities, the institutional review boards, or IRBs, at the institutions in which our studies are conducted, or ethics committees, or the data safety monitoring board, or DSMB, could suspend or terminate our clinical trials or the FDA, EMA or comparable foreign regulatory authorities could order us to cease clinical trials or deny approval of our product candidates for any or all targeted indications. Treatment-related side effects could also affect patient recruitment or the ability of enrolled patients to complete the trial or result in potential product liability claims. In addition, these side effects may not be appropriately recognized or managed by the treating medical staff. We expect to have to train medical personnel using our product candidates to understand the side effect profiles for our clinical trials and upon any commercialization of any of our product candidates. Inadequate training in recognizing or managing the potential side effects of our product candidates could result in patient injury or death. Any of these occurrences may harm our business, financial condition and prospects significantly.

If any of our product candidates receives marketing approval, and we or others later identify undesirable side effects caused by such products, a number of potentially significant negative consequences could result, including:

- regulatory authorities may withdraw their approval of the product;
- we may be required to recall a product or change the way such product is administered to patients;
- additional restrictions may be imposed on the marketing of the particular product or the manufacturing processes for the product or any component thereof;
- we may be required to conduct post-marketing studies or clinical trials;
- regulatory authorities may require the addition of labeling statements, such as a ‘‘black box’’ warning or a contraindication;
- we may be required to implement a risk evaluation and mitigation strategy or create a medication guide outlining the risks of such side effects for distribution to patients;
- we could be sued and held liable for harm caused to patients;
- the product may become less competitive; and
- our reputation may suffer.

Any of the foregoing events could prevent us from achieving or maintaining market acceptance of the particular product candidate, if approved, and result in the loss of significant revenues to us, which would materially and adversely affect our results of operations and business.

Companies with microbiome products or differing microbial products may produce negative clinical data which will adversely affect public perception of monoclonal microbials, and may negatively impact regulatory approval of, or demand for, our potential products.

Our monoclonal microbial product candidates are pharmaceutical compositions of commensal microbes. While we believe our approach is distinct from microbiome therapies, negative data from clinical trials using microbiome-based therapies (*e.g.*, fecal transplant) and other microbial therapies could negatively impact the perception of the therapeutic use of microbial-based products. This could negatively impact our ability to enroll patients in clinical trials. The clinical and commercial success of our potential products will depend in part on the public and clinical communities’ acceptance of the use of monoclonal microbials. Moreover, our success depends 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.

Adverse events in our preclinical studies or clinical trials or those of our competitors or of academic researchers utilizing monoclonal microbial technologies, even if not ultimately attributable to our product candidates, and the resulting publicity could result in increased governmental regulation, unfavorable public perception, potential regulatory delays in the testing or approval of our potential product candidates, stricter labeling requirements for our product candidates that are approved, if any, and a decrease in demand for any such products.

Catastrophic loss of our master cell banks could significantly impair our ability to manufacture our product candidates.

Our monoclonal microbial product candidates require that we manufacture from master cell banks, or MCBs, of our microbial strains. There is a possibility of a catastrophic failure or destruction of our MCBs. This could make it impossible for us to continue to manufacture a specific product. Recreating and recertifying our MCBs is possible but not certain and could put at risk the supply of our product candidates for preclinical studies or clinical trials or any products, if approved, to our customers.

Clinical drug development involves a lengthy and expensive process, with an uncertain outcome. We may incur additional costs or experience delays in completing, or ultimately be unable to complete, the development and commercialization of our product candidates.

All of our product candidates are currently in clinical or preclinical development. We dosed the first subject in our first clinical trial of EDP1066 in April 2018 and expect to initiate clinical trials of EDP1815 and EDP1503 in the fourth quarter of 2018 and the second half of 2018, respectively. It is impossible to predict when or if any of our product candidates will prove effective and safe in humans or will receive regulatory approval, and the risk of failure through the product development process is high. Before obtaining marketing approval from regulatory authorities for the sale of any product candidate, we must complete preclinical development and then conduct extensive clinical trials to demonstrate the safety and efficacy of our product candidates in humans. Clinical testing is expensive, difficult to design and implement, can take many years to complete and is uncertain as to outcome. A failed clinical trial 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. For example, in our initial clinical trials, drug products will be delivered in a capsule coated for targeted release in the gut. This formulation has not previously been clinically tested, nor are we able to dose mice with a capsule coated for targeted release in the gut. Our ongoing and planned clinical trials will be the first time this formulation is tested and we cannot assure you that the results of this formulation will be consistent with the observations from our preclinical studies. A number of companies in the pharmaceutical and biotechnology industries have suffered significant setbacks in advanced clinical trials due to adverse safety profiles or lack of efficacy, notwithstanding promising results in earlier studies, and we cannot be certain that we will not face similar setbacks.

In addition, we cannot be certain as to the type and number of clinical trials the FDA will require us to conduct before we may successfully gain approval, referred to as licensure in the United States, to market any of our product candidates. Prior to approving a new therapeutic product, the FDA generally requires that efficacy be demonstrated in two adequate and well-controlled clinical trials. In some situations, evidence from a Phase 2 trial and a Phase 3 trial or from a single Phase 3 trial can be sufficient for FDA approval, such as in cases where the trial or trials provide highly reliable and statistically strong evidence of an important clinical benefit. Additionally, the FDA requires that investigation include adequate tests to demonstrate the safety of the new therapeutic product. Additional clinical trials could cause us to incur significant development costs, delay or prevent the commercialization of our products or otherwise adversely affect our business.

We 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 our product candidates, including:

- regulators, IRBs or ethics committees may not authorize us or our investigators to commence a clinical trial or conduct a clinical trial at a prospective trial site;
- we may experience delays in reaching, or fail to reach, agreement on acceptable clinical trial contracts or clinical trial protocols with prospective trial sites;
- clinical trials of our product candidates may demonstrate undesirable side effects or produce negative or inconclusive results, and we may decide, or regulators may require us, to conduct additional clinical trials or abandon product development programs;
- the number of patients required for clinical trials of our product candidates may be larger than we anticipate, enrollment in these clinical trials may be slower than we anticipate or participants 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;
- we may have to, or regulators, IRB or ethics committees may require that we or our investigators, suspend or terminate clinical trials of our product candidates for various reasons, including

noncompliance with regulatory requirements or a finding that the participants are being exposed to unacceptable health risks;

- the cost of clinical trials of our product candidates may be greater than we anticipate;
- the supply or quality of our product candidates or other materials necessary to conduct clinical trials of our product candidates may be insufficient or inadequate;
- regulators may revise the requirements for approving our product candidates, or such requirements may not be as we anticipate; and
- regarding trials managed by any future collaborators, our collaborators may face any of the above issues, and may conduct clinical trials in ways they view as advantageous to them but potentially suboptimal for us.

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

- be delayed in obtaining marketing approval for our product candidates;
- lose the support of any future collaborators, requiring us to bear more of the burden of developing certain microbial strains;
- not obtain marketing approval at all;
- obtain marketing approval in some countries and not in others;
- obtain approval for indications or patient populations that are not as broad as we intend or desire;
- obtain approval with labeling that includes significant use or distribution restrictions or safety warnings;
- be subject to additional post-marketing testing requirements; or
- have the product removed from the market after obtaining marketing approval.

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

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 may not be able to initiate or continue clinical trials for our product candidates 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 similar regulatory authorities outside the United States, such as the EMA. We are developing our product candidates, EDP1066 and EDP1815, to treat inflammatory diseases, beginning with psoriasis and atopic dermatitis, and EDP1503 to treat multiple types of cancer. There are a limited number of patients from which to draw for clinical studies.

Patient enrollment is also affected by other factors including:

- the severity of the disease under investigation;

- the patient eligibility criteria for the study in question;
- the perceived risks and benefits of the product candidate under study;
- the availability of other treatments for the disease under investigation;
- the existence of competing clinical trials;
- the efforts to facilitate timely enrollment in clinical trials;
- our payments for conducting clinical trials;
- the patient referral practices of physicians;
- the ability to monitor patients adequately during and after treatment; and
- the proximity and availability of clinical trial sites for prospective patients.

Our inability to enroll a sufficient number of patients or volunteers for our clinical trials would result in significant delays and could require us to abandon one or more clinical trials altogether. Enrollment delays in our clinical trials may result in increased development costs for our product candidates, which would cause the value of our company to decline and limit our ability to obtain additional financing.

If we are not able to obtain, or if there are delays in obtaining, required regulatory approvals, we will not be able to commercialize our product candidates or will not be able to do so as soon as anticipated, and our ability to generate revenue will be materially impaired.

Our product candidates 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 agencies in the United States and by the EMA and similar regulatory authorities outside the United States. Failure to obtain marketing approval for a product candidate in any jurisdiction will prevent us from commercializing the product candidate in that jurisdiction, and may affect our plans for commercialization in other jurisdictions as well. We have not received approval to market any of our 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 parties to assist us in this process.

Securing marketing approval requires the submission of extensive preclinical and clinical data and supporting information to regulatory authorities for each therapeutic indication to establish the product candidate's safety and efficacy to such regulatory authorities' satisfaction. Securing marketing approval also requires the submission of information about the product manufacturing process to, and inspection of manufacturing facilities by, the regulatory authorities. Our product candidates 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 and may take many years. The scope and amount of clinical data required to obtain marketing approvals can vary substantially from jurisdiction to jurisdiction, and it may be difficult to predict whether a particular regulatory body will require additional or different studies than those conducted by a sponsor, especially for novel product candidates such as our monoclonal microbials. The FDA, EMA or other foreign regulatory authorities may delay, limit, or deny the approval of our product candidates for many reasons, including: our inability to demonstrate that the clinical benefits of our product candidates outweigh any safety or other perceived risks; the regulatory authority's disagreement with the interpretation of data from nonclinical or clinical studies; the regulatory agency's requirement that we conduct additional preclinical studies and clinical trials; changes in marketing approval policies during the development period; changes in or the enactment of additional statutes or regulations, or changes in regulatory review process for each submitted product application; or the regulatory

authority's failure to approve the manufacturing processes or third-party manufacturers with which we contract. Regulatory authorities have substantial discretion in the approval process and may refuse to accept a marketing application as deficient. 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 product not commercially viable. Of the large number of drugs in development, only a small percentage successfully complete the FDA, EMA or other regulatory approval processes and are commercialized.

Furthermore, our product candidates may not receive marketing approval even if they achieve their specified endpoints in clinical trials. Clinical data are often susceptible to varying interpretations and many companies that have believed that their products performed satisfactorily in clinical trials have nonetheless failed to obtain FDA, EMA or the applicable foreign regulatory agency approval for their products. The FDA, EMA or foreign regulatory authorities may disagree with our trial design and our interpretation of data from nonclinical and clinical studies. Upon the review of data from any pivotal trial, the FDA, EMA or applicable foreign regulatory agency may request that the sponsor conduct additional analyses of the data and, if it believes the data are not satisfactory, could advise the sponsor to delay filing a marketing application.

Even if we eventually complete clinical testing and receive approval of a biologics license application, or BLA, or foreign marketing authorization for one of our product candidates, the FDA, EMA or applicable foreign regulatory agency may grant approval contingent on the performance of costly additional clinical trials which may be required after approval. The FDA, EMA or the applicable foreign regulatory agency may also approve our products for a more limited indication and/or a narrower patient population than we originally request, and the FDA, EMA or applicable foreign regulatory agency may not approve the labeling that we believe is necessary or desirable for the successful commercialization of our products. Any delay in obtaining, or inability to obtain, applicable regulatory approval would delay or prevent commercialization of our product candidates and would materially adversely impact our business and prospects.

The development of therapeutic products targeting the underlying biology of monoclonal microbials and the gut-body network is an emerging field, and it is possible that the FDA, EMA or other regulatory authorities could issue regulations or new policies in the future affecting our monoclonal microbials that could adversely affect our product candidates.

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

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 intend to focus on developing product candidates for multiple initial indications that we identify as most likely to succeed, in terms of both regulatory approval and commercialization. As a result, we may forego or delay pursuit of opportunities with other product candidates or for other indications that may prove to have greater commercial potential. Our resource allocation decisions may cause us to fail to capitalize on viable commercial products or profitable market opportunities. Our spending on current and future research and product development programs and product candidates for specific indications may not yield any commercially viable products. 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.

A fast track designation by the FDA may not actually lead to a faster development or regulatory review or approval process.

We may seek fast track designation for some of our product candidates. If a drug or biologic is intended for the treatment of a serious or life-threatening condition and nonclinical or clinical data demonstrate the potential to address unmet medical needs for this condition, the drug or biologic sponsor may apply for FDA fast track designation. Fast track designation provides increased opportunities for sponsor meetings with the FDA during preclinical and clinical development, in addition to the potential for rolling review once a marketing application is filed. The FDA has broad discretion whether or not to grant this designation, and even if we believe a particular product candidate is eligible for this designation, we cannot assure you that the FDA would decide to grant it. Even if we do receive fast track designation, we may not experience a faster development process, review or approval compared to conventional FDA procedures. Fast track designation does not assure ultimate approval by the FDA. The FDA may withdraw fast track designation if it believes that the designation is no longer supported by data from our product development program.

A breakthrough therapy designation by the FDA for our product candidates may not lead to a faster development or regulatory review or approval process, and it does not increase the likelihood that our product candidates will receive marketing approval.

We may seek a breakthrough therapy designation for our product candidates. A breakthrough therapy is defined as a drug or biologic that is intended to treat a serious or life-threatening disease or condition, and preliminary clinical evidence indicates that the drug or biologic may demonstrate substantial improvement over existing therapies on one or more clinically significant endpoints. For drugs that have been designated as breakthrough therapies, interaction and communication between the FDA and the sponsor can help to identify the most efficient path for clinical development. Drugs designated as breakthrough therapies by the FDA may also be eligible for accelerated approval.

Designation as a breakthrough therapy is within the discretion of the FDA. Accordingly, even if we believe one of our product candidates meets the criteria for designation as a breakthrough therapy, the FDA may disagree and instead determine not to make such designation. In any event, the receipt of a breakthrough therapy designation for a product candidate may not result in a faster development process, review or approval compared to conventional FDA procedures and does not assure ultimate approval by the FDA. In addition, even if one or more of our product candidates qualify as breakthrough therapies, the FDA may later decide that the products no longer meet the conditions for qualification and rescind the designation.

We may seek orphan drug designation for some of our product candidates, but may not be able to obtain it.

Regulatory authorities in some jurisdictions, including the United States and Europe, may designate drugs and biologics for relatively small patient populations as orphan drugs. In the United States, the FDA may designate a drug or biologic as an orphan drug if it is intended to treat a rare disease or condition, which is defined as a disease or condition that affects fewer than 200,000 individuals in the United States, or if it affects more than 200,000 individuals in the United States, there is no reasonable expectation that the cost of developing and making the product available in the United States for the disease or condition will be recovered from sales of the product.

Generally, if a product 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 EMA or the FDA from approving another marketing application for the same drug or biologic for that time period. The applicable period is seven years in the United States and ten years in Europe. The European exclusivity period can be reduced to six years if a product no longer meets the criteria for orphan drug designation or if the product is sufficiently profitable so that market exclusivity is no longer justified.

We may seek orphan drug designation and exclusivity for some of our product candidates. However, even if we obtain orphan drug designation for a product candidate, we may not be able to obtain or maintain orphan drug exclusivity for that product candidate. Orphan drug exclusivity may be lost if the FDA or EMA determines that the request for designation was materially defective or if we are unable to assure sufficient quantity of the drug or biologic to meet the needs of patients with the rare disease or condition. We also may not be the first to obtain marketing approval of any product candidate for which we have obtained orphan drug designation for the orphan-designated indication due to the uncertainties associated with developing pharmaceutical products.

In addition, exclusive marketing rights in the United States may be limited if we seek approval for an indication broader than the orphan-designated indication or may be lost if the FDA later determines that the request for designation was materially defective or if we are unable to assure sufficient quantities of the product to meet the needs of patients with the rare disease or condition. Further, even if we obtain orphan drug exclusivity for a product, that exclusivity may not effectively protect the product from competition because different drugs with different active moieties may be approved for the same condition. Even after an orphan drug is approved, the FDA can subsequently approve the same drug with the same active moiety for the same condition if the FDA concludes that the later drug is clinically superior in that it is shown to be safer, more effective or makes a major contribution to patient care or if the manufacturer of the product with orphan exclusivity is unable to maintain sufficient product quantity. Orphan drug designation neither shortens the development time or regulatory review time of a drug nor gives the drug any advantage in the regulatory review or approval process.

Risks Related to our Dependence on Third Parties and Manufacturing

We rely, and expect to continue to rely, on third parties to conduct our clinical trials, and those third parties may not perform satisfactorily, including failing to meet deadlines for the completion of such trials.

We rely, and expect to continue to rely, on third parties, such as contract research organizations, or CROs, clinical data management organizations, medical institutions, clinical investigators and potential pharmaceutical partners, to conduct and manage our clinical trials and investigator-sponsored trials, including our clinical trial of EDP1066, and anticipated clinical trials for EDP1815 and EDP1503.

Our reliance on these third parties for research and development activities will reduce our control over these activities but does not relieve us of our responsibilities. For example, we 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 regulatory 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, safety and welfare of trial participants are protected. Other countries' regulatory agencies also have requirements for clinical trials with which we must comply. We also may be required in certain instances to register ongoing clinical trials and post the results of completed clinical trials on government-sponsored databases, such as *ClinicalTrials.gov*, within specified 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, do not meet expected deadlines, experience work stoppages, terminate their agreements with us or need to be replaced, or do not conduct our clinical trials in accordance with regulatory requirements or our stated protocols, we may need to enter into new arrangements with alternative third parties, which could be difficult, costly or impossible, and our clinical trials may be extended, delayed, or terminated or may need to be repeated. If any of the foregoing occur, we may not be able to obtain, or may be delayed in obtaining, marketing approvals for our product candidates and may not be able to, or may be delayed in our efforts to, successfully commercialize our product candidates.

We also expect to rely on other third parties to store and distribute drug product required by our clinical trials. Any performance failure on the part of our distributors could delay clinical development or marketing

approval of our product candidates or commercialization of our products, producing additional losses and depriving us of potential product revenue.

We rely on third parties for the manufacture of our product candidates for preclinical and clinical testing and expect to continue to do so for the foreseeable future. This reliance on third parties increases the risk that we will not have sufficient quantities of our product candidates or that such quantities may not be available at an acceptable cost, which could delay, prevent or impair our development or commercialization efforts.

We rely, and expect to continue to rely, on third parties for the manufacture of our product candidates for preclinical and clinical testing, as well as for commercial manufacture if any of our product candidates receive marketing approval.

This reliance on third parties increases the risk that we will not have sufficient quantities of our product candidates on a timely basis or at all, or that such quantities will be available at an acceptable cost or quality, which could delay, prevent or impair our development or commercialization efforts.

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

- failure of third-party manufacturers to comply with regulatory requirements and maintain quality assurance;
- breach of manufacturing agreements by the third-party manufacturers;
- failure to manufacture our product according to our specifications;
- failure to manufacture our product according to our schedule or at all;
- misappropriation or disclosure of our proprietary information, including our trade secrets and know-how; and
- termination or nonrenewal of agreements by third-party manufacturers at times that are costly or inconvenient for us.

Third-party manufacturers may not be able to comply with current Good Manufacturing Practices, or 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 clinical holds, fines, injunctions, civil penalties, delays, suspension or withdrawal of approvals, license revocations, seizures or recalls of product candidates or products, operating restrictions and criminal prosecutions, any of which could significantly and adversely affect supplies of our products. The contract manufacturers we rely on to produce our product candidates have never produced a FDA-approved therapeutic. If our contract manufacturers are unable to comply with cGMP regulation or if the FDA does not approve their facility upon a pre-approval inspection, our product candidates may not be approved or may be delayed in obtaining approval. In addition, there are a limited number of manufacturers that operate under cGMP regulations and that might be capable of manufacturing our products. Therefore, our product candidates and any future product candidates that we may develop may compete with other products for access to manufacturing facilities. Any failure to gain access to these limited manufacturing facilities could severely impact the clinical development, marketing approval and commercialization of our product candidates.

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 or a second source for required raw materials used in the manufacture of our product candidates or for the manufacture of finished product. If our current contract manufacturers cannot perform as agreed, we may be required to replace such manufacturers and we may be unable to replace them on a timely basis or at all. Our current and anticipated future dependence upon others for the manufacture of our product candidates or products could delay, prevent or impair our development and commercialization efforts.

We have no experience manufacturing our product candidates at commercial scale, and if we decide to establish our own manufacturing facility, we cannot assure you that we can manufacture our product candidates in compliance with regulations at a cost or in quantities necessary to make them commercially viable.

We may establish a manufacturing facility for our product candidates for production at a commercial scale. We have no experience in commercial-scale manufacturing of our product candidates. We currently intend to develop our manufacturing capacity in part by expanding our current facility or building additional facilities. This activity will require substantial additional funds and we would need to hire and train a significant number of qualified employees to staff these facilities. We may not be able to develop commercial-scale manufacturing facilities that are adequate to produce materials for additional later-stage clinical trials or commercial use.

The equipment and facilities employed in the manufacture of pharmaceuticals are subject to stringent qualification requirements by regulatory agencies, including validation of facility, equipment, systems, processes and analytics. We may be subject to lengthy delays and expense in conducting validation studies, if we can meet the requirements at all.

Risks Related to Commercialization of Our Product Candidates and Other Legal Compliance Matters

Even if any of our product candidates receives marketing approval, it may fail to achieve the degree of market acceptance by physicians, patients, hospitals, third-party payors and others in the medical community necessary for commercial success.

If any of our product candidates receives marketing approval, it may nonetheless fail to gain sufficient market acceptance by physicians, patients, third-party payors and others in the medical community. For example, current psoriasis treatment involves the use of steroids and biologics that are well established in the medical community, and physicians may continue to rely on these treatments. If our product candidates receive approval but do not achieve an adequate level of acceptance, we may not generate significant product revenue and we may not become profitable. The degree of market acceptance of our approved product candidates, if any, will depend on a number of factors, including:

- their efficacy, safety and other potential advantages compared to alternative treatments;
- the clinical indications for which our products are approved;
- our ability to offer them for sale at competitive prices;
- their convenience and ease of administration compared to alternative treatments;
- the willingness of the target patient population to try new therapies and of physicians to prescribe these therapies;
- the strength of marketing and distribution support;
- the availability of third-party coverage and adequate reimbursement for our product candidates;
- the prevalence and severity of their side effects and their overall safety profiles;
- any restrictions on the use of our products together with other medications;
- interactions of our products with other medicines patients are taking; and
- the inability of certain types of patients to take our product.

We currently have no sales organization. If we are unable to establish effective sales, marketing and distribution capabilities or enter into agreements with third parties with such capabilities, we may not be successful in commercializing our 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 our product candidates. To achieve commercial success for any product for which we obtain

marketing approval, we will need to establish a sales and marketing organization or make arrangements with third parties to perform sales and marketing functions and we may not be successful in doing so.

In the future, we expect to build a focused sales and marketing infrastructure to market or promote our product candidates in the United States and potentially elsewhere, if and when they are approved. There are risks involved with establishing our own sales, marketing and distribution capabilities. For example, recruiting and training a sales force 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 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 sales and marketing personnel.

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

- our inability to recruit, train and retain an adequate number of effective sales and marketing personnel;
- the inability of sales personnel to obtain access to or educate physicians on the benefits of our products;
- the lack of complementary products to be offered by sales personnel, which may put us at a competitive disadvantage relative to companies with more extensive product lines;
- unforeseen costs and expenses associated with creating an independent sales and marketing organization; and
- the inability to obtain sufficient coverage and reimbursement from third-party payors and governmental agencies.

Outside the United States, we may rely on third parties to sell, market and distribute our product candidates. We may not be successful in entering into arrangements with such third parties or may be unable to do so on terms that are favorable to us. In addition, our product revenue and our profitability, if any, may be lower if we rely on third parties for these functions than if we were to market, sell and distribute any products that we develop ourselves. We likely will 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 products effectively. If we do not establish sales, marketing and distribution capabilities successfully, either on our own or in collaboration with third parties, we will not be successful in commercializing our product candidates.

We face substantial competition, which may result in others discovering, developing or commercializing competing products before or more successfully than we do.

The development and commercialization of new drug and biologic products is highly competitive and is characterized by rapid and substantial technological development and product innovations. We face competition with respect to our current product candidates, and will face competition with respect to product candidates that we may seek to develop or commercialize in the future, from major pharmaceutical companies, specialty pharmaceutical companies and biotechnology companies worldwide. We are aware of a number of large pharmaceutical and biotechnology companies, including AbbVie Inc., Agenus Inc., AstraZeneca plc, Bristol-Myers Squibb, Celgene Corporation, F. Hoffmann-La Roche A.G., Gilead Sciences, Inc., Incyte Corporation, Johnson & Johnson, Merck & Co., Novartis International A.G., Pfizer Inc. and Regeneron Pharmaceuticals, Inc., as well as smaller, early-stage companies, that are pursuing the development of products, including microbial-based therapeutics in some instances, for disease indications we are targeting. Some of these competitive products and therapies are based on scientific approaches that are the same as or similar to our approach, and others may be based on entirely different approaches. Potential competitors also include academic institutions, government agencies and other public and private research organizations.

Many of the companies against which we are competing or against which we may compete in the future have significantly greater financial resources, established presence in the market and expertise in research and

development, manufacturing, preclinical testing, conducting clinical trials, obtaining regulatory approvals and reimbursement and marketing approved products than we do. Mergers and acquisitions in the pharmaceutical and biotechnology industries may result in even more resources being concentrated among a smaller number of our competitors.

These third parties compete with us in recruiting and retaining qualified scientific, sales and marketing and management personnel, 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 more effective, have fewer or less severe side effects, are more convenient or are less expensive than any products that we may develop. 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, especially for any competitor developing a microbial-based therapeutic which will likely share our same regulatory approval requirements. In addition, our ability to compete may be affected in many cases by insurers or other third-party payors seeking to encourage the use of generic or biosimilar products.

Even if we are able to commercialize any product candidates, the products may become subject to unfavorable pricing regulations or third-party coverage and reimbursement policies, any of which could harm our business.

Our ability to commercialize any product candidates successfully will depend, in part, on the extent to which coverage and reimbursement for these products 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 impact reimbursement levels.

Obtaining and maintaining adequate reimbursement for our products may be difficult. We cannot be certain if and when we will obtain an adequate level of reimbursement for our products by third-party payors. Even if we do obtain adequate levels of reimbursement, third-party payors, such as government or private healthcare insurers, carefully review and increasingly question the coverage of, and challenge the prices charged for, drugs. Reimbursement rates from private health insurance companies vary depending on the company, the insurance plan and other factors. 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 drugs. We may also be required to conduct expensive pharmacoeconomic studies to justify coverage and reimbursement or the level of reimbursement relative to other therapies. If coverage and reimbursement are not available or reimbursement is available only to limited levels, we may not be able to successfully commercialize any product candidate for which we obtain marketing approval, and the royalties resulting from the sales of those products may also be adversely impacted.

There may be significant delays in obtaining reimbursement for newly approved drugs, and coverage may be more limited than the purposes for which the drug is approved by the FDA or similar regulatory authorities outside the United States. Moreover, eligibility for reimbursement does not imply that a drug 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 drugs, 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 drug and the clinical setting in which it is used, may be based on reimbursement levels already set for lower cost drugs and may be incorporated into existing payments for other services. Net prices for drugs 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 drugs from countries where they may be sold at lower prices than in the United States. Our inability to promptly obtain coverage and adequate reimbursement rates from both government-funded and private payors for any approved products that we develop could have a material adverse effect on our operating results, our ability to raise capital needed to commercialize products and our overall financial condition.

The regulations that govern marketing approvals, pricing, coverage and reimbursement for new drug products vary widely from country to country. Current and future 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 drug before it can be reimbursed. In many countries, the pricing review period begins after marketing or product licensing approval is granted. In some foreign markets, prescription drug pricing remains subject to continuing governmental control, including possible price reductions, even after initial approval is granted. As a result, we might obtain marketing approval for a product in a particular country, but then be subject to price regulations that delay our commercial launch of the product, possibly for lengthy time periods, and negatively impact the revenues we are able to generate from the sale of the product in that country. Adverse pricing limitations may hinder our ability to recoup our investment in one or more product candidates, even if our product candidates obtain marketing approval. There can be no assurance that our product candidates, if they are approved for sale in the United States or in other countries, will be considered medically necessary or cost-effective for a specific indication, or that coverage or an adequate level of reimbursement will be available.

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

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

- regulatory investigations, product recalls or withdrawals, or labeling, marketing or promotional restrictions;
- decreased demand for any product candidates or products that we may develop;
- injury to our reputation and significant negative media attention;
- withdrawal of clinical trial participants;
- significant costs to defend the related litigation;
- substantial monetary awards to trial participants or patients;
- loss of revenue;
- reduced resources of our management to pursue our business strategy; and
- the inability to commercialize any products that we may develop.

Our current product liability insurance coverage and any product liability insurance coverage that we acquire in the future may not be adequate to cover all liabilities that we may incur. We may need to increase our insurance coverage as we expand our clinical trials or if we commence commercialization of our product candidates. 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.

We may face competition from biosimilars, which may have a material adverse impact on the future commercial prospects of our product candidates.

Even if we are successful in achieving regulatory approval to commercialize a product candidate faster than our competitors, we may face competition from biosimilars. In the United States, the Biologics Price

Competition and Innovation Act, or BPCIA, enacted in 2010 as part of the Patient Protection and Affordable Care Act, created an abbreviated approval pathway for biological products that are demonstrated to be "highly similar," or biosimilar, to or "interchangeable" with an FDA-approved biological product. This pathway could allow competitors to reference data from innovative biological products 12 years after the time of approval of the innovative biological product. This data exclusivity does not prevent another company from developing a product that is highly similar to the innovative product, generating its own data and seeking approval. Data exclusivity only assures that another company cannot rely upon the data within the innovator's application to support the biosimilar product's approval. We believe that any of our product candidates approved as a biological product under a BLA should qualify for the 12-year period of exclusivity. However, there is a risk that this exclusivity could be shortened due to Congressional action or otherwise, or that the FDA will not consider our product candidates to be reference products for competing products, potentially creating the opportunity for generic competition sooner than anticipated. It is possible that Congress or the FDA may take these or other measures to reduce or eliminate periods of exclusivity. The BPCIA is complex and continues to be interpreted and implemented by the FDA. As a result, its ultimate impact remains subject to uncertainty, which could have a material adverse effect on the future commercial prospects for our product candidates.

In Europe, the European Commission has granted marketing authorizations for biosimilars pursuant to a set of general and product class-specific guidelines for biosimilar approvals issued over the past few years. In Europe, a competitor may reference data supporting approval of an innovative biological product, but will not be able to get on the market until 10 years after the time of approval of the innovative product. This 10-year marketing exclusivity period will be extended to 11 years if, during the first eight of those 10 years, the marketing authorization holder obtains an approval for one or more new therapeutic indications that bring significant clinical benefits compared with existing therapies. In addition, companies may be developing biosimilars in other countries that could compete with our products. If competitors are able to obtain marketing approval for biosimilars referencing our products, our products may become subject to competition from such biosimilars, with the attendant competitive pressure and consequences.

Failure to obtain marketing approval in international jurisdictions would prevent our product candidates from being marketed abroad.

In order to market and sell our product candidates in the European Union and many other 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 in foreign countries may differ substantially from that required to obtain FDA, EMA or other applicable regulatory approval. Clinical trials conducted in one country may not be accepted by regulatory authorities in other countries. The regulatory approval process outside the United States generally includes all of the risks associated with obtaining FDA, EMA or other applicable regulatory 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 our collaborators may not obtain approvals for our product candidates 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. However, a failure or delay in obtaining regulatory approval in one country may have a negative effect on the regulatory process in others. We may not be able to file for marketing approvals and may not receive necessary approvals to commercialize our products in any market.

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

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 product, will be subject to the 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 manufacturing, quality control, quality assurance and corresponding maintenance of records and documents, requirements regarding the distribution of samples to physicians and recordkeeping. We and our contract manufacturers will also be subject to continual review and periodic inspections to assess compliance with cGMP. Accordingly, we and others with whom we work must continue to expend time, money and effort in all areas of regulatory compliance, including manufacturing, production and quality control.

Even if marketing approval of a product candidate is granted, the approval may be subject to limitations on the indicated uses for which the product may be marketed or to specific conditions of approval, including a requirement to implement a risk evaluation and mitigation strategy, which could include requirements for a medication guide, communication plan, or restricted distribution system. If any of our product candidates receives marketing approval, the accompanying label may limit the approved use of our drug, which could limit sales of the product.

The FDA may also impose requirements for costly post-marketing studies or clinical trials and surveillance to monitor the safety or efficacy of our approved products. The FDA closely regulates the post-approval marketing and promotion of drugs and biologics to ensure they are marketed only for the approved indications and in accordance with the provisions of the approved labeling. The FDA imposes stringent restrictions on manufacturers' communications regarding off-label use, and if we market our products outside of their approved indications, we may be subject to enforcement action for off-label marketing. Violations of the FDA's restrictions relating to the promotion of prescription drugs may also lead to investigations alleging violations of federal and state health care fraud and abuse laws, as well as state consumer protection laws.

In addition, if a regulatory agency or we later discover previously unknown problems with our products, such as adverse events of unanticipated severity or frequency, problems with manufacturers or manufacturing processes, or failure to comply with regulatory requirements, the regulatory agency may impose restrictions on the products or us, including requiring withdrawal of the product from the market. Any failure to comply with applicable regulatory requirements may yield various results, including:

- litigation involving patients taking our products;
- restrictions on such products, manufacturers or manufacturing processes;
- restrictions on the labeling or marketing of a product;
- restrictions on product distribution or use;
- requirements to conduct post-marketing studies or clinical trials;
- warning letters;
- withdrawal of products from the market;
- suspension or termination of ongoing clinical trials;
- refusal to approve pending applications or supplements to approved applications that we submit;
- recall of products;

- fines, restitution or disgorgement of profits or revenues;
- suspension or withdrawal of marketing approvals;
- damage to relationships with potential collaborators;
- unfavorable press coverage and damage to our reputation;
- refusal to permit the import or export of our products;
- product seizure or detention;
- injunctions; or
- imposition of civil or criminal penalties.

Noncompliance with similar European Union requirements regarding safety monitoring or pharmacovigilance can also result in significant financial penalties. Similarly, failure to comply with U.S. and foreign regulatory requirements regarding the development of products for pediatric populations and the protection of personal health information can also lead to significant penalties and sanctions.

Any government investigation of alleged violations of law could require us to expend significant time and resources in response and could generate negative publicity. In addition, the FDA's regulations, policies or guidance may change and new or additional statutes or government regulations may be enacted that could prevent or delay regulatory approval of our product candidates or further restrict or regulate post-approval activities. For example, in December 2016, the 21st Century Cures Act was signed into law, which is intended, among other things, to modernize the regulation of biologics and to spur innovation, though its ultimate implementation remains unclear. Any failure to comply with ongoing regulatory requirements may significantly and adversely affect our ability to commercialize and generate revenues. If regulatory sanctions are applied or if regulatory approval is withheld or withdrawn, the value of our company and our operating results will be adversely affected.

We also cannot predict the likelihood, nature or extent of adverse government regulation that may arise from pending or future legislation or administrative action, either in the United States or abroad. For example, certain policies of the current presidential administration may impact our business and industry. Namely, 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. 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 the FDA's ability to engage in oversight and implementation activities in the normal course, our business may be negatively impacted.

Our relationships with customers, 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, exclusion from governmental healthcare programs, contractual damages, reputational harm and diminished profits and future earnings.

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

- the federal 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, or in return for, 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 a federal healthcare program, such as Medicare and Medicaid; a person or entity does not need to have actual knowledge of the statute or specific intent to violate the statute to have committed a violation. In addition, the government may assert that a claim including items or services resulting from a violation of the federal Anti-Kickback Statute constitutes a false or fraudulent claim for purposes of the federal False Claims Act (described below);

- the false claims and civil monetary penalties laws, including the federal False Claims Act, which, among other things, impose criminal and civil penalties, including through 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 that are false or fraudulent, knowingly making, using or causing to be made or used, a false record or statement material to a false or fraudulent claim or from knowingly or making a false statement to avoid, decrease or conceal an obligation to pay money to the federal government;
- the federal Health Insurance Portability and Accountability Act of 1996, or HIPAA, imposes criminal and civil liability for executing a scheme to defraud any healthcare benefit program or making false statements relating to healthcare matters; similar to the federal Anti-Kickback Statute, a person or entity does not need to have actual knowledge of these statutes or specific intent to violate them to have committed a violation;
- HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act and its implementing regulations, also imposes obligations, including mandatory contractual terms, with respect to safeguarding the privacy, security and transmission of individually identifiable health information;
- the federal Physician Payment Sunshine Act requires applicable manufacturers of covered drugs to report payments and other transfers of value to physicians and teaching hospitals, and ownership and investment interests held by physicians and their immediate family members; manufacturers are required to submit subsequent reports to the government by the 90th day of each calendar year;
- analogous state and foreign laws and regulations, such as state anti-kickback and false claims laws, may apply to our business practices, including but not limited to, research, distribution, sales or marketing arrangements and claims involving healthcare items or services reimbursed by non- governmental third-party payors, including private insurers; 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 and may require drug manufacturers to report information related to payments and other transfers of value to physicians and other healthcare providers, pricing information or marketing expenditures; and
- state and foreign laws that govern the privacy and security of health information in some circumstances, many of which differ from each other in significant ways and often are not preempted by HIPAA, thus complicating compliance efforts.

The risk of our being found in violation of these laws is increased by the fact that many of them have not been fully interpreted by the regulatory authorities or the courts, and their provisions are open to a variety of interpretations. Any action against us for violation of these laws, even if we successfully defend against it, could cause us to incur significant legal expenses and divert our management's attention from the operation of our business. The shifting compliance environment and the need to build and maintain a robust system to comply with multiple jurisdictions with different compliance and reporting requirements increases the possibility that a healthcare company may violate one or more of the requirements.

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 laws and regulations that may apply to us, we may be subject to significant civil, criminal and administrative penalties, damages, fines, imprisonment, exclusion from government funded healthcare programs, such as Medicare and Medicaid, and the curtailment or restructuring of our operations.

Recently enacted and future legislation may increase the difficulty and cost for us to obtain marketing approval for and commercialize our product candidates and affect the prices we 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 prevent or delay marketing approval of our product candidates, restrict or regulate post-approval activities and affect our ability to profitably sell any product candidates for which we obtain marketing approval.

In the United States, President Obama signed into law the Patient Protection and Affordable Care Act, as amended by the Health Care and Education Affordability Reconciliation Act, or collectively the Affordable Care Act, a sweeping law intended to broaden access to health insurance, reduce or constrain the growth of healthcare spending, enhance remedies against fraud and abuse, add new transparency requirements for the healthcare and health insurance industries, impose new taxes and fees on the health industry and impose additional health policy reforms.

Among the provisions of the Affordable Care Act that are of importance to our potential product candidates are the following:

- establishment of a new pathway for approval of lower-cost biosimilars to compete with biologic products, such as those we are developing;
- an annual, nondeductible fee payable by 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 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.

There have been judicial and Congressional challenges to certain aspects of the Affordable Care Act, and we expect there will be additional challenges and amendments to the Affordable Care Act in the future, particularly in light of the new presidential administration and U.S. Congress. At this time, the full effect that the Affordable Care Act would have on our business remains unclear.

In addition, other legislative changes have been proposed and adopted since the Affordable Care Act 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. This includes aggregate reductions of Medicare payments to providers of 2% per fiscal year, which went into effect on April 1, 2013 and, due to subsequent legislative amendments, will remain in effect through 2025 unless additional Congressional action is taken. On January 2, 2013, President Obama signed into law the American Taxpayer Relief Act of 2012, which, among other things, reduced Medicare payments to several providers, including hospitals, and an increase in 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.

We expect that the Affordable Care Act, 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 in additional downward pressure on the price that we receive for any approved product. Any reduction in reimbursement from Medicare or other government programs may result in a similar reduction in payments from private payors. The implementation of cost containment measures or other healthcare reforms may prevent us from being able to generate revenue, attain profitability, or commercialize our product candidates, if approved.

Moreover, there has recently been heightened governmental scrutiny over the manner in which manufacturers set prices for their marketed products. Individual states in the United States have become increasingly aggressive in implementing regulations designed to contain pharmaceutical and biological product pricing, including price or patient reimbursement constraints, discounts, restrictions on certain product access and marketing cost disclosure and transparency measures. Legally mandated price controls on payment amounts by third-party payors or other restrictions could harm our business, results of operations, financial condition and prospects. In addition, regional healthcare 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 healthcare programs. This could reduce the ultimate demand for our product candidates, if approved, or put pressure on our product pricing, which could negatively affect our business, results of operations, financial condition and prospects.

Legislative and regulatory proposals have been made to expand post-approval requirements and restrict sales and promotional activities for pharmaceutical products. We cannot be sure whether additional legislative changes will be enacted, or whether the FDA regulations, guidance or interpretations will be changed, or what the impact of such changes on the marketing approvals of our product candidates, if any, may be. In addition, increased scrutiny by Congress of the FDA's approval process may significantly delay or prevent marketing approval, as well as subject us to more stringent product labeling and post-marketing testing and other requirements.

Governments outside the United States tend to impose strict price controls, which may adversely affect our revenues, if any.

In some countries, particularly the countries of the European Union, the pricing of prescription drugs is subject to governmental control. In these countries, pricing negotiations with governmental authorities can take considerable time after the receipt of marketing approval for a product. In addition, there can be considerable pressure by governments and other stakeholders on prices and reimbursement levels, including as part of cost containment measures. Political, economic and regulatory developments may further complicate pricing negotiations, and pricing negotiations may continue after coverage and reimbursement have been obtained. Reference pricing used by various European Union member states and parallel distribution or arbitrage between low-priced and high-priced member states, can further reduce prices. To obtain reimbursement or pricing

approval in some countries, we may be required to conduct a clinical trial that compares the cost-effectiveness of our product candidate to other available therapies. If coverage and reimbursement of our products are unavailable or limited in scope or amount, or if pricing is set at unsatisfactory levels, our business could be harmed, possibly materially.

If we fail to comply with environmental, health and safety laws and regulations, we could become subject to fines or penalties or incur costs that could harm our business.

We are subject to numerous environmental, health and safety laws and regulations, including those governing laboratory procedures and the handling, use, storage, treatment and disposal of hazardous materials and wastes. Our operations involve the use of hazardous and flammable materials, including chemicals and biological materials such as human stool. Our operations also produce hazardous waste products. 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. We also could incur significant costs associated with civil or criminal fines and penalties for failure to comply with such laws and regulations.

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 maintain insurance for environmental liability or toxic tort claims that may be asserted against us in connection with our storage or disposal of biological, hazardous or radioactive materials.

In addition, we may incur substantial costs in order to comply with current or future environmental, health and safety laws and regulations. These current or future laws and regulations may impair our research, development or production efforts. Our failure to comply with these laws and regulations also may result in substantial fines, penalties or other sanctions.

Risks Related to Our Intellectual Property

If we are unable to adequately protect our proprietary technology, or obtain and maintain issued patents which are sufficient to protect our product candidates, others could compete against us more directly, which would have a material adverse impact on our business, results of operations, financial condition and prospects.

Our success depends in large part on our ability to obtain and maintain patent and other intellectual property protection in the United States and other countries with respect to our proprietary technology and products. We seek to protect our proprietary position by filing patent applications in the United States and abroad related to our novel technologies and product candidates. We also rely on trade secrets to protect aspects of our business that are not amenable to, or that we do not consider appropriate for, patent protection.

The patent prosecution process is expensive and time-consuming, and we may not be able to file and prosecute all necessary or desirable patent applications at a reasonable cost, in a timely manner, or in all jurisdictions. Prosecution of our patent portfolio is at a very early stage, and we are just beginning to reach the statutory deadlines for deciding whether and where to initiate prosecution in specific foreign jurisdictions by filing national stage applications based on our Patent Cooperation Treaty applications. As those deadlines come due, we will have to decide whether and where to pursue patent protection for the various inventions claimed in our patent portfolio, and we will only have the opportunity to obtain patents in those jurisdictions where we pursue protection. It is also possible that we will fail to identify patentable aspects of our research and development output before it is too late to obtain patent protection. It is possible that defects of form in the preparation or filing of our patents or patent applications may exist, or may arise in the future, such as, with

respect to proper priority claims, inventorship, claim scope or patent term adjustments. If there are material defects in the form or preparation of our patents or patent applications, such patents or applications may be invalid and unenforceable. Moreover, our competitors may independently develop equivalent knowledge, methods and know-how. Any of these outcomes could impair our ability to prevent competition from third parties, which may have an adverse impact on our business, financial condition and operating results.

Pursuant to our current and future license agreements with third parties, in some circumstances, we may not have the right to control the preparation, filing and prosecution of patent applications, or to maintain the patents, covering technology that we license from third parties. We may also require the cooperation of our licensors to enforce any licensed patent rights, and such cooperation may not be provided. Therefore, these patents and applications may not be prosecuted and enforced in a manner consistent with the best interests of our business.

Our patent portfolio is in the early stages of prosecution. We currently have seven issued U.S. patents. Although we have numerous patent applications pending, substantive prosecution has begun in only a small number of those applications. We cannot provide any assurances that any of our pending patent applications will mature into issued patents and, if they do, that such patents or our current patents will include claims with a scope sufficient to protect our product candidates or otherwise provide any competitive advantage. For example, we are pursuing claims to compositions of certain bacterial populations. Any claims that are issued may provide coverage for such compositions and/or their use. However, such claims would not prevent a third party from commercializing alternative compositions that do not include the bacterial populations claimed in pending applications, potential applications or patents that have or may issue. There can be no assurance that any such alternative composition will not be equally effective. These and other factors may provide opportunities for our competitors to design around our patents, should they issue.

Moreover, other parties have developed technologies that may be related or competitive to our approach, and may have filed or may file patent applications and may have received or may receive patents that may overlap or conflict with our patent applications, either by claiming similar methods or by claiming subject matter that could dominate our patent position. In addition, given the early stage of prosecution of our portfolio, it may be some time before we understand how patent offices react to our patent claims and whether they identify prior art of relevance that we have not already considered, which could be an impediment to our patents issuing.

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 know with certainty whether we were the first to make the inventions claimed in any owned patents or pending patent applications, or that we were the first to file for patent protection of such inventions, nor can we know whether those from whom we may license patents were the first to make the inventions claimed or were the first to file. For these and other reasons, the issuance, scope, validity, enforceability and commercial value of our patent rights are subject to a level of uncertainty. Our pending and future patent applications may not result in patents being issued which protect our technology or products, in whole or in part, or which effectively prevent others from commercializing competitive technologies and products. Changes in either the patent laws or interpretation of the patent laws in the United States and other countries may diminish the value of our patents or narrow the scope of our patent protection.

We may be subject to a third-party pre-issuance submission of prior art to the United States Patent and Trademark Office, or USPTO, or become involved in opposition, derivation, reexamination, inter partes review, post-grant review or interference 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. In addition, if the breadth or strength of protection provided by our patents and patent applications is threatened, it could dissuade companies from collaborating with us to license, develop or commercialize current or future product candidates. Furthermore, an adverse decision in an interference

proceeding can result in a third party receiving the patent right sought by us, which in turn could affect our ability to develop, market or otherwise commercialize our product candidates. The issuance, scope, validity, enforceability and commercial value of our patents are subject to a level of uncertainty.

The patent position of biotechnology and pharmaceutical companies generally is highly uncertain, involves complex legal and factual questions and has in recent years been the subject of much litigation. Due to legal standards relating to patentability, validity, enforceability and claim scope of patents covering biotechnological and pharmaceutical inventions, our ability to obtain, maintain and enforce patents is uncertain and involves complex legal and factual questions. Even if issued, a patent's validity, inventorship, ownership or enforceability is not conclusive. Accordingly, rights under any existing patent or any patents we might obtain or license may not cover our product candidates, or may not provide us with sufficient protection for our product candidates to afford a commercial advantage against competitive products or processes, including those from branded and generic pharmaceutical companies.

The degree of future protection for our proprietary rights is uncertain, and we cannot ensure that:

- any of our pending patent applications, if issued, will include claims having a scope sufficient to protect our product candidates or any other products or product candidates;
- any of our pending patent applications will issue as patents;
- we will be able to successfully commercialize our product candidates, if approved, before our relevant patents expire;
- we were the first to make the inventions covered by any existing patent and pending patent applications;
- we were the first to file patent applications for these inventions;
- others will not develop similar or alternative technologies that do not infringe or design around our patents;
- others will not use pre-existing technology to effectively compete against us;
- any of our patents, if issued, will be found to ultimately be valid and enforceable;
- third parties will not compete with us in jurisdictions where we do not pursue and obtain patent protection;
- we will be able to obtain and/or maintain necessary or useful licenses on reasonable terms or at all;
- any patents issued to us will provide a basis for an exclusive market for our commercially viable products, will provide us with any competitive advantages or will not be challenged by third parties;
- we will develop additional proprietary technologies or product candidates that are separately patentable; or
- our commercial activities or products will not infringe upon the patents or proprietary rights of others.

Any litigation to enforce or defend our patent rights, even if we were to prevail, could be costly and time-consuming and would divert the attention of our management and key personnel from our business operations. We may not prevail in any lawsuits that we initiate, and the damages or other remedies awarded if we were to prevail may not be commercially meaningful. Even if we are successful, domestic or foreign litigation, or USPTO or foreign patent office proceedings, may result in substantial costs and distraction to our management. We may not be able, alone or with our licensors or potential collaborators, to prevent misappropriation of our proprietary rights, particularly in countries where the laws may not protect such rights as fully as in the United States. Furthermore, because of the substantial amount of discovery required in connection with intellectual property litigation or other proceedings, there is a risk that some of our confidential information

could be compromised by disclosure during this type of litigation or other proceedings. In addition, during the course of this kind of litigation or proceedings, there could be public announcements of the results of hearings, motions or other interim proceedings or developments or public access to related documents. If investors perceive these results to be negative, the market price for our common stock could be significantly harmed.

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

We have entered into, and may be required to enter into in the future, intellectual property license agreements that are important to our business. These license agreements may impose various diligence, milestone payment, royalty and other obligations on us. For example, we have entered into exclusive license agreements with the University of Chicago and Mayo Clinic pursuant to which we are required to use efforts to engage in various development and commercialization activities with respect to licensed products, and are required to satisfy specified milestone and royalty payment obligations. If we fail to comply with any obligations under our agreements with licensors, we may be subject to termination of the license agreement in whole or in part or increased financial obligations to our licensors, in which case our ability to develop or commercialize products covered by the license agreement will be impaired. Further, we may need to outsource and rely on third parties for many aspects of the clinical development, sales and marketing of our products covered under our current and future license agreements. Delay or failure by these third parties could adversely affect the continuation of our license agreements with our licensors.

In addition, disputes may arise regarding intellectual property subject to a license 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; and
- our diligence obligations under the license agreement and what activities satisfy those obligations.

If disputes over intellectual property that we have licensed prevent or impair our ability to maintain our current licensing arrangements on acceptable terms, we may be unable to successfully develop and commercialize the affected product candidates.

The intellectual property which we have licensed from the University of Chicago and Mayo Clinic was discovered through government funded programs and thus may be subject to federal regulations such as "march-in" rights, certain reporting requirements, and a preference for U.S. industry. Compliance with such regulations may limit our exclusive rights, subject us to expenditure of resources with respect to reporting requirements, and limit our ability to contract with non-U.S. manufacturers.

We have licensed certain intellectual property from the University of Chicago and Mayo Clinic. These agreements indicate that the rights licensed to us are subject to the obligations to and the rights of the U.S. government, including those set forth in the Bayh-Dole Act of 1980, or the Bayh-Dole Act. As a result, the U.S. government may have certain rights to intellectual property embodied in our current or future therapeutics based on the licensed intellectual property. These U.S. government rights in certain inventions developed under a government-funded program include a non-exclusive, non-transferable, irrevocable worldwide license to use inventions for any governmental purpose. In addition, the U.S. government has the right to require us to grant exclusive, partially exclusive, or nonexclusive licenses to any of these inventions to a third party if it determines that: (i) adequate steps have not been taken to commercialize the invention; (ii) government action is necessary to meet public health or safety needs; or (iii) government action is necessary to meet requirements for public use under federal regulations, also referred to as "march-in rights." While the U.S. government has sparingly used, and to our knowledge never successfully exercised, such march-in rights, any exercise of the march-in rights by

the U.S. government could harm our competitive position, business, financial condition, results of operations, and prospects. If the U.S. government exercises such march-in rights, we may receive compensation that is deemed reasonable by the U.S. government in its sole discretion, which may be less than what we might be able to obtain in the open market. Intellectual property generated under a government funded program is also subject to certain reporting requirements, compliance with which may require us to expend substantial resources.

In addition, the U.S. government requires that any therapeutics embodying any invention generated through the use of U.S. government funding be manufactured substantially in the United States. The manufacturing preference requirement can be waived if the owner of the intellectual property can show that reasonable but unsuccessful efforts have been made to grant licenses on similar terms to potential licensees that would be likely to manufacture substantially in the United States or that under the circumstances domestic manufacture is not commercially feasible. This preference for U.S. manufacturers may limit our ability to contract with non-U.S. therapeutic manufacturers for therapeutics covered by such intellectual property.

If we are unable to protect the confidentiality of our trade secrets and know-how, 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, including unpatented know-how, technology and other proprietary information, to maintain our competitive position. We seek to protect these trade secrets, in part, by entering into non-disclosure and confidentiality agreements with parties who have access to them, such as our employees, corporate collaborators, outside scientific collaborators, contract manufacturers, consultants, advisors and other third parties. We also seek to enter into confidentiality and invention or patent assignment agreements with our employees, advisors and consultants. 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. Our trade secrets may also be obtained by third parties by other means, such as breaches of our physical or computer security systems. 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. Moreover, if any of our trade secrets were to be lawfully obtained or independently developed by a competitor, we would have no right to prevent them, or those to whom they communicate, 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, our competitive position would be harmed.

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

As is the case with other biotechnology companies, our success is heavily dependent on intellectual property, particularly patents. Obtaining and enforcing patents in the biotechnology industry involves both technological and legal complexity, and is therefore costly, time-consuming and inherently uncertain. In addition, recent patent reform legislation could further increase the uncertainties and costs surrounding the prosecution of our patent applications and the enforcement or defense of our issued patents. On September 16, 2011, the Leahy-Smith America Invents Act, or the Leahy-Smith Act, was signed into law. The Leahy-Smith Act includes a number of significant changes to U.S. patent law. These include provisions that affect the way patent applications are prosecuted and may also affect patent litigation. The USPTO recently developed new regulations and procedures to govern administration of the Leahy-Smith Act, and many of the substantive changes to patent law associated with the Leahy-Smith Act, in particular the first to file provisions, only became effective on March 16, 2013. A third party that files a patent application in the USPTO after that date but before us could therefore be awarded a patent covering an invention of ours even if we had made the invention before it was made by the third party. This will require us to be cognizant going forward of the time from invention to filing of a patent application. Thus, for our U.S. patent applications containing a priority claim after March 16, 2013, there is a greater level of uncertainty in the patent law.

Moreover, some of the patent applications in our portfolio will be subject to examination under the pre-Leahy-Smith Act law and regulations, while other patents applications in our portfolio will be subject to examination under the law and regulations, as amended by the Leahy-Smith Act. This introduces additional complexities into the prosecution and management of our portfolio.

In addition, the Leahy-Smith Act limits where a patentee may file a patent infringement suit and provides opportunities for third parties to challenge any issued patent in the USPTO. These provisions apply to all of our U.S. patents, even those issued before March 16, 2013. Because of a lower evidentiary standard in USPTO proceedings compared to the evidentiary standard in U.S. federal court necessary to invalidate a patent claim, a third party could potentially provide evidence in a USPTO proceeding sufficient for the USPTO to hold a claim invalid even though the same evidence would be insufficient to invalidate the claim if first presented in a federal court action. Accordingly, a third party may attempt to use the USPTO procedures to invalidate our patent claims because it may be easier for them to do so relative to challenging the patent in a federal court action. It is not clear what, if any, impact the Leahy-Smith Act will have on the operation of our business. However, the Leahy-Smith 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 and financial condition.

In addition, recent United States Supreme Court rulings have narrowed the scope of patent protection available in certain circumstances and weakened the rights of patent owners in certain situations. From time to time, the U.S. Supreme Court, other federal courts, the United States Congress, or the USPTO, may change the standards of patentability and any such changes could have a negative impact on our business.

A number of recent cases decided by the Supreme Court have involved questions of when claims reciting abstract ideas, laws of nature, natural phenomena and/or natural products are eligible for a patent, regardless of whether the claimed subject matter is otherwise novel and inventive. These cases include *Association for Molecular Pathology v. Myriad Genetics, Inc.*, 569 U.S. 12-398 (2013) or *Myriad*; *Alice Corp. v. CLS Bank International*, 573 U.S. 13-298 (2014); and *Mayo Collaborative Services v. Prometheus Laboratories, Inc.*, or *Prometheus*, 566 U.S. 10-1150 (2012). In response to these cases, the USPTO has issued guidance to the examining corps.

The full impact of these decisions is not yet known. The *Myriad* decision, issued on June 13, 2013, is the most recent Supreme Court decision to address patent eligibility of natural products. Our current product candidates include natural products, therefore, this decision and its interpretation by the courts and the USPTO may impact prosecution, defense and enforcement of our patent portfolio. In *Myriad*, the Court held that claims to isolated genomic DNA are not patentable, but claims to complementary DNA, or cDNA, molecules, which are not genomic sequences, may be patent eligible because they are not a natural product. The effect of the decision on patents for other isolated natural products is uncertain. However, on March 4, 2014, the USPTO issued a memorandum to patent examiners providing guidance for examining claims that recite laws of nature, natural phenomena or natural products under the *Myriad* and *Prometheus* decisions. The guidance did not limit the application of *Myriad* to DNA but, rather, applied the decision broadly to other natural products, which may include our product candidates. The March 4, 2014 memorandum and the USPTO's interpretation of the cases and announced examination rubric received widespread criticism from stakeholders during a public comment period and was superseded by interim guidance published on December 15, 2014. The USPTO's interpretation of the case law and new guidelines for examination may influence, possibly adversely, prosecution and defense of certain types of claims in our portfolio.

In addition to increasing uncertainty with regard to our ability to obtain future patents, this combination of events has created uncertainty with respect to the value of patents, once obtained. Depending on these and other decisions by Congress, the federal courts and the USPTO, the laws and regulations governing patents could change or be interpreted in unpredictable ways that would weaken our ability to obtain new patents or to enforce any patents that may issue to us in the future. In addition, these events may adversely affect our ability to defend any patents that may issue in procedures in the USPTO or in courts.

Third parties may initiate legal proceedings alleging that we are infringing their intellectual property rights, the outcome of which would be uncertain and could have a material adverse effect on the success of our business.

Our commercial success depends upon our ability, and the ability of our collaborators, to develop, manufacture, market and sell our product candidates and use our proprietary technologies without infringing the proprietary rights of third parties. There is considerable intellectual property litigation in the biotechnology and pharmaceutical industries. While no such litigation has been brought against us and we have not been held by any court to have infringed a third party's intellectual property rights, we cannot guarantee that our technology, products or use of our products do not infringe third-party patents.

Numerous patents and pending applications are owned by third parties in the fields in which we are developing product candidates, both in the United States and elsewhere. It is also possible that we have failed to identify relevant third-party patents or applications. For example, applications filed before November 29, 2000 and certain applications filed after that date that will not be filed outside the United States remain confidential until patents issue. Moreover, it is difficult for industry participants, including us, to identify all third-party patent rights that may be relevant to our product candidates and technologies because patent searching is imperfect due to differences in terminology among patents, incomplete databases and the difficulty in assessing the meaning of patent claims. We may fail to identify relevant patents or patent applications or may identify pending patent applications of potential interest but incorrectly predict the likelihood that such patent applications may issue with claims of relevance to our technology. In addition, we may be unaware of one or more issued patents that would be infringed by the manufacture, sale or use of a current or future product candidate, or we may incorrectly conclude that a third-party patent is invalid, unenforceable or not infringed by our activities. Additionally, pending patent applications that have been published can, subject to certain limitations, be later amended in a manner that could cover our technologies, our products or the use of our products. We are aware of several pending patent applications containing one or more claims that could be construed to cover some of our product candidates or technology, should those claims issue in their original form or in the form presently being pursued. In addition, we are aware of a third-party patent family that includes issued and allowed patents, including in the United States, with claims that, if valid and enforceable, could be construed to cover some of our product candidates or their methods of use.

The biotechnology and pharmaceutical industries are characterized by extensive litigation regarding patents and other intellectual property rights. Other parties may allege that our product candidates or the use of our technologies infringe patent claims or other intellectual property rights held by them or that we are employing their proprietary technology without authorization. We may become party to, or threatened with, future adversarial proceedings or litigation regarding intellectual property rights with respect to our products and technology, including interference or derivation proceedings before the USPTO and similar bodies in other countries. Third parties may assert infringement claims against us based on existing intellectual property rights and intellectual property rights that may be granted in the future. If we were to challenge the validity of an issued U.S. patent in court, such as an issued U.S. patent of potential relevance to some of our product candidates or methods of use, we would need to overcome a statutory presumption of validity that attaches to every U.S. patent. This means that in order to prevail, we would have to present clear and convincing evidence as to the invalidity of the patent's claims. There is no assurance that a court would find in our favor on questions of infringement or validity.

Patent and other types of intellectual property litigation can involve complex factual and legal questions, and their outcome is uncertain. If we are found, or believe there is a risk we may be found, to infringe a third party's intellectual property rights, we could be required or may choose to obtain a license from such third party to continue developing and marketing our products and technology. However, we may not be able to obtain any such 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 access to the same technologies licensed to us. We could be forced, including by court order, to cease commercializing the infringing technology or product. In addition, we could be

found liable for monetary damages, including treble damages and attorneys' fees if we are found to have willfully infringed a patent. A finding of infringement could prevent us from commercializing our product candidates or force us to cease some of our business operations, which could materially harm our business. Claims that we have misappropriated the confidential information or trade secrets of third parties could have a similar negative impact on our business.

Even if we are successful in these proceedings, we may incur substantial costs and divert management time and attention in pursuing these proceedings, which could have a material adverse effect on us. If we are unable to avoid infringing the patent rights of others, we may be required to seek a license, defend an infringement action or challenge the validity of the patents in court, or redesign our products. Patent litigation is costly and time-consuming. We may not have sufficient resources to bring these actions to a successful conclusion. In addition, intellectual property litigation or claims could force us to do one or more of the following:

- cease developing, selling or otherwise commercializing our product candidates;
- pay substantial damages for past use of the asserted intellectual property;
- obtain a license from the holder of the asserted intellectual property, which license may not be available on reasonable terms, if at all; and
- in the case of trademark claims, redesign, or rename, some or all of our product candidates or other brands to avoid infringing the intellectual property rights of third parties, which may not be possible and, even if possible, could be costly and time-consuming.

Any of these risks coming to fruition could have a material adverse effect on our business, results of operations, financial condition and prospects.

Issued patents covering our product candidates could be found invalid or unenforceable or could be interpreted narrowly if challenged in court.

Competitors may infringe our intellectual property, including our patents or the patents of our licensors. As a result, we may be required to file infringement claims to stop third-party infringement or unauthorized use. This can be expensive, particularly for a company of our size, and time-consuming. If we initiated legal proceedings against a third party to enforce a patent, if and when issued, covering one of our product candidates, the defendant could counterclaim that the patent covering our product candidate is invalid and/or unenforceable. In patent litigation in the United States, defendant counterclaims alleging invalidity and/or unenforceability are commonplace. Grounds for a validity challenge include alleged failures to meet any of several statutory requirements, including lack of novelty, obviousness or non-enablement, or failure to claim patent eligible subject matter. Grounds for unenforceability assertions include allegations that someone connected with prosecution of the patent withheld relevant information from the USPTO, or made a misleading statement, during prosecution. Third parties may also 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 and equivalent proceedings in foreign jurisdictions, such as opposition proceedings. Such proceedings could result in revocation or amendment of our patents in such a way that they no longer cover our product candidates or competitive products. The outcome following legal assertions of invalidity and unenforceability is unpredictable. With respect to validity, for example, we cannot be certain that there is no invalidating prior art, of which we and the patent examiner were unaware during prosecution. If a defendant were to prevail on a legal assertion of invalidity and/or unenforceability, we would lose at least part, and perhaps all, of the patent protection on our product candidates. Moreover, even if not found invalid or unenforceable, the claims of our patents could be construed narrowly or in a manner that does not cover the allegedly infringing technology in question. Such a loss of patent protection would have a material adverse impact on our business.

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

Periodic maintenance fees on any issued patent are due to be paid to the USPTO and foreign patent agencies in several stages over the lifetime of the patent and, in some jurisdictions, during the pendency of a patent application. The USPTO and various foreign governmental patent agencies require compliance with a number of procedural, documentary, fee payment and other similar provisions during the patent application process. While an inadvertent lapse can in many cases be cured by payment of a late fee or by other means in accordance with the applicable rules, there are situations in which noncompliance can result in abandonment or lapse of the patent or patent application, resulting in partial or complete loss of patent rights in the relevant jurisdiction. Noncompliance events that could result in abandonment or lapse of a patent or patent application include, but are not limited to, failure to respond to official actions within prescribed time limits, non-payment of fees and failure to properly legalize and submit formal documents. In such an event, our competitors might be able to enter the market, which would have a material adverse effect on our business.

We may be subject to claims challenging the inventorship or ownership of our patents and other intellectual property.

It is our policy to enter into confidentiality and intellectual property assignment agreements with our employees, consultants, contractors and advisors. These agreements generally provide that inventions conceived by the party in the course of rendering services to us will be our exclusive property. However, these agreements may not be honored and may not effectively assign intellectual property rights to us. For example, even if we have a consulting agreement in place with an academic advisor pursuant to which such academic advisor is required to assign any inventions developed in connection with providing services to us, such academic advisor may not have the right to assign such inventions to us, as it may conflict with his or her obligations to assign all such intellectual property to his or her employing institution.

Litigation may be necessary to defend against these and other claims challenging inventorship or ownership. If we fail in defending any such claims, in addition to paying monetary damages, we may lose valuable intellectual property rights, such as exclusive ownership of, or right to use, valuable intellectual property. Such an outcome could have a material adverse effect on our business. Even if we are successful in defending against such claims, litigation could result in substantial costs and be a distraction to management and other employees.

We may be subject to claims by third parties asserting that our employees or we have misappropriated their intellectual property, or claiming ownership of what we regard as our own intellectual property.

Many of our employees were previously employed at universities or other biotechnology or pharmaceutical companies, including our competitors or potential competitors. We may also engage advisors and consultants who are concurrently employed at universities or other organizations or who perform services for other entities. Although we try to ensure that our employees, advisors and consultants 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 our employees, advisors or consultants have used or disclosed intellectual property, including trade secrets or other proprietary information, of any such party's former or current employer or in violation of an agreement with another party. Although we have no knowledge of any such claims being alleged to date, if such claims were to arise, litigation may be necessary to defend against any such claims.

In addition, while it is our policy to require our employees, consultants, advisors and contractors who may be involved in the 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 develops intellectual property that we regard as our own. Our and their assignment agreements may not be self-executing or may be breached, and we may be forced to bring claims against third parties, or defend claims they may bring

against us, to determine the ownership of what we regard as our intellectual property. Similarly, we may be subject to claims that an employee, advisor or consultant performed work for us that conflicts with that person's obligations to a third party, such as an employer, and thus, that the third party has an ownership interest in the intellectual property arising out of work performed for us. Litigation may be necessary to defend against these claims. Although we have no knowledge of any such claims being alleged to date, if such claims were to arise, litigation may be necessary to defend against any such claims.

If we fail in prosecuting or 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 prosecuting or defending against such claims, litigation could result in substantial costs and be a distraction to management.

If our trademarks and trade names are not adequately protected, then we may not be able to build name recognition in our markets of interest and our business may be adversely affected.

Our registered or unregistered trademarks or trade names may be challenged, infringed, circumvented or declared generic or determined to be infringing on other marks. We may not be able to protect our rights to these trademarks and trade names, which we need to build name recognition among potential collaborators or customers in our markets of interest. At times, competitors may adopt trade names or trademarks similar to ours, thereby impeding our ability to build brand identity and possibly leading to market confusion. In addition, there could be potential trade name or trademark infringement claims brought by owners of other registered trademarks or trademarks that incorporate variations of our registered or unregistered trademarks or trade names. Over the long term, if we are unable to establish name recognition based on our trademarks and trade names, then we may not be able to compete effectively and our business may be adversely affected. Our efforts to enforce or protect our proprietary rights related to trademarks, trade names, domain names or other intellectual property may be ineffective and could result in substantial costs and diversion of resources and could adversely impact our financial condition or results of operations.

We will not seek to protect our intellectual property rights in all jurisdictions throughout the world and we may not be able to adequately enforce our intellectual property rights even in the jurisdictions where we seek protection.

Filing, prosecuting and defending patents on product candidates in all countries and jurisdictions throughout the world would be prohibitively expensive, and our intellectual property rights in some countries outside the United States could be less extensive than in the United States, assuming that rights are obtained in the United States and assuming that rights are pursued outside the United States. The statutory deadlines for pursuing patent protection in individual foreign jurisdictions are based on the priority date of each of our patent applications. For all of the patent families in our portfolio, including the families that may provide coverage for our lead product candidates, the relevant statutory deadlines have not yet expired. Therefore, for each of the patent families that we believe provide coverage for our lead product candidates, we will need to decide whether and where to pursue protection outside the United States. In addition, the laws of some foreign countries do not protect intellectual property rights to the same extent as federal and state laws in the United States. Consequently, even if we do elect to pursue patent rights outside the United States, we may not be able to obtain relevant claims and/or 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 do not pursue and obtain patent protection to develop their own products and further, may export otherwise infringing products to territories where we have patent protection, 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.

Even if we pursue and obtain issued patents in particular jurisdictions, our patent claims or other intellectual property rights may not be effective or sufficient to prevent third parties from so competing.

The laws of some foreign countries do not protect intellectual property rights to the same extent as the laws of the United States. Many companies have encountered significant problems in protecting and defending intellectual property rights in certain foreign jurisdictions. The legal systems of some countries, particularly developing countries, do not favor the enforcement of patents and other intellectual property protection, especially those relating to biotechnology. This could make it difficult for us to stop the infringement of our patents, if obtained, or the misappropriation of our other intellectual property rights. For example, many foreign countries have compulsory licensing laws under which a patent owner must grant licenses to third parties. In addition, many countries limit the enforceability of patents against third parties, including government agencies or government contractors. In these countries, patents may provide limited or no benefit. Patent protection must ultimately be sought on a country-by-country basis, which is an expensive and time-consuming process with uncertain outcomes. Accordingly, we may choose not to seek patent protection in certain countries, and we will not have the benefit of patent protection in such countries.

If our ability to obtain and, if obtained, enforce our patents to stop infringing activities is inadequate, third parties may compete with our products, and our patents or other intellectual property rights may not be effective or sufficient to prevent them from competing. Accordingly, our intellectual property rights around the world may be inadequate to obtain a significant commercial advantage from the intellectual property we develop or license.

Risks Related to Employee Matters and Managing Growth and Other Risks Related to Our Business

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

We are highly dependent on Balkrishan (Simba) Gill, our President and Chief Executive Officer, as well as the other principal members of our management, scientific and clinical team. Although we have entered into employment agreements with our executive officers, each of them may terminate their employment with us at any time. We do not maintain “key person” insurance for any of our executives or other employees.

Recruiting and retaining qualified scientific, clinical, manufacturing and sales and marketing personnel will also be critical to our success. The loss of the services of our executive officers or other key employees could impede the achievement of our research, development and commercialization objectives and seriously harm our ability to successfully implement our business strategy. Furthermore, replacing executive officers and key employees may be difficult and may take an extended period of time due to the limited number of individuals in our industry with the breadth of skills and experience required to successfully develop, gain regulatory approval of and commercialize products. Competition to hire from this limited pool is intense, and we may be unable to hire, train, retain or motivate these key 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. If we are unable to continue to attract and retain high quality personnel, our ability to pursue our growth strategy will be limited.

We expect to expand our development and regulatory capabilities and potentially implement sales, marketing and distribution 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 product development, regulatory affairs, clinical affairs and manufacturing and, if any

of our product candidates receives marketing approval, sales, marketing and distribution. 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 expansion of our operations or recruit and train additional qualified personnel. The 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.

A variety of risks associated with operating internationally could materially adversely affect our business.

We currently have limited international operations, but our business strategy incorporates potentially expanding internationally if any of our product candidates receive regulatory approval. Doing business internationally involves a number of risks, including but not limited to:

- multiple, conflicting and changing laws and regulations, such as privacy regulations, tax laws, export and import restrictions, employment laws, regulatory requirements and other governmental approvals, permits and licenses;
- failure by us to obtain and maintain regulatory approvals for the use of our products in various countries;
- additional potentially relevant third-party patent rights;
- complexities and difficulties in obtaining protection and enforcing our intellectual property;
- difficulties in staffing and managing foreign operations;
- complexities associated with managing multiple payor reimbursement regimes, government payors or patient self-pay systems;
- limits in our ability to penetrate international markets;
- financial risks, such as longer payment cycles, difficulty collecting accounts receivable, the impact of local and regional financial crises on demand and payment for our products and exposure to foreign currency exchange rate fluctuations;
- natural disasters, political and economic instability, including wars, terrorism and political unrest, outbreak of disease, boycotts, curtailment of trade and other business restrictions;
- certain expenses including, among others, expenses for travel, translation and insurance; and
- regulatory and compliance risks that relate to maintaining accurate information and control over sales and activities that may fall within the purview of the U.S. Foreign Corrupt Practices Act, its books and records provisions, or its anti-bribery provisions.

Any of these factors could significantly harm our future international expansion and operations and, consequently, our results of operations.

Our business and operations would suffer in the event of information technology and other system failures.

Despite the implementation of security measures, our internal computer systems and those of our current and future contractors and consultants are vulnerable to damage from computer viruses, unauthorized access, natural disasters, terrorism, war and telecommunication and electrical failures. While we are not aware of any such material system failure, accident or security breach to date, if such an event were to occur and cause interruptions in our operations, it could result in a material disruption to our product development programs and

our business operations. For example, the loss of clinical trial data from completed or future clinical trials could result in delays in our regulatory approval efforts and significantly increase our costs to recover or reproduce the data. Likewise, we rely on third parties to manufacture our product candidates and conduct clinical trials, and similar events relating to their computer systems could also have a material adverse effect on our business. To the extent that any disruption or security breach were to result in a loss of, or damage to, our data or applications, or inappropriate disclosure of confidential or proprietary information, we could incur liability and the further development and commercialization of our product candidates could be delayed.

We rely on a set of cloud-based software services and access these services via the Internet for the vast majority of our computing, storage, bandwidth, and other services. Any disruption of or interference with our use of our cloud-based services would negatively affect our operations and could seriously harm our business.

We use several distributed computing infrastructure platforms for business operations, or what is commonly referred to as "cloud" computing services and we access these services via the Internet. Any transition of the cloud services currently provided by an existing vendor to another cloud provider would be difficult to implement and will cause us to incur significant time and expense. Given this, any significant disruption of or interference with our use of these cloud computing services would negatively impact our operations and our business would be seriously harmed. If our employees or partners are not able to access our cloud computing services or encounter difficulties in doing so, we may experience business disruption. The level of service provided by our cloud computing vendors, including the ability to secure our confidential information and the confidential information of third parties that is shared with us, may also impact the perception of our company and could seriously harm our business and reputation and create liability for us. If a cloud computing service that we use experiences interruptions in service regularly or for a prolonged basis, or other similar issues, our business could be seriously harmed.

In addition, a cloud computing service may take actions beyond our control that could seriously harm our business, including:

- discontinuing or limiting our access to its platform;
- increasing pricing terms;
- terminating or seeking to terminate our contractual relationship altogether;
- establishing more favorable relationships with one or more of our competitors; or
- modifying or interpreting its terms of service or other policies in a manner that impacts our ability to run our business and operations.

Our cloud computing services have broad discretion to change and interpret its terms of service and other policies with respect to us, and those actions may be unfavorable to us. Our cloud computing services may also alter how we are able to process data on the platform. If a cloud computing services makes changes or interpretations that are unfavorable to us, our business could be seriously harmed.

Our efforts to protect the information shared with us may be unsuccessful due to the actions of third parties, software bugs, or other technical malfunctions, employee error or malfeasance, or other factors. In addition, third parties may attempt to fraudulently induce employees or users to disclose information to gain access to our data or third-party data entrusted to us. If any of these events occur, our or third-party information could be accessed or disclosed improperly. Some partners or collaborators may store information that we share with them on their own computing system. If these third parties fail to implement adequate data-security practices or fail to comply with our policies, our data may be improperly accessed or disclosed. And even if these third parties take all these steps, their networks may still suffer a breach, which could compromise our data.

Any incidents where our information is accessed without authorization, or is improperly used, or incidents that violate our policies, could damage our reputation and our brand and diminish our competitive position. In

addition, affected parties or government authorities could initiate legal or regulatory action against us over those incidents, which could cause us to incur significant expense and liability or result in orders or consent decrees forcing us to modify our business practices. Concerns over our privacy practices, whether actual or unfounded, could damage our reputation and brand and deter users, advertisers, and partners from using our products and services. Any of these occurrences could seriously harm our business.

We are also subject to many federal, state, and foreign laws and regulations, including those related to privacy, rights of publicity, data protection, content regulation, intellectual property, health and safety, competition, protection of minors, consumer protection, employment, and taxation. These laws and regulations are constantly evolving and may be interpreted, applied, created, or amended in a manner that could seriously harm our business.

Acquisitions or joint ventures could disrupt our business, cause dilution to our stockholders and otherwise harm our business.

We may acquire other businesses, products or technologies as well as pursue strategic alliances, joint ventures, technology licenses or investments in complementary businesses. We have only made one acquisition to date, and our ability to do so successfully is unproven beyond this instance. Any of these transactions could be material to our financial condition and operating results and expose us to many risks, including:

- disruption in our relationships with future customers or with current or future distributors or suppliers as a result of such a transaction;
- unanticipated liabilities related to acquired companies;
- difficulties integrating acquired personnel, technologies and operations into our existing business;
- diversion of management time and focus from operating our business to acquisition integration challenges;
- increases in our expenses and reductions in our cash available for operations and other uses;
- possible write-offs or impairment charges relating to acquired businesses; and
- inability to develop a sales force for any additional product candidates.

Foreign acquisitions involve unique risks in addition to those mentioned above, including those related to integration of operations across different cultures and languages, currency risks and the particular economic, political and regulatory risks associated with specific countries.

Also, the anticipated benefit of any acquisition may not materialize. Future acquisitions or dispositions could result in potentially dilutive issuances of our equity securities, the incurrence of debt, contingent liabilities or amortization expenses or write-offs of goodwill, any of which could harm our financial condition. We cannot predict the number, timing or size of future joint ventures or acquisitions, or the effect that any such transactions might have on our operating results.

Risks Related to Our Common Stock and this Offering

An active trading market for our common stock may not develop.

Prior to this offering, there has been no public market for our common stock. The initial public offering price for our common stock was determined through negotiations with the underwriters. Although we have been approved to list our common stock on The Nasdaq Global Select Market, an active trading market for our shares may never develop or be sustained following this offering. If an active market for our common stock does not develop, it may be difficult for you to sell shares you purchase in this offering without depressing the market price for the shares or at all.

The price of our common stock may be volatile and fluctuate substantially, which could result in substantial losses for purchasers of our common stock in this offering, and we could be subject to securities class action litigation as a result.

Our stock price is likely to be volatile. The stock market in general and the market for smaller biopharmaceutical companies in particular have experienced extreme volatility that has often been unrelated to the operating performance of particular companies. As a result of this volatility, you may not be able to sell your common stock at or above the initial public offering price. The market price for our common stock may be influenced by many factors, including:

- the success of competitive products or technologies;
- actual or anticipated changes in our growth rate relative to our competitors;
- results of clinical trials of our product candidates or those of our competitors;
- developments related to any future collaborations;
- regulatory or legal developments in the United States and other countries;
- adverse actions taken by regulatory agencies with respect to our preclinical studies or clinical trials, manufacturing or sales and marketing activities;
- any adverse changes to our relationship with third party contractors or manufacturers;
- development of new product candidates that may address our markets and may make our existing product candidates less attractive;
- changes in physician, hospital or healthcare provider practices that may make our product candidates less useful;
- announcements by us, our collaborators or our competitors of significant acquisitions, strategic partnerships, joint ventures, collaborations or capital commitments;
- developments or disputes concerning patent applications, issued patents or other proprietary rights;
- the recruitment or departure of key personnel;
- the level of expenses related to any of our product candidates or product development programs;
- failure to meet or exceed financial estimates and projections of the investment community or that we provide to the public;
- press reports or other negative publicity, whether or not true, about our business;
- the results of our efforts to discover, develop, acquire or in-license additional product candidates or products;
- actual or anticipated changes in estimates as to financial results, development timelines or recommendations by securities analysts;
- variations in our financial results or those of companies that are perceived to be similar to us;
- 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.

Any of these factors may result in large and sudden changes in the volume and trading price of our common stock. In the past, securities class action litigation has often been brought against a company following a decline

in the market price of its securities. This risk is especially relevant for us because biopharmaceutical companies have experienced significant stock price volatility in recent years. If we face such litigation, it could result in substantial costs and a diversion of management's attention and resources, which could harm our business.

After this offering, our executive officers, directors and principal stockholders, if they choose to act together, will continue to have the ability to control or significantly influence all matters submitted to stockholders for approval.

Upon the closing of this offering, based on the number of shares of common stock outstanding as of April 18, 2018, our executive officers, directors and stockholders who owned more than 5% of our outstanding common stock before this offering and their respective affiliates will, in the aggregate, hold shares representing approximately 64% of our outstanding voting stock. As a result, if these stockholders were to choose to act together, they would be able to control or significantly influence all matters submitted to our stockholders for approval, as well as our management and affairs. For example, these persons, if they choose to act together, would control or significantly influence the election of directors and approval of any merger, consolidation or sale of all or substantially all of our assets. They may also have interests that differ from yours and may vote in a way with which you disagree and which may be adverse to your interests. This concentration of ownership control may have the effect of delaying, deferring or preventing a change in control of our company, could deprive our stockholders of an opportunity to receive a premium for their common stock as part of a sale of our company and might ultimately affect the market price of our common stock.

Certain of our existing stockholders, including entities affiliated with certain of our directors, have indicated an interest in purchasing shares of our common stock in this offering at the initial public offering price. However, because indications of interest are not binding agreements or commitments to purchase, the underwriters may determine to sell more, fewer or no shares in this offering to any or all of these stockholders, or any or all of these stockholders may determine to purchase more, fewer or no shares in this offering. The foregoing discussion does not give effect to any potential purchase by these stockholders in this offering.

If you purchase shares of common stock in this offering, you will suffer immediate dilution of your investment.

The initial public offering price of our common stock is substantially higher than the net tangible book value per share of our common stock. Therefore, if you purchase shares of our common stock in this offering, you will pay a price per share that substantially exceeds our net tangible book value per share after this offering. To the extent shares subsequently are issued under outstanding options or warrants, you will incur further dilution. Based on an initial public offering price of $16.00 per share, you will experience immediate dilution of $10.07 per share as of December 31, 2017, representing the difference between our pro forma as adjusted net tangible book value per share, which gives effect to this offering, and the initial public offering price. In addition, purchasers of common stock in this offering will have contributed approximately 35% of the aggregate price paid by all purchasers of our stock but will own only approximately 17% of our common stock outstanding after this offering.

We have broad discretion in the use of the net proceeds from this offering and may not use them effectively.

Our management will have broad discretion in the application of the net proceeds from this offering and could spend the proceeds in ways that do not improve our results of operations or enhance the value of our common stock. We intend to use the net proceeds from this offering to fund proof of concept clinical trials in our inflammatory diseases and oncology programs, to invest in our platform and to advance additional preclinical development activities, and the remainder, if any, to fund working capital and other general corporate purposes. However, our use of these proceeds may differ substantially from our current plans. 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 the net proceeds from this offering in a manner that does not produce income or that loses value.

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

Sales of a substantial number of shares of our common stock in the public market, or the perception in the market that the holders of a large number of shares intend to sell shares, could reduce the market price of our common stock. Immediately upon the completion of this offering, we will have 31,870,854 outstanding shares of common stock, assuming the underwriters do not exercise their over-allotment option to purchase additional shares, based on the number of shares outstanding as of April 18, 2018. This includes the shares that we are selling in this offering, which may be resold in the public market immediately without restriction, unless purchased by our affiliates or existing stockholders. The remaining shares are currently restricted as a result of securities laws or lock-up agreements but will become eligible to be sold 180 days after the date of this offering, unless held by one of our affiliates, in which case the resale of those securities will be subject to volume limitations under Rule 144 of the Securities Act of 1933, as amended, or the Securities Act. Moreover, after this offering, holders of an aggregate of 25,989,390 shares of our common stock, including 56,006 shares issuable upon the exercise of warrants, will have rights, subject to specified conditions, to require us to file registration statements covering their shares or to include their shares in registration statements that we may file for ourselves or other stockholders, including entities affiliated with Flagship Pioneering, until such shares can otherwise be sold without restriction under Rule 144 or until the rights terminate pursuant to the terms of the investors' rights agreement between us and such holders. See "Certain Relationships and Related Person Transactions—Investors' Rights Agreement." We also intend to register all shares of common stock that we may issue under our equity compensation plans. Once we register these shares, they can be freely sold in the public market upon issuance, subject to volume limitations applicable to affiliates and the lock-up agreements described in the "Underwriting" section of this prospectus.

We are an "emerging growth company," and the reduced disclosure requirements applicable to emerging growth companies may make our common stock less attractive to investors.

We are an "emerging growth company" as that term is used in the JOBS Act, and may remain an emerging growth company until the earlier of (1) the last day of the fiscal year (a) following the fifth anniversary of the completion of this offering, (b) in which we have total annual gross revenue of at least $1.07 billion, or (c) in which we are deemed to be a large accelerated filer, which means the market value of our outstanding ordinary shares that are held by non-affiliates exceeds $700 million as of the prior June 30, and (2) the date on which we have issued more than $1.0 billion in non-convertible debt during the prior three year period. For so long as we remain an emerging growth company, we are permitted and intend to rely on exemptions from certain disclosure requirements that are applicable to other public companies that are not emerging growth companies. These exemptions include:

- being permitted to provide only two years of audited financial statements, in addition to any required unaudited interim financial statements, with correspondingly reduced "Management's Discussion and Analysis of Financial Condition and Results of Operations" disclosure in this prospectus;
- not being required to comply with the auditor attestation requirements in the assessment of our internal control over financial reporting;
- not being required to comply with any requirement that may be adopted by the Public Company Accounting Oversight Board regarding mandatory audit firm rotation or a supplement to the auditor's report providing additional information about the audit and the financial statements;
- reduced disclosure obligations regarding executive compensation; and
- exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and shareholder approval of any golden parachute payments not previously approved.

We have elected to take advantage of certain of the reduced reporting obligations in the registration statement of which this prospectus is a part. In particular, in this prospectus, we have not included all of the executive compensation related information that would be required if we were not an emerging growth company. We cannot predict whether investors will find our common stock less attractive if we rely on these exemptions. If some investors find our common stock less attractive as a result, there may be a less active trading market for our common stock and our stock price may be reduced or more volatile. In addition, the JOBS Act provides that an emerging growth company can take advantage of an extended transition period for complying with new or revised accounting standards. This allows an emerging growth company to delay the adoption of these accounting standards until they would otherwise apply to private companies. We have elected to use the extended transition period for complying with new or revised accounting standards; and as a result of this election, our financial statements may not be comparable to companies that comply with public company effective dates.

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

As a public company, and particularly after we are no longer an emerging growth company, we will 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. Our management and other personnel will need to devote a substantial amount of time to these compliance initiatives.

Moreover, these rules and regulations will increase our legal and financial compliance costs and will make some activities more time consuming and costly. For example, we expect that these rules and regulations may make it more difficult and more expensive for us to obtain director and officer liability insurance, which in turn could make it more difficult for us to attract and retain qualified members of our board of directors.

We are evaluating these rules and regulations, and cannot predict or estimate the amount of additional costs we may incur or the timing of such costs. 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 Section 404 of the Sarbanes-Oxley Act of 2002, or Section 404, we will be required to furnish a report by our management on our internal control over financial reporting. However, while we remain an emerging growth company, we will not be required to include an attestation report on internal control over financial reporting issued by our independent registered public accounting firm. To achieve compliance with Section 404 within the prescribed period, we will be engaged in a process to document and evaluate our internal control over financial reporting, which is both costly and challenging. In this regard, we will need to continue to dedicate internal resources, potentially engage outside consultants and 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 we will not be able to conclude, within the prescribed timeframe or at all, that our internal control over financial reporting is effective as required by 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 financial statements.

Our disclosure controls and procedures may not prevent or detect all errors or acts of fraud.

Upon completion of this offering, we will become subject to the periodic reporting requirements of the Exchange Act. Our disclosure controls and procedures are designed to reasonably assure that information

required to be disclosed by us in reports we file or submit under the Exchange Act is accumulated and communicated to management, and recorded, processed, summarized and reported within the time periods specified in the rules and forms of the SEC.

We believe that any disclosure controls and procedures or internal controls and procedures, no matter how well conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the control system are met. These inherent limitations include the realities that judgments in decision-making can be faulty, and that breakdowns can occur because of simple error or mistake. Additionally, controls can be circumvented by the individual acts of some persons, by collusion of two or more people or by an unauthorized override of the controls. Accordingly, because of the inherent limitations in our control system, misstatements due to error or fraud may occur and not be detected.

If securities or industry analysts do not publish research or reports about our business, or if they issue an adverse or misleading opinion regarding our business stock, our stock price and trading volume could decline.

The trading market for our common stock will be influenced by the research and reports that industry or securities analysts publish about us or our business. We do not currently have and may never obtain research coverage by securities and industry analysts. If no or few securities or industry analysts commence coverage of us, the trading price for our stock would be negatively impacted. In the event we obtain securities or industry analyst coverage, if any of the analysts who cover us issue an adverse or misleading opinion regarding us, our business model, our intellectual property or our stock performance, or if our target preclinical studies or clinical studies and/or operating results fail to meet the expectations of analysts, our stock price would likely decline. If one or more of these analysts cease coverage of us or fail to publish reports on us regularly, we could lose visibility in the financial markets, which in turn could cause our stock price or trading volume to decline.

Provisions in our restated certificate of incorporation and amended and restated bylaws to be effective in connection with the closing of this offering and under Delaware law could make an acquisition of our company, which may be beneficial to our stockholders, more difficult and may prevent attempts by our stockholders to replace or remove our current management.

Provisions in our restated certificate of incorporation and our amended and restated bylaws that will become effective in connection with the closing of this offering may discourage, delay or prevent a merger, acquisition or other change in control of our company that stockholders may consider favorable, including transactions in which you might otherwise receive a premium for your shares. These provisions could also limit the price that investors might be willing to pay in the future for shares of our common stock, thereby depressing the market price of our common stock. In addition, because our board of directors is responsible for appointing the members of our management team, these provisions may frustrate or prevent any attempts by our stockholders to replace or remove our current management by making it more difficult for stockholders to replace members of our board of directors. Among other things, these provisions include those establishing:

- a classified board of directors with three-year staggered terms, which may delay the ability of stockholders to change the membership of a majority of our board of directors;
- no cumulative voting in the election of directors, which limits the ability of minority stockholders to elect director candidates;
- the exclusive right of our board of directors to elect a director to fill a vacancy created by the expansion of the board of directors or the resignation, death or removal of a director, which prevents stockholders from filling vacancies on our board of directors;
- the ability of our board of directors to authorize the issuance of shares of preferred stock and to determine the terms of those shares, including preferences and voting rights, without stockholder approval, which could be used to significantly dilute the ownership of a hostile acquirer;
- the ability of our board of directors to alter our bylaws without obtaining stockholder approval;

- the required approval of the holders of at least two-thirds of the shares entitled to vote at an election of directors to adopt, amend or repeal our bylaws or repeal the provisions of our restated certificate of incorporation regarding the election and removal of directors;
- a prohibition on stockholder action by written consent, which forces stockholder action to be taken at an annual or special meeting of our stockholders;
- the requirement that a special meeting of stockholders may be called only by the chairman of the board of directors, the chief executive officer, the president or the board of directors, which may delay the ability of our stockholders to force consideration of a proposal or to take action, including the removal of directors; and
- advance notice procedures that stockholders must comply with in order to nominate candidates to our board of directors or to propose matters to be acted upon at a stockholders' meeting, which may discourage or deter a potential acquirer from conducting a solicitation of proxies to elect the acquirer's own slate of directors or otherwise attempting to obtain control of us.

Moreover, because we are incorporated in Delaware, we are governed by the provisions of Section 203 of the General Corporation Law of the State of Delaware, which prohibits a person who owns in excess of 15% of our outstanding voting stock from merging or combining with us for a period of three years after the date of the transaction in which the person acquired in excess of 15% of our outstanding voting stock, unless the merger or combination is approved in a prescribed manner.

Our restated certificate of incorporation to be effective in connection with the closing of this offering will provide that the Court of Chancery of the State of Delaware will be the exclusive forum for substantially all disputes between us and our stockholders, which could limit our stockholders' ability to obtain a favorable judicial forum for disputes with us or our directors, officers or other employees.

Our restated certificate of incorporation that will become effective in connection with the closing of this offering specifies that, unless we consent in writing to the selection of an alternative forum, the Court of Chancery of the State of Delaware will be the sole and exclusive forum for most legal actions involving any derivative action or proceeding brought on our behalf, any action asserting a claim of breach of fiduciary duty owed by any director, officer, employee or stockholder to us or our stockholders, any action asserting a claim arising pursuant to any provision of the General Corporation Law of the State of Delaware or any action asserting a claim governed by the internal affairs doctrine. We believe these provisions benefit us by providing increased consistency in the application of Delaware law by chancellors particularly experienced in resolving corporate disputes, efficient administration of cases on a more expedited schedule relative to other forums and protection against the burdens of multi-forum litigation. The provision may limit a stockholder's ability to bring a claim in a judicial forum that it finds favorable for disputes, and may have the effect of discouraging lawsuits, including those against our directors and officers. The enforceability of similar choice of forum provisions in other companies' certificates of incorporation has been challenged in legal proceedings, and it is possible that, in connection with any applicable action brought against us, a court could find the choice of forum provisions contained in our restated certificate of incorporation to be inapplicable or unenforceable in such action. If a court were to find the choice of forum provision contained in our restated certificate of incorporation to be inapplicable or unenforceable in an action, we may incur additional costs associated with resolving such action in other jurisdictions, which could adversely affect our results of operations and financial condition.

Because we do not anticipate paying any cash dividends on our capital stock in the foreseeable future, capital appreciation, if any, will be your sole source of gain.

We have never declared or paid cash dividends on our capital stock. We currently intend to retain all of our future earnings, if any, to finance the operation and expansion of our business. Therefore, you should not rely on an investment in our common stock as a source for any future dividend income.

Our board of directors has significant discretion as to whether to distribute dividends. Even if our board of directors decides to declare and pay dividends, the timing, amount and form of future dividends, if any, will

depend on, among other things, our future results of operations and cash flow, our capital requirements and surplus, our financial condition, contractual restrictions and other factors deemed relevant by our board of directors. Accordingly, the return on your investment in our common stock will likely depend entirely on any future capital appreciation, if any, of our common stock. There is no guarantee that our common stock will appreciate in value or even maintain the price at which you purchased our common stock. See "Dividend Policy."

Our ability to use net operating losses and research and development credits to offset future taxable income may be subject to certain limitations.

As of December 31, 2017, we had federal and state net operating loss carryforwards of $50.2 million and $41.9 million, respectively, which begin to expire at various dates through 2037. As of December 31, 2017, we also had federal research and development tax credit carryforwards of $0.8 million and state research and development tax credit carryforwards of $0.5 million, which begin to expire in 2030. These net operating loss and tax credit carryforwards could expire unused and be unavailable to offset future income tax liabilities. In addition, in general, under Sections 382 and 383 of the Internal Revenue Code of 1986, as amended, or the Code, a corporation that undergoes an "ownership change" is subject to limitations on its ability to utilize its pre-change net operating losses or tax credits, or NOLs or credits, to offset future taxable income or taxes. For these purposes, an ownership change generally occurs where the aggregate stock ownership of one or more stockholders or groups of stockholders who owns at least 5% of a corporation's stock increases its ownership by more than 50 percentage points over its lowest ownership percentage within a specified testing period. Our existing NOLs or credits may be subject to limitations arising from previous ownership changes, and if we undergo an ownership change in connection with or after this offering, our ability to utilize NOLs or credits could be further limited by Sections 382 and 383 of the Code. In addition, future changes in our stock ownership, many of which are outside of our control, could result in an ownership change under Sections 382 and 383 of the Code. Our NOLs or credits may also be impaired under state law. Accordingly, we may not be able to utilize a material portion of our NOLs or credits. The reduction of the corporate tax rate under the Tax Cuts and Jobs Act of 2017, or the TCJA, may cause a reduction in the economic benefit of our net operating loss carryforwards and other deferred tax assets available to us. Furthermore, under the TCJA, although the treatment of tax losses generated before December 31, 2017 has generally not changed, tax losses generated in calendar year 2018 and beyond will only be able to offset 80% of taxable income. This change may require us to pay federal income taxes in future years despite generating a loss for federal income tax purposes in prior years.

Recent U.S. tax legislation may materially adversely affect our financial condition, results of operations and cash flows.

Recently-enacted U.S. tax legislation has significantly changed the U.S. federal income taxation of U.S. corporations, including by reducing the U.S. corporate income tax rate, limiting interest deductions, modifying or repealing many business deductions and credits (including reducing the business tax credit for certain clinical testing expenses incurred in the testing of certain drugs for rare diseases or conditions generally referred to as "orphan drugs"), adopting elements of a territorial tax system, imposing a one-time transition tax, or repatriation tax, on all undistributed earnings and profits of certain U.S.-owned foreign corporations, revising the rules governing net operating losses and the rules governing foreign tax credits, and introducing new anti-base erosion provisions. Many of these changes are effective immediately, without any transition periods or grandfathering for existing transactions. The legislation is unclear in many respects and could be subject to potential amendments and technical corrections, as well as interpretations and implementing regulations by the Treasury and Internal Revenue Service, or the IRS, any of which could lessen or increase certain adverse impacts of the legislation. In addition, it is unclear how these U.S. federal income tax changes will affect state and local taxation, which often uses federal taxable income as a starting point for computing state and local tax liabilities.

While some of the changes made by the tax legislation may adversely affect us in one or more reporting periods and prospectively, other changes may be beneficial on a going forward basis. We continue to work with our tax advisors and auditors to determine the full impact that the recent tax legislation as a whole will have on us. We urge our investors to consult with their legal and tax advisors with respect to such legislation.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus contains forward-looking statements. All statements other than statements of historical facts contained in this prospectus, including statements regarding our future results of operations and financial position, business strategy, prospective products, product approvals, research and development costs, timing and likelihood of success, plans and objectives of management for future operations and future results of anticipated products, are forward-looking statements. These statements involve known and unknown risks, uncertainties and other important factors that may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements.

In some cases, you can identify forward-looking statements by terms such as “may,” “will,” “should,” “expect,” “plan,” “anticipate,” “could,” “intend,” “target,” “project,” “contemplate,” “believe,” “estimate,” “predict,” “potential” or “continue” or the negative of these terms or other similar expressions. The forward-looking statements in this prospectus are only predictions. We have based these forward-looking statements largely on our current expectations and projections about future events and financial trends that we believe may affect our business, financial condition and results of operations. These forward-looking statements speak only as of the date of this prospectus and are subject to a number of risks, uncertainties and assumptions described under the sections in this prospectus entitled “Risk Factors” and “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and elsewhere in this prospectus. These forward-looking statements are subject to numerous risks, including, without limitation, the following:

- our status as a development-stage company and our expectation to incur losses in the future;
- our future capital needs and our need to raise additional funds;
- our ability to build a pipeline of product candidates and develop and commercialize drugs;
- our unproven approach to therapeutic intervention;
- our ability to enroll patients and volunteers in clinical trials, timely and successfully complete those trials and receive necessary regulatory approvals;
- our ability to establish our own manufacturing facilities and to receive or manufacture sufficient quantities of our product candidates;
- our ability to protect and enforce our intellectual property rights;
- federal, state, and foreign regulatory requirements, including FDA regulation of our product candidates;
- the timing of clinical trials and the likelihood of regulatory filings and approvals;
- our ability to obtain and retain key executives and attract and retain qualified personnel; and
- our ability to successfully manage our growth.

Because forward-looking statements are inherently subject to risks and uncertainties, some of which cannot be predicted or quantified and some of which are beyond our control, you should not rely on these forward-looking statements as predictions of future events. The events and circumstances reflected in our forward-looking statements may not occur or be achieved, and actual results could differ materially from those projected in the forward-looking statements. Moreover, we operate in an evolving environment. New risk factors and uncertainties may emerge from time to time, and it is not possible for management to predict all risk factors and uncertainties. Except as required by applicable law, we do not plan to publicly update or revise any forward-looking statements contained herein, whether as a result of any new information, future events, changed circumstances or otherwise.

You should read this prospectus and the documents that we reference in this prospectus and have filed as exhibits to the registration statement relating to this offering completely and with the understanding that our actual future results may be materially different from what we expect. We qualify all of our forward-looking statements by these cautionary statements.

MARKET INDUSTRY AND OTHER DATA

The prospectus contains estimates, projections and other information concerning our industry, our business and the markets for certain drugs, including data regarding the estimated size of those markets and their projected growth rates. Information that is based on estimates, forecasts, projections or similar methodologies is inherently subject to uncertainties and actual events or circumstances may differ materially from events and circumstances reflected in this information. We obtained the industry, market and competitive position data in this prospectus from our own internal estimates and research as well as from industry and general publications and research, surveys and studies conducted by third parties. Industry publications, studies and surveys generally state that they have been obtained from sources believed to be reliable, although they do not guarantee the accuracy or completeness of such information. While we believe that each of these studies and publications is reliable, we have not independently verified market and industry data from third-party sources. While we believe our internal company research as to such matters is reliable and the market definitions are appropriate, neither such research nor these definitions have been verified by any independent source.

USE OF PROCEEDS

We estimate that the net proceeds from our sale of 5,312,500 shares of our common stock in this offering will be approximately $75.9 million, based on the initial public offering price of $16.00 per share, and after deducting the underwriting discounts and commissions and estimated offering expenses payable by us. If the underwriters' over-allotment option to purchase additional shares from us is exercised in full, we estimate that our net proceeds will be $87.7 million, after deducting the underwriting discounts and commissions and estimated offering expenses payable by us.

We currently anticipate that we will use the net proceeds from this offering, together with approximately $114.3 million of cash and cash equivalents as of March 31, 2018, as follows:

- approximately $45.0 million to $50.0 million to fund proof of concept clinical trials in our inflammatory diseases programs;
- approximately $25.0 million to $35.0 million to fund proof of concept clinical trials in our oncology programs;
- approximately $35.0 million to $45.0 million to invest in our platform and to advance additional preclinical development activities; and
- the remainder to fund working capital, capital expenditures and other general corporate purposes.

The expected use of the net proceeds from this offering represents our intentions based upon our current plans and business conditions. As of the date of this prospectus, we cannot predict with certainty all of the particular uses for the net proceeds to be received upon the closing of this offering or the amounts that we will actually spend on the uses set forth above. Predicting the cost necessary to develop product candidates can be difficult and we anticipate that we will need additional funds to complete the development of any product candidates we identify. The amounts and timing of our actual use of proceeds may vary significantly depending on numerous factors. See "Risk Factors—Risks Related to Our Common Stock and this Offering—We have broad discretion in the use of the net proceeds from this offering and may not use them effectively."

We may also use a portion of the net proceeds to in-license, acquire or invest in additional businesses, technologies, products or assets, although currently we have no specific agreements, commitments or understandings in this regard.

Based on our planned use of the net proceeds of this offering and our cash and cash equivalents as of March 31, 2018, we estimate that such funds will be sufficient to enable us to fund our operating expenses and capital expenditure requirements into the second half of 2020, by which time we expect to have received safety, tolerability, biomarker and clinical response data from our ongoing and planned clinical trials for EDP1066, EDP1815 and EDP1503. We have based this estimate on assumptions that may prove to be incorrect, and we could use our available capital resources sooner than we currently expect.

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. With the exception of our existing debt arrangement, we do not have any committed external source of funds. To the extent that we raise additional capital through the sale of equity or convertible debt securities, the ownership interests of our existing stockholders may be diluted, and the terms of these securities may include liquidation or other preferences that could adversely affect the rights of our common stockholders. Additional debt financing, if available, may involve agreements that include restrictive covenants that limit our ability to take specific actions, such as incurring additional debt, making capital expenditures or declaring dividends, that could adversely impact our ability to conduct our business.

If we raise funds through 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 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.

Pending our use of the net proceeds from this offering, we intend to invest the net proceeds in a variety of capital preservation investments, including short-term, investment-grade, interest-bearing securities, certificates of deposit or U.S. government securities.

DIVIDEND POLICY

We have never declared or paid any cash dividends on our capital stock. We currently intend to retain future earnings, if any, to finance the operation and expansion of our business and do not anticipate paying any dividends in the foreseeable future. Any future determination related to our dividend policy will be made at the discretion of our board of directors after considering our financial condition, results of operations, capital requirements, business prospects and other factors the board of directors deems relevant, and subject to the restrictions contained in any contractual financing arrangements. In addition, the terms of our existing loan and security agreement with Pacific Western Bank preclude us from paying dividends on our equity securities without Pacific Western Bank's consent.

CAPITALIZATION

The following table sets forth our cash and cash equivalents and capitalization as of December 31, 2017, as follows:

- on an actual basis;
- on a pro forma basis to reflect:
  - the automatic conversion of all outstanding shares of our preferred stock into an aggregate of 16,139,518 shares of common stock upon the closing of this offering;
  - the additional drawdown of $5.0 million under our loan and security agreement with Pacific Western Bank on February 7, 2018 including the issuance of a warrant to purchase our preferred stock that will become a warrant to purchase an aggregate of 8,512 shares of our common stock upon the closing of this offering;
  - the sale by us of 25,232,199 shares of Series C preferred stock from February 2018 to March 2018 for gross proceeds of $81.5 million and the automatic conversion of such shares of preferred stock into 6,185,870 shares of common stock upon the closing of this offering;
  - the issuance by us of 250,000 shares of Series B preferred stock in January 2018 to a consultant as partial consideration for services rendered and the automatic conversion of such shares of preferred stock into 61,289 shares of common stock upon the closing of this offering;
  - the outstanding warrants to purchase shares of our preferred stock becoming warrants to purchase an aggregate of 47,494 shares of our common stock upon the closing of this offering;
  - the exercise of a warrant to purchase 134 shares of common stock for an aggregate purchase price of $5.49, which occurred on April 9, 2018; and
  - the filing and effectiveness of our restated certificate of incorporation, which will occur in connection with the closing of this offering.
- on a pro forma as adjusted basis to give further effect to our issuance and sale of 5,312,500 shares of common stock in this offering at the initial public offering price of $16.00 per share, after deducting the underwriting discounts and commissions and estimated offering expenses payable by us.

Our capitalization following the closing of this offering will be adjusted based on the actual initial public offering price and other terms of this offering determined at pricing. You should read this information in conjunction with our consolidated financial statements and the related notes appearing at the end of this prospectus and the “Management’s Discussion and Analysis of Financial Condition and Results of Operations” section and other financial information contained in this prospectus.

	As of December 31, 2017 (in thousands, except share data)		
	Actual	Pro Forma	Pro Forma as Adjusted
Cash and cash equivalents	$ 38,246	$ 124,556	$ 200,406
Preferred stock warrant liability	$ 424	—	—
Long-term debt	9,966	14,851	14,851
Convertible preferred stock (Series A, A-1, A-2, A-3, B and C), $0.001 par value; 66,311,563 shares authorized, 65,833,096 shares issued and outstanding, actual; no shares authorized, issued or outstanding, pro forma and pro forma as adjusted	83,702	—	—
Stockholders' (deficit) equity:			
Preferred stock, $0.001 par value; no shares authorized, issued or outstanding, actual; no shares authorized and no shares issued or outstanding, pro forma; 10,000,000 shares authorized and no shares issued or outstanding, pro forma as adjusted	—	—	—
Common stock, $0.001 par value; 23,780,338 shares authorized, 4,138,483 shares issued and 3,880,607 outstanding, actual; 200,000,000 shares authorized, pro forma and pro forma as adjusted; 26,525,294 shares issued and 26,267,418 shares outstanding, pro forma; 31,837,794 shares issued and 31,579,918 shares outstanding, pro forma as adjusted	4	26	32
Additional paid-in capital	1,684	167,877	243,721
Accumulated deficit	(56,411)	(56,411)	(56,411)
Total stockholders' (deficit) equity	(54,723)	111,492	187,342
Total capitalization	$ 39,369	$ 126,343	$ 202,193

If the underwriters' over-allotment option to purchase additional shares is exercised in full, pro forma as adjusted amount of each of cash and cash equivalents, additional paid-in capital, total stockholders' (deficit) equity and total capitalization as of December 31, 2017 would be approximately $212.2 million, $255.6 million, $199.2 million and $214.1 million, respectively.

The table above excludes:

- 3,179,536 shares of our common stock issuable upon the exercise of stock options outstanding as of December 31, 2017, at a weighted average exercise price of $1.88 per share;
- 47,494 shares of our common stock issuable upon the exercise of warrants to purchase shares of preferred stock outstanding as of December 31, 2017 that will become warrants to purchase common stock, at a weighted average exercise price of $2.84 per share, upon the closing of this offering;
- 390,777 shares of our common stock issuable upon the exercise of stock options granted in connection with this offering under the 2018 Plan, which became effective in connection with this offering, to certain of our directors, executive officers and employees, at an exercise price per share equal to the initial public offering price in this offering;
- 953,915 shares of our common stock reserved for future issuance under the 2018 Plan, as well as shares of our common stock that become available pursuant to provisions in the 2018 Plan that automatically increase the share reserve under the 2018 Plan as described in "Executive and Director Compensation—Incentive Plans—2018 Incentive Award Plan"; and
- 336,356 shares of our common stock available for future issuance under the 2018 ESPP, which became effective in connection with this offering, as well as shares of our common stock that become available pursuant to provisions in the 2018 ESPP that automatically increase the share reserve under the 2018 ESPP as described in "Executive and Director Compensation—Incentive Plans—2018 Employee Stock Purchase Plan."

DILUTION

If you invest in our common stock in this offering, your ownership interest will be immediately diluted to the extent of the difference between the initial public offering price per share and the pro forma as adjusted net tangible book value per share of our common stock after this offering.

As of December 31, 2017, our historical net tangible book value was approximately $(54.7) million, or $(14.10) per share of common stock. Our historical net tangible book value per share represents total tangible assets less total liabilities and less convertible preferred stock, divided by the number of shares of our common stock outstanding as of December 31, 2017.

Our pro forma net tangible book value as of December 31, 2017 was approximately $111.5 million, or $4.25 per share. Pro forma net tangible book value represents the amount of our total tangible assets less total liabilities, after giving effect to (1) the sale by us of 25,232,199 shares of Series C preferred stock from February 2018 to March 2018 for gross proceeds of $81.5 million, and the automatic conversion of such shares of preferred stock into 6,185,870 shares of common stock upon the closing of this offering (2) the automatic conversion of all shares of our preferred stock outstanding as of December 31, 2017 into an aggregate of 16,139,518 shares of our common stock upon the closing of this offering, (3) the exercise of a warrant to purchase 134 shares of common stock for an aggregate purchase price of $5.49, which occurred on April 9, 2018, (4) the outstanding warrants to purchase shares of our preferred stock becoming warrants to purchase an aggregate of 47,494 shares of our common stock upon the closing of this offering; (5) the issuance by us of 250,000 shares of Series B preferred stock in January 2018 to a consultant as partial consideration for services rendered and the automatic conversion of such shares of preferred stock into 61,289 shares of common stock upon the closing of this offering and (6) the additional draw down of $5.0 million under our loan and security agreement with Pacific Western Bank on February 7, 2018 including the issuance of a warrant to purchase our preferred stock that will become a warrant to purchase an aggregate of 8,512 shares of our common stock upon the closing of this offering. Pro forma net tangible book value per share represents our pro forma net tangible book value divided by the total number of shares outstanding as of December 31, 2017, after giving effect to the pro forma adjustment described above.

After giving further effect to the sale of 5,312,500 shares of common stock in this offering at the initial public offering price of $16.00 per share, and after deducting the underwriting discounts and commissions and estimated offering expenses payable by us, our pro forma as adjusted net tangible book value as of December 31, 2017 would have been approximately $187.4 million, or $5.93 per share. This amount represents an immediate increase in pro forma net tangible book value of $1.69 per share to our existing stockholders and an immediate dilution of approximately $10.07 per share to new investors participating in this offering. We determine dilution by subtracting the pro forma as adjusted net tangible book value per share after this offering from the amount of cash that a new investor paid for a share of common stock. The following table illustrates this dilution:

Initial public offering price per share		$16.00
Historical net tangible book value per share as of December 31, 2017	$(14.10)	
Increase (decrease) per share attributable to the sale by us of 250,000 shares of Series B preferred stock in January 2018 and 25,232,199 shares of Series C preferred stock from February 2018 to March 2018, the conversion of our preferred stock, the exercise of a warrant to purchase common stock in April 2018 and warrants to purchase preferred stock becoming warrants to purchase common stock upon the closing of this offering	18.35	
Pro forma net tangible book value (deficit) per share as of December 31, 2017	4.25	
Increase in pro forma net tangible book value per share attributable to new investors in this offering	11.75	
Pro forma as adjusted net tangible book value per share after this offering		$ 5.93
Dilution per share to new investors in this offering		$10.07

If the underwriters exercise their over-allotment option to purchase additional shares of our common stock in full, the pro forma as adjusted net tangible book value after this offering would be $6.15 per share, the increase in pro forma net tangible book value per share would be $0.22 and the total dilution per share to new investors would be $9.85 per share, in each case based on the initial public offering price of $16.00 per share.

The following table summarizes the pro forma as adjusted basis, as of December 31, 2017, the differences between the number of shares of common stock purchased from us, the total consideration paid to us in cash and the average price per share paid by existing stockholders and new investors. The calculation below is based on the initial public offering price of $16.00 per share, before deducting the underwriting discounts and commissions and estimated offering expenses payable by us.

	Shares Purchased		Total Consideration		Average Price Per Share
	Number	Percent	Amount	Percent	
Existing stockholders(1)	26,558,354	83%	$156,900,000	65%	$ 5.91
New investors	5,312,500	17%	$ 85,000,000	35%	$ 16.00
Total	31,870,854	100%	$241,900,000	100%	

(1) Certain of our existing stockholders, including entities affiliated with certain of our directors, have indicated an interest in purchasing an aggregate of approximately $40.0 million in shares of our common stock in this offering at the initial public offering price. The presentation in this table regarding ownership by existing stockholders does not give effect to any purchases in this offering by such stockholders.

The foregoing tables and calculations are based on the number of shares of our common stock outstanding as of December 31, 2017 (which includes 257,876 shares of issued but unvested restricted stock subject to repurchase), and excludes:

- 3,179,536 shares of common stock issuable upon exercise of stock options outstanding as of December 31, 2017, at a weighted-average exercise price of $1.88 per share;
- 47,494 shares of common stock issuable upon the exercise of warrants to purchase preferred stock that will become warrants to purchase common stock, at a weighted average exercise price of $2.84 per share, upon the closing of this offering;
- 390,777 shares of common stock issuable upon the exercise of stock options granted in connection with this offering under the 2018 Plan, which became effective in connection with this offering, to certain of our directors, executive officers and employees, at an exercise price per share equal to the public offering price in this offering;
- 953,915 shares of our common stock reserved for future issuance under the 2018 Plan, as well as shares of our common stock that become available pursuant to provisions in the 2018 Plan that automatically increase the share reserve under the 2018 Plan as described in “Executive and Director Compensation—Incentive Plans—2018 Incentive Award Plan”; and
- 336,356 shares of our common stock available for future issuance under the 2018 ESPP, which became effective in connection with this offering, as well as shares of our common stock that become available pursuant to provisions in the 2018 ESPP that automatically increase the share reserve under the 2018 ESPP as described in “Executive and Director Compensation—Incentive Plans—2018 Employee Stock Purchase Plan.”

The foregoing discussion and tables also assume no exercise of any options or warrants outstanding as of December 31, 2017. To the extent any of these outstanding options or warrant is exercised, there will be further dilution to new investors. If all of such outstanding options and warrant had been exercised as of December 31, 2017, the pro forma as adjusted net tangible book value per share after this offering would be $5.56, and total dilution per share to new investors would be $10.44.

If the underwriters exercise their over-allotment option to purchase additional shares of our common stock in full:

- the percentage of shares of common stock held by existing stockholders will decrease to approximately 81% of the total number of shares of our common stock outstanding after this offering; and
- the number of shares held by new investors will increase to 6,109,375, or approximately 19% of the total number of shares of our common stock outstanding after this offering.

SELECTED CONSOLIDATED FINANCIAL DATA

You should read the following selected consolidated financial data together with our consolidated financial statements and the related notes appearing at the end of this prospectus and the "Management's Discussion and Analysis of Financial Condition and Results of Operations" section of this prospectus. We have derived the consolidated statement of operations data for the year ended December 31, 2017 and 2016 and the consolidated balance sheet data as of December 31, 2017 and 2016 from our audited consolidated financial statements appearing at the end of this prospectus. Our historical results are not necessarily indicative of the results that should be expected in the future.

	Year Ended December 31,	
	2017	2016
	(in thousands, except share and per share amounts)	
Statement of Operations Data:		
Operating expenses:		
Research and development	$ 19,957	$ 9,134
General and administrative	7,574	3,891
Total operating expenses	27,531	13,025
Loss from operations	(27,531)	(13,025)
Other (expense) income:		
Interest expense, net	(215)	(287)
Other expenses	(301)	(20)
Other income (expense), net	(516)	(307)
Net loss	$ (28,047)	$ (13,332)
Convertible preferred stock dividends	(6,085)	(1,645)
Net loss attributable to common stockholders	$ (34,132)	$ (14,977)
Net loss per share attributable to common stockholders, basic and diluted(1)	$ (9.10)	$ (5.28)
Weighted average number of common shares outstanding, basic and diluted(1)	3,750,790	2,834,733
Pro forma net loss per share attributable to common stockholders, basic and diluted (unaudited)(2)	$ (1.48)	
Pro forma weighted average common shares outstanding, basic and diluted (unaudited)(2)	18,807,993	

	As of December 31, 2017	As of December 31, 2016
	(in thousands)	
Balance Sheet Data:		
Cash and cash equivalents	$ 38,246	$ 15,536
Working capital(3)	34,938	13,472
Total assets	43,788	18,570
Long-term debt	9,966	9,931
Convertible preferred stock	83,702	33,863
Accumulated deficit	(56,411)	(28,341)
Total stockholders' (deficit) equity	(54,723)	(28,337)

(1) See Note 2 to our audited consolidated financial statements appearing at the end of this prospectus for further details on the calculation of basic and diluted net loss per share attributable to common stockholders.

(2) See Note 13 to our audited consolidated financial statements appearing at the end of this prospectus for further details on the calculation of our unaudited basic and diluted pro forma net loss per share attributable to common stockholders.

(3) We define working capital as current assets less current liabilities.

MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

You should read the following discussion and analysis of financial condition and results of operations together with the section titled "Selected Consolidated Financial Data" and our consolidated financial statements and related notes included elsewhere in this prospectus. This discussion and other parts of this prospectus contain forward-looking statements that involve risks and uncertainties, such as statements regarding our plans, objectives, expectations, intentions and projections. Our actual results could differ materially from those discussed in these forward-looking statements. Factors that could cause or contribute to such differences include, but are not limited to, those discussed in the "Risk Factors" section of this prospectus.

Overview

Evelo Biosciences is discovering and developing potential therapies designed to act on the gut-body network. The action of our therapies is based on our growing understanding of the central role of the gut in controlling immune and biological activity throughout the body. The gut-body network represents the connections of the gut to all organs and tissues, which enables the gut to exert a significant level of control over the body's immune and biological systems. The centrality of the gut-body network to the immune system has only recently become appreciated, and modern medicine and drug discovery have largely overlooked the importance of the gut-body network in fighting disease. We believe that we have the potential to use the unexplored biology of the gut-body network to develop novel therapies that could transform the treatment of many major diseases, potentially driving profound benefits to patients and society.

The gut, or the gastrointestinal tract, is the largest part of the immune system and is a central hub of the body's network of lymphatic vessels. Immune cells from around the body circulate via these lymphatic vessels through tissues of the gut, where they are conditioned by exposure to many antigens and immunomodulatory agents that continuously pass through the gut. These conditioned immune cells then continue to travel throughout the body and can impact disease and health at all sites of the body. Microbes, in particular, have the ability to condition immune cells in the gut.

We are developing orally-delivered pharmaceutical compositions of specific strains of naturally-occurring microbes derived from a single clone, which we refer to as monoclonal microbials. Our monoclonal microbials are designed to act on the gut-body network. We and our collaborators have observed in preclinical studies that our monoclonal microbials can downregulate or upregulate immune responses throughout the body by acting on the gut-body network with naturally-evolved pharmacology. We believe that monoclonal microbials exert their effects through interactions with host immune cells as they pass through the gut. Based on our preclinical studies, we believe that our product candidates could significantly improve the treatment of many diseases.

We were incorporated and commenced operations in 2014. Since our incorporation, we have devoted substantially all of our resources to developing our clinical and preclinical candidates, building our intellectual property portfolio and process development and manufacturing function, business planning, raising capital and providing general and administrative support for these operations. To date, we have financed our operations primarily with proceeds from sales of our convertible preferred stock to our equity investors and borrowings under a loan and security agreement, as amended, with Pacific Western Bank, or the loan and security agreement. Through December 31, 2017, we had received gross proceeds of $85.4 million from sales of our convertible preferred stock and borrowings under our loan and security agreement. In February 2018, we raised approximately $47.5 million from the sale of our Series C preferred stock and borrowed an additional $5.0 million under our loan and security agreement. In March 2018, we raised approximately $34.0 million from additional sales of our Series C preferred stock.

On June 16, 2016, we acquired Epiva Biosciences, Inc., or Epiva, a privately held research company focused on microbes for inflammatory disease, in order to create synergies and expand the depth of our research platform.

Epiva held intellectual property rights related to microbes affecting inflammatory diseases. The acquisition resulted in the exchange of all shares of Epiva stock for shares of our stock at an exchange rate of 1-for-0.8333 for Epiva preferred stock and 1-for-0.2043 for Epiva common stock. The holders of Epiva common stock and common stock options received shares of the our common stock or options. The holders of Epiva Series A and A-2 Preferred Stock received shares of our Series A-1 and A-3 Preferred Stock, respectively. Both we and Epiva received funding from various investment funds that are managed by the same entity. We assessed the ownership structure of the two companies as well as the investment funds and determined, based on the ownership structure and other rights provided through other relevant arrangements, such as voting rights agreements, limited partnership agreements and general partnership agreements, that the ultimate controlling parent of each of Evelo and Epiva was the same entity both immediately before and immediately after the acquisition. As a result, we and Epiva were considered to be under common control. The net assets received by us as a result of the acquisition were determined to represent an asset and not a business. This conclusion was primarily based on the fact that substantially all of the fair value of the gross assets received, excluding cash acquired, related to Epiva's intellectual property rights. This conclusion considered the nature of Epiva's operations immediately prior to the acquisition as well as Epiva's limited operating history.

We are a development stage company and have not generated any revenue. All of our product candidates are in clinical or preclinical development. Our ability to generate product revenue sufficient to achieve profitability will depend heavily on the successful development and eventual commercialization of one or more of our product candidates. Since our inception, we have incurred significant operating losses. For the year ended December 31, 2017, our net loss was $28.0 million. As of December 31, 2017, we had an accumulated deficit of $56.4 million. We do not expect to generate revenue from sales of any products for the foreseeable future, if at all.

We expect that our expenses will increase substantially in connection with our ongoing activities, particularly as we:

- initiate proof of concept clinical trials of EDP1066, EDP1815 and EDP1503;
- advance the clinical development of any additional monoclonal microbial product candidates;
- conduct research and continue preclinical development of potential product candidates;
- make strategic investments in manufacturing capabilities, including potentially planning and building a small-scale commercial manufacturing facility;
- maintain our current intellectual property portfolio and opportunistically acquire complementary intellectual property; and
- seek to obtain regulatory approvals for our product candidates.

In addition, if we obtain marketing approval for any of our product candidates, we expect to incur significant commercialization expenses related to product manufacturing, marketing, sales and distribution. Furthermore, upon the closing of this offering, we expect to incur additional costs associated with operating as a public company.

As a result, we will need additional financing to support our continuing operations. Until such time as we can generate significant revenue from product sales, if ever, we expect to finance our operations through a combination of public or private equity or debt financings or other sources, which may include collaborations with third parties. Adequate additional financing may not be available to us on acceptable terms, or at all. Our inability to raise capital as and when needed would have a negative impact on our financial condition and our ability to pursue our business strategy. We will need to generate significant revenue to achieve profitability, and we may never do so.

Because of the numerous risks and uncertainties associated with drug development, we are unable to predict the timing or amount of increased expenses or when or if we will be able to achieve or maintain profitability.

Even if we are able to generate revenue from product sales, we may not become profitable. If we fail to become profitable or are unable to sustain profitability on a continuing basis, then we may be unable to continue our operations at planned levels and be forced to reduce or terminate our operations.

As of March 31, 2018, our cash and cash equivalents totaled approximately $114.3 million. We expect that our existing cash and cash equivalents together with the anticipated net proceeds from this offering, will enable us to fund our operating expenses and capital expenditure requirements into the second half of 2020. We have based these estimates on assumptions that may prove to be wrong, and we may use our available capital resources sooner than we currently expect. See "—Liquidity and Capital Resources."

Financial Operations Overview

Revenue

We have not generated any revenue since our inception and do not expect to generate any revenue from the sale of products in the near future if at all. If our development efforts for our current product candidates or additional product candidates that we may develop in the future are successful and result in marketing approval or if we enter into collaboration or license agreements with third parties, we may generate revenue in the future from a combination of product sales or payments from such collaboration or license agreements.

Operating Expenses

Our operating expenses since inception have consisted primarily of research and development activities and general and administrative costs.

Research and Development Expenses

Research and development expenses consist primarily of costs incurred for our research activities, including our discovery efforts, and the development of our product candidates, which include:

- expenses incurred under agreements with third parties, including contract research organizations, or CROs, that conduct research, preclinical activities and clinical trials on our behalf as well as contract manufacturing organizations, or CMOs, that manufacture drug substance and drug product for use in our preclinical and any future clinical trials;
- expenses to acquire technologies to be used in research and development;
- salaries, benefits and other related costs, including stock-based compensation expense, for personnel in our research and development functions;
- costs of outside consultants, including their fees, stock-based compensation and related travel expenses;
- the cost of laboratory supplies and acquiring, developing and manufacturing preclinical study and clinical trial materials;
- costs related to compliance with regulatory requirements; and
- facility-related expenses, which include direct depreciation costs and allocated expenses for rent and maintenance of facilities and other operating costs.

We expense research and development costs as incurred. We recognize external development costs based on an evaluation of the progress to completion of specific tasks using information provided to us by our vendors and our clinical investigative sites. Payments for these activities are based on the terms of the individual agreements, which may differ from the pattern of costs incurred, and are reflected in our financial statements as prepaid or accrued research and development expenses. Nonrefundable advance payments for goods or services to be

received in the future for use in research and development activities are deferred and capitalized, even when there is no alternative future use for the research and development. The capitalized amounts are expensed as the related goods are delivered or the services are performed.

Our primary focus of research and development since inception has been building a platform to enable us to develop medicines based on an understanding of the gut-body network and to show potential clinical utility. Our platform and program expenses consist principally of costs, such as preclinical research, preclinical manufacturing activity costs, licensing expense as well as an allocation of certain indirect costs, facility costs and depreciation expense. We do not allocate personnel costs, which include salaries, discretionary bonus and stock-based compensation costs, as such costs are separately classified as research and development personnel costs.

The table below summarizes our research and development expenses incurred on our platform and by product development program (in thousands):

	Year Ended December 31,	
	2017	2016
Gut-body network platform expenses	$ 3,806	$ 2,064
Inflammation programs	4,284	—
Oncology programs	3,706	2,581
Other program expenses	566	393
Research and development personnel costs (including stock-based compensation)	7,595	4,096
Total research and development expenses	$ 19,957	$ 9,134

Research and development activities are central to our business model. Product candidates in later stages of clinical development generally have higher development costs than those in earlier stages of clinical development, primarily due to the increased size and duration of later-stage clinical trials. We expect that our research and development expenses will continue to increase in the foreseeable future as we initiate clinical trials for certain product candidates, including EDP1066, EDP1815 and EDP1503, and continue to discover and develop additional product candidates, build manufacturing capabilities and expand into additional therapeutic areas.

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, and obtain regulatory approval for, any of our product candidates. We are also unable to predict when, if ever, material net cash inflows will commence from sales or licensing of our product candidates. This is due to the numerous risks and uncertainties associated with drug development, including the uncertainty of:

- our ability to add and retain key research and development personnel;
- our ability to establish an appropriate safety profile with Investigational New Drug-enabling toxicology studies;
- our ability to successfully develop, obtain regulatory approval for, and then successfully commercialize, our product candidates;
- our successful enrollment in and completion of clinical trials;
- the costs associated with the development of any additional product candidates we identify in-house or acquire through collaborations;
- our ability to discover, develop and utilize biomarkers to demonstrate target engagement, pathway engagement and the impact on disease progression of our product candidates;
- our ability to establish and maintain agreements with third-party manufacturers for clinical supply for our clinical trials and commercial manufacturing, if our product candidates are approved;

- the terms and timing of any collaboration, license or other arrangement, including the terms and timing of any milestone payments thereunder;
- our ability to obtain and maintain patent, trade secret and other intellectual property protection and regulatory exclusivity for our product candidates if and when approved;
- our receipt of marketing approvals from applicable regulatory authorities;
- our ability to commercialize products, if and when approved, whether alone or in collaboration with others; and
- the continued acceptable safety profiles of the product candidates following approval.

A change in any of these variables with respect to the development of any of our product candidates would significantly change the costs, timing and viability associated with the development of that product candidate. We expect our research and development expenses to increase at least over the next several years as we continue to implement our business strategy, advance our current programs, expand our research and development efforts, seek regulatory approvals for any product candidates that successfully complete clinical trials, identify and develop additional product candidates and incur expenses associated with hiring additional personnel to support our research and development efforts.

General and Administrative Expenses

General and administrative expenses consist primarily of salaries and other related costs, including stock-based compensation, for personnel in our executive, finance, corporate and business development, and administrative functions. General and administrative expenses also include legal fees relating to patent and corporate matters; professional fees for accounting, auditing, tax and administrative consulting services; insurance costs; administrative travel expenses; and facility-related expenses, which include direct depreciation costs and allocated expenses for rent and maintenance of facilities and other operating costs.

We anticipate that our general and administrative expenses will increase in the future as we increase our headcount to support the expected growth in our research and development activities and the potential commercialization of our product candidates. We also expect to incur increased expenses associated with being a public company, including increased costs of accounting, audit, legal, regulatory and tax-related services associated with maintaining compliance with exchange listing and SEC requirements, director and officer insurance costs and investor and public relations costs.

Interest Expense, Net

Interest expense, net consists of interest expense incurred on our debt, net of interest earned on our cash and cash equivalents. During the years ended December 31, 2017 and 2016, interest expense, net consisted primarily of interest at the stated rate on borrowings under our loan and security agreement, amortization of deferred financing costs and interest expense related to the accretion of debt discount associated with the loan and security agreement.

Other Expenses

Other expenses primarily consists of non-cash changes in the fair value of warrants issued in connection with our loan and security agreement, after which it will no longer be remeasured at fair value.

Income Taxes

Since our inception in 2014, we have not recorded any U.S. federal or state income tax benefits for the net losses we have incurred in each year or our earned research and development tax credits, due to our uncertainty

of realizing a benefit from those items. As of December 31, 2017, we had federal and state net operating loss carryforwards of $50.2 million and $41.9 million, respectively, both of which expire at various dates through 2037. As of December 31, 2017, we also had federal and state research and development tax credit carryforwards of $0.8 million and $0.5 million, respectively, each of which begin to expire in 2030.

Results of Operations

Comparison of Years Ended December 31, 2017 and 2016

The following table summarizes our results of operations for the years ended December 31, 2017 and 2016 (in thousands):

	Year Ended December 31, 2017	2016	Increase/(Decrease)
Operating expenses:			
Research and development	$ 19,957	$ 9,134	$ 10,823
General and administrative	7,574	3,891	3,683
Total operating expenses	27,531	13,025	14,506
Loss from operations	(27,531)	(13,025)	14,506
Other (expense) income:			
Interest expense, net	(215)	(287)	(72)
Other expense	(301)	(20)	281
Other income (expense), net	(516)	(307)	209
Net loss	$ (28,047)	$ (13,332)	$ 14,715

Research and Development Expenses (in thousands):

	Year Ended December 31, 2017	2016	Increase/(Decrease)
Gut-body network platform expenses	$ 3,806	$ 2,064	$ 1,742
Inflammation programs	4,284	—	4,284
Oncology programs	3,706	2,581	1,125
Other program expenses	566	393	173
Research and development personnel costs (including stock-based compensation)	7,595	4,096	3,499
Total research and development expenses	$ 19,957	$ 9,134	$ 10,823

Research and development expenses were $20.0 million for the year ended December 31, 2017, compared to $9.1 million for the year ended December 31, 2016. The increase of $10.8 million was due primarily to an increase of $4.3 million in costs for our inflammation programs, including the external preclinical research, preclinical manufacturing activity costs and licensing expense, an increase of $1.7 million in platform expense due to the overall growth of the research and development departments in-line with our growth, an increase of $1.1 million in costs for the oncology programs, primarily due to increases in external preclinical research and preclinical manufacturing activity in 2017, and an increase of $3.5 million in personnel costs, including increases in salaries and bonus of $2.4 million and increases in other headcount expenses to support research and development activity. We expect that our research and development expenses will continue to increase in the foreseeable future as we anticipate the initiation of clinical trials for certain product candidates, including EDP1066, EDP1815 and EDP1503, and continue discovery and development efforts for additional product candidates, seek to increase manufacturing capabilities and possibly expand into additional therapeutic areas.

General and Administrative Expenses (in thousands):

	Year Ended December 31,		
	2017	2016	Increase/(Decrease)
General and administrative personnel costs (including stock-based compensation)	$ 3,237	$ 2,035	$ 1,202
Professional fees	2,758	826	1,932
Facility costs, office expense and other	1,579	1,030	549
Total general and administrative expenses	$ 7,574	$ 3,891	$ 3,683

General and administrative expenses were $7.6 million for the year ended December 31, 2017, compared to $3.9 million for the year ended December 31, 2016. The increase of $3.7 million was primarily due to an increase of $1.9 million in professional fees, including legal, patent and other professional consulting fees related to business development and an increase of $1.2 million in personnel costs, including an increase of $0.5 million in stock-based compensation expense and $0.4 million in salaries and bonus. The remaining increase was related to recruiting, benefits and other various expenses.

Other Income (Expense), Net

Other income (expense), net for the year ended December 31, 2017 was an expense of $(0.5) million, compared to an expense of $(0.3) million for the year ended December 31, 2016. This overall increase was driven by a $0.3 million increase in other expense as a result of an increase in the fair value of the warrants as well as an increase in interest paid on long-term debt, which payments began during August 2016. This was partially offset by an increase in interest income of $0.1 million from the larger cash balance in 2017.

Liquidity and Capital Resources

To date, we have financed our operations primarily with proceeds from sales of our convertible preferred stock to our equity investors and borrowings under the loan and security agreement. From our inception through December 31, 2017, we had received gross proceeds of $85.4 million from such transactions, including $10.0 million borrowed under the loan and security agreement. As of December 31, 2017, we had cash and cash equivalents of $38.2 million and an accumulated deficit of $56.4 million. Our cash and cash equivalents totaled approximately $114.3 million as of March 31, 2018.

In connection with the acquisition of Epiva, we assumed Epiva's credit facility and the related $3.0 million of outstanding debt. In August 2016, we amended the loan and security agreement to allow us to borrow up to $15.0 million, including the $3.0 million that was outstanding on the modification date, and extending the maturity date to August 15, 2020. During 2016, we borrowed an additional $7.0 million, bringing the total amounts outstanding as of December 31, 2016 and 2017 to $10.0 million. Under the terms of the loan and security agreement, we are required to make interest only payments through August 15, 2018. Upon the expiration of the interest only period, amounts borrowed will be repaid over 24 equal monthly payments of principal plus interest accrued through August 15, 2020. As of December 31, 2017, the amounts outstanding under the loan and security agreement had an interest rate of the higher of (i) prime plus 0.25% or (ii) 3.75% per annum. The loan is secured by a lien on all of our assets, excluding intellectual property.

In February 2018, we borrowed the additional $5.0 million available under the loan and security agreement. This resulted in an increase to the interest rate to the higher of (i) prime plus 0.25% or (ii) 4.50% per annum. The interest only payment period was extended to August 15, 2019. Upon the expiration of the interest only period, amounts borrowed will be repaid over 24 equal monthly payments of principal plus interest accrued through August 15, 2021. We may prepay the outstanding loan at its option with a prepayment fee of 2% of principal amount if prepayment is made before August 15, 2018 or 0.5% if the prepayment is made between August 15, 2018 and August 15, 2019.

There are no financial covenants associated with the agreement. The agreement contains negative covenants restricting our activities, including limitations on cash deposits, dispositions, mergers or acquisitions, incurring indebtedness or liens, paying dividends or making investments and certain other business transactions. The obligations under the agreement are subject to acceleration upon the occurrence of specified events of default, including a material adverse change in our business, operations or financial or other condition.

In connection with entering into the prior loan and security agreement, in November 2015, we issued Comerica Bank a warrant to purchase 100,000 shares of our Series A preferred stock at an exercise price of $0.60 per share. In connection with entering into the loan and security agreement, in August 2016, we issued Pacific Western Bank a warrant to purchase 62,497 shares of Series A-1 preferred stock at an exercise price of $0.60 per share and a warrant to purchase 31,248 shares of Series A-3 preferred stock at an exercise price of $1.20 per share. In connection with the execution of the third amendment to the loan and security agreement, in February 2018, we issued Pacific Western Bank a warrant to purchase 34,722 shares of Series B preferred stock at an exercise price of $1.80 per share. Upon the closing of this offering, these warrants will automatically be converted to warrants to purchase an aggregate of 56,006 shares of common stock at a weighted average exercise price of $3.53 per share.

From February 2018 to March 2018, we received gross proceeds of $81.5 million from sales of our Series C preferred stock.

Cash Flows

The following table summarizes our sources and uses of cash for each of the periods presented (in thousands):

	Year Ended December 31,	
	2017	2016
Cash used in operating activities	$ (23,265)	$ (12,314)
Cash (used in)/provided by investing activities	(1,742)	9,263
Cash provided by financing activities	48,967	15,742
Net increase in cash, cash equivalents and restricted cash	$ 23,960	$ 12,691

Operating Activities

Net cash used in operating activities for the year ended December 31, 2017, was $23.3 million primarily due to our net loss of $28.0 million. This was partially offset by non-cash charges, including stock-based compensation expense of $1.5 million, depreciation expense of $0.8 million, change in fair value of warrant liability of $0.3 million and change in working capital of $2.2 million.

Net cash used in operating activities for the year ended December 31, 2016, was $12.3 million, primarily due to our net loss of $13.3 million. This was partially offset by non-cash charges, including stock-based compensation expense of $0.4 million, depreciation of $0.5 million and change in working capital of $0.1 million.

Investing Activities

Net cash used in investing activities for the year ended December 31, 2017, was $1.7 million, primarily due to the purchase of capital equipment during the period.

Net cash provided by investing activities for the year ended December 31, 2016, was $9.2 million, which consisted of $10.5 million of cash received in the acquisition of Epiva, slightly offset by the purchase of capital equipment of $1.3 million.

Financing Activities

Net cash provided by financing activities for the year ended December 31, 2017 was $49.0 million, primarily consisting of net proceeds of $48.9 million from the issuance of our Series B Preferred Stock.

Net cash provided by financing activities for the year ended December 31, 2016, was $15.7 million, primarily consisted of net proceeds of $7.5 million from the issuance of Series A Preferred Stock and Series A-2 Preferred Stock, gross proceeds of $11.0 million from the issuance of long-term debt, $1.0 million received as shareholders' payable for Series B Preferred Stock issued in 2017 and $0.2 million from the exercise of stock options. These were offset by repayment of long-term debt of $4.0 million.

Funding Requirements

We expect our expenses to increase substantially in connection with our ongoing development activities related to the initiation of clinical studies and preclinical work on additional monoclonal microbial product candidates, which are still in development, and our follow-on therapeutics and other programs. In addition, upon the closing of this offering, we expect to incur additional costs associated with operating as a public company. We anticipate that our expenses will increase substantially if and as we:

- initiate or continue proof of concept clinical trials of EDP1066, EDP1815 and EDP1503;
- advance the clinical development of any additional monoclonal microbial product candidates;
- conduct research and continue preclinical development of potential product candidates;
- make strategic investments in manufacturing capabilities, including potentially planning and building a small-scale commercial manufacturing facility;
- maintain our current intellectual property portfolio and opportunistically acquire complementary intellectual property; and
- seek to obtain regulatory approvals for our product candidates.
- potentially establish a sales, marketing and distribution infrastructure and scale-up manufacturing capabilities to commercialize any products for which we may obtain regulatory approval;
- add clinical, scientific, operational, financial and management information systems and personnel, including personnel to support our product development and potential future commercialization efforts and to support our transition to a public company; and
- experience any delays or encounter any issues with any of the above, including but not limited to failed studies, complex results, safety issues or other regulatory challenges.

We expect that our cash and cash equivalents as of March 31, 2018, together with the anticipated net proceeds from this offering, will enable us to fund our operating expenses and capital expenditure requirements into the second half of 2020. We have based this estimate on assumptions that may prove to be wrong, and we may use our available capital resources sooner than we currently expect. Because of the numerous risks and uncertainties associated with the development of EDP1066, EDP1815 and EDP1503, any additional monocolonal microbial product candidates or any follow-on programs and because the extent to which we may enter into collaborations with third parties for development of these product candidates is unknown, we are unable to estimate the amounts of increased capital outlays and operating expenses associated with completing the research and development of our product candidates. Our future capital requirements for our technology platform or our other programs will depend on many factors, including:

- the progress and results of our proof of concept clinical studies of EDP1066, EDP1815 and EDP1503;
- the cost of manufacturing clinical supplies of our product candidates;

- the scope, progress, results and costs of preclinical development, laboratory testing for any other potential product candidates;
- the costs, timing and outcome of regulatory review of our product candidates;
- the costs and timing of future commercialization activities, including manufacturing, marketing, sales and distribution, for any of our product candidates for which we receive marketing approval;
- the revenue, if any, received from commercial sales of our product candidates for which we receive marketing approval;
- the costs and timing of preparing, filing and prosecuting patent applications, maintaining and enforcing our intellectual property rights and defending any intellectual property-related claims;
- the effect of competing technological and market developments; and
- the extent to which we acquire or invest in businesses, products and technologies, including entering into licensing or collaboration arrangements for product candidates, although we currently have no commitments or agreements to complete any such acquisitions or investments in businesses.

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, our product candidates, if approved, may not achieve commercial success. Our commercial revenues, if any, will be derived from sales of products that we do not expect to be commercially available for many years, if ever. Accordingly, we will need to obtain substantial additional funds to achieve our business objectives.

Adequate additional funds may not be available to us on acceptable terms, or at all. We do not currently have any committed external source of funds. To the extent that we raise additional capital through the sale of equity or convertible debt securities, your ownership interest will be diluted, and the terms of these securities may include liquidation or other preferences that adversely affect your rights as a common stockholder. Additional debt financing and preferred equity 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 and may require the issuance of warrants, which could potentially dilute your ownership interest. The terms of our existing loan and security agreement with Pacific Western Bank preclude us from paying dividends on our equity securities without Pacific Western Bank's consent.

If we raise additional funds through 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 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 or terminate our product development programs or any future commercialization efforts or grant rights to develop and market product candidates to third parties that we would otherwise prefer to develop and market ourselves.

Contractual Obligations and Commitments

The following table summarizes our contractual obligations at December 31, 2017 and the effect such obligations are expected to have on our liquidity and cash flows in future periods (in thousands):

	Payments Due by Period				
	Total	Less Than 1 Year	1 – 3 Years	4 – 5 Years	More Than 5 Years
Operating lease commitments(1)	$ 2,952	$ 997	$1,855	$ 100	$ —
Debt obligations(2)	11,248	475	7,608	3,165	—
Total	$14,200	$ 1,472	$9,463	$3,265	$ —

(1) Amounts in the table reflect payments due for our laboratory and office space in Cambridge, Massachusetts under two operating lease agreements that are scheduled to expire in 2020 and 2021.
(2) Reflects the contractually required principal and interest payments payable pursuant to our loan and security agreement, which was subsequently amended in February 2018.

We enter into contracts in the normal course of business with CROs for clinical trials, preclinical research studies and testing, manufacturing and other services and products for operating purposes. These contracts generally provide for termination upon notice, and therefore we believe that our non-cancelable obligations under these agreements are not material.

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 in the rules and regulations of the SEC.

Critical Accounting Policies and Use of Estimates

Our consolidated financial statements are prepared in accordance with generally accepted accounting principles, or GAAP, in the United States of America. The preparation of our consolidated financial statements and related disclosures requires us to make estimates and assumptions that affect the reported amount of assets, liabilities, revenue, costs and expenses, and related disclosures. We believe that the estimates and assumptions involved in the accounting policies described below may have the greatest potential impact on our consolidated financial statements and, therefore, consider these to be our critical accounting policies. We evaluate our estimates and assumptions on an ongoing basis. Our actual results may differ from these estimates under different assumptions and conditions.

Accrued Research and Development Expenses

As part of the process of preparing our consolidated financial statements, we are required to estimate our accrued research and development expenses. This process involves reviewing open contracts and purchase orders, communicating with our personnel to identify services that have been performed on our behalf and estimating the level of service performed and the associated costs incurred for the services when we have not yet been invoiced or otherwise notified of the actual costs. The majority of our service providers invoice us in arrears for services performed, on a pre-determined schedule or when contractual milestones are met; however, some require advanced payments. We make estimates of our accrued expenses as of each balance sheet date in our financial statements based on facts and circumstances known to us at that time. Examples of estimated accrued research and development expenses include fees paid to:

- CROs in connection with performing research services on our behalf and preclinical studies and any clinical trials;
- investigative sites or other providers in connection with preclinical studies and any clinical trials;
- vendors in connection with preclinical and clinical development activities; and
- vendors related to product manufacturing, development and distribution of preclinical and clinical supplies.

We base our expenses related to preclinical studies and clinical trials on our estimates of the services received and efforts expended pursuant to quotes and contracts with multiple CROs that conduct and manage preclinical studies and clinical trials on our behalf. The financial terms of these agreements are subject to negotiation, vary from contract to contract and may result in uneven payment flows. There may be instances in which payments made to our vendors will exceed the level of services provided and result in a prepayment of the

clinical expense. Payments under some of these contracts depend on factors such as the successful enrollment of patients and the completion of milestones. In accruing service fees, we estimate the time period over which services will be performed, enrollment of patients, number of sites activated and the level of effort to be expended in each period. If the actual timing of the performance of services or the level of effort varies from our estimate, we adjust the accrual or amount of prepaid expense accordingly. Although we do not expect our estimates to be materially different from amounts actually incurred, our understanding of the status and timing of services performed relative to the actual status and timing of services performed may vary and may result in us reporting amounts that are too high or too low in any particular period. To date, we have not made any material adjustments to our prior estimates of accrued research and development expenses.

Stock-Based Compensation

We measure stock options and other stock-based awards granted to employees and directors based on the fair value on the date of grant and recognize the corresponding compensation expense of those awards, net of estimated forfeitures, over the requisite service period, which is generally the vesting period of the respective award. Generally, we issue stock options and restricted stock awards with only service-based vesting conditions and record the expense for these awards using the straight-line method. We measure stock-based awards granted to consultants and non-employees based on the fair value of the award on the date at which the related service is complete. Compensation expense is recognized over the period during which services are rendered by such consultants and non-employees until completed. At the end of each financial reporting period prior to completion of the service, the fair value of these awards is remeasured using the then-current fair value of our common stock and updated assumption inputs in the Black-Scholes option-pricing model.

We estimate the fair value of each stock option grant using the Black-Scholes option-pricing model. Use of this model requires that we make assumptions as to the volatility of our common stock, the expected term of our stock options, the risk-free interest rate for a period that approximates the expected term of our stock options, and our expected dividend yield. Because we are currently a private company and lack company-specific historical and implied volatility information, we estimate our expected volatility based on the historical volatility of a group of publicly traded peer companies. We expect to continue to do so until such time as we have adequate historical data regarding the volatility of our traded stock price. We use the simplified method prescribed by SEC Staff Accounting Bulletin No. 107, *Share-Based Payment*, to calculate the expected term of options granted to employees and directors. We base the expected term of options granted to consultants and non-employees on the contractual term of the options. We determine the risk-free interest rate by reference to the U.S. Treasury yield curve in effect at the time of grant of the award for time periods approximately equal to the expected term of the award. Expected dividend yield is based on the fact that we have never paid cash dividends and do not expect to pay any cash dividends in the foreseeable future.

The assumptions we used to determine the fair value of stock options granted to employees and directors are as follows, presented on a weighted average basis:

	Year Ended December 31,	
	2017	2016
Risk-free interest rate	2.03%	1.33%
Expected term (in years)	6.18	5.66
Expected volatility	79.5%	87.2%
Expected dividend yield	0.00%	0.00%
Fair value of common stock	$2.49 – 8.12	$0.49 - 2.49

The assumptions we used to determine the fair value of stock options granted to consultants and non-employees are as follows, presented on a weighted average basis:

	Year Ended December 31,	
	2017	2016
Risk-free interest rate	2.30%	2.35%
Expected term (in years)	9.43	9.51
Expected volatility	78.9%	89.0%
Expected dividend yield	0.00%	0.00%
Fair value of common stock	$2.49 – 8.12	$0.49 - 2.49

These assumptions represented our best estimates, but the estimates involve inherent uncertainties and the application of our judgment.

We recognize compensation expense for only the portion of awards that are expected to vest. In developing a forfeiture rate estimate for pre-vesting forfeitures, we have considered our historical experience of actual forfeitures.

The following table summarizes the classification of our stock-based compensation expenses recognized in our consolidated statements of operations (in thousands):

	Year Ended December 31,	
	2017	2016
Research and development	$ 849	$ 205
General and administrative	693	214
Total	$ 1,542	$ 419

Determination of the Fair Value of Common Stock

We are a privately held company with no active public market of our common stock. Therefore, our board of directors has estimated the fair value of our common stock at various dates, with input from management, considering our most recently available third-party valuations of common stock and our board of directors' assessment of additional objective and subjective factors that it believed were relevant and which may have changed from the date of the most recent valuation through the date of the grant.

In the absence of a public trading market for our common stock, our determination of the fair value of our common stock was performed using methodologies, approaches and assumptions consistent with the American Institute of Certified Public Accountants' Accounting and Valuation Guide, *Valuation of Privately-Held-Company Equity Securities Issued as Compensation*.

For financial statement purposes, we performed common stock valuations, with the assistance of a third-party specialist, at various dates, which resulted in valuations of our common stock of $2.49 per share as of January 15, 2017, $3.06 per share as of March 31, 2017, $4.53 per share as of June 30, 2017, $6.32 per share as of September 30, 2017 and $8.12 per share as of December 31, 2017. In addition to these valuations, we considered various objective and subjective factors to determine the fair value of our common stock as of each grant date, including:

- the prices at which we sold shares of preferred stock and the preferential rights and preferences of the preferred stock relative to our common stock at the time of each grant;
- the progress of our research and development programs, including the status of preclinical studies for our product candidates;
- our stage of development and our business strategy;

- external market conditions affecting the biotechnology and pharmaceutical industries;
- trends within the biotechnology and pharmaceutical industries;
- our financial position, including cash and cash equivalents on hand, and our historical and forecasted performance and operating results;
- the lack of an active public market for our common stock and our preferred stock;
- the likelihood of achieving a liquidity event, such as an initial public offering ("IPO"), or sale of our company in light of prevailing market conditions; and
- the analysis of IPOs and the market performance of similar companies in the biotechnology and pharmaceutical industries.

There are significant judgments and estimates inherent in these valuations. These judgments and estimates include assumptions regarding our future operating performance, the stage of development of our product candidates, the timing of a potential IPO or other liquidity event and the determination of the appropriate valuation methodology at each valuation date. If we had made different assumptions, our stock-based compensation expense, net loss attributable to common stockholders and net loss per share attributable to common stockholders could have been significantly different.

Once a public trading market for our common stock has been established in connection with the closing of this offering, it will no longer be necessary for our board of directors to estimate the fair value of our common stock in connection with our accounting for granted stock options and restricted stock, as the fair value of our common stock will be determined based on its trading price on The Nasdaq Global Select Market.

Valuation Methodologies

Our common stock valuations were prepared in accordance with the guidelines in the Practice Aid, which prescribes several valuation approaches for determining the value of an enterprise, such as the cost, market and income approaches, and various methodologies for allocating the value of an enterprise to its capital structure and specifically the common stock

Our common stock valuation of January 15, 2017 was prepared using the back-solve method to calculate the total equity value and the option-pricing method, or OPM, to allocate the total equity value. The back-solve method derives the implied equity value for one type of equity security from a contemporaneous transaction involving another type of security. We used the back-solve method to calculate the total equity value of our company in the January 15, 2017 valuation as we had recently completed convertible preferred stock financings that should be considered in estimating the fair value of our equity per the Practice Aid. Our remaining common stock valuations were performed using the OPM, or a hybrid of the probability-weighted expected return method, or PWERM, and the OPM, which we refer to as the hybrid method. The method selected was based on the availability and the quality of information to develop the assumptions for the methodology.

OPM. The OPM treats common stock and preferred stock as call options on the total equity value of a company, with exercise prices based on the value thresholds at which the allocation among the various holders of a company's securities changes. Under this method, the common stock has value only if the funds available for distribution to stockholders exceed the value of the liquidation preferences at the time of a liquidity event, such as a strategic sale or merger. A discount for lack of marketability of the common stock is then applied to arrive at an indication of value for the common stock.

The OPM uses the Black-Scholes option-pricing model to price the call options. This model defines the fair values of securities as functions of the current fair value of a company and uses assumptions such as the anticipated timing of a potential liquidity event and the estimated volatility of the equity securities.

PWERM. Under the PWERM methodology, the fair value of common stock is estimated based upon an analysis of future values for the company, assuming various outcomes. The common stock value is based on the probability-weighted present value of expected future investment returns considering each of the possible outcomes available as well as the rights of each class of stock. The future value of the common stock under each outcome is discounted back to the valuation date at an appropriate risk-adjusted discount rate and probability weighted to arrive at an indication of value for the common stock.

Hybrid Method. The hybrid method is a PWERM where the equity value in one of the scenarios is calculated using an OPM. In the hybrid method used by us, two types of future-event scenarios were considered: an IPO and a M&A scenario. The enterprise value for the IPO scenario was determined using a market approach. The enterprise value for the remaining private scenario was determined using the M&A back-solve approach for the March 31, 2017, February 7, 2018 and March 30, 2018 valuations as we had recently completed a round of financing in our equity securities. The June 30, 2017, September 30, 2017 and December 31, 2017 valuations utilized the guideline IPO method for the IPO scenario and the guideline transactions method under the merger and acquisition, or M&A, scenario to determine the value of the Company. In the IPO scenario, we allocated the value to the various share classes using the direct waterfall approach and under the M&A scenario, we utilized the OPM to allocate the value to the respective share classes. The relative probability of each type of future-event scenario was determined by our board of directors based on an analysis of market conditions at the time, including then-current IPO valuations of similarly situated companies, and expectations as to the timing and likely prospects of the future-event scenarios.

Option Grants

The following table summarizes by grant date the number of shares subject to options granted since January 24, 2017, the per share exercise price of the options, the fair value of common stock underlying the options on the date of grant and the per share estimated fair value of the options:

Grant Date	Number of Shares Subject to Options Granted	Per Share Exercise Price of Options(1)	Fair Value of Common Stock per Share on Date of Option Grant	Per Share Estimated Fair Value of Options(2)(3)
January 24, 2017	21,054	$ 2.49	$ 2.49	$ 1.75
April 12, 2017	161,067	$ 2.49	$ 3.06(4)	$ 2.24
June 15, 2017	404,508	$ 2.49	$ 4.53(4)	$ 3.55
September 19, 2017	329,874	$ 2.49	$ 6.32(4)	$ 5.18
October 18, 2017	4,658	$ 2.49	$ 6.32(4)	$ 5.18
December 15, 2017	491,782	$ 3.96	$ 8.12(5)	$ 6.40
December 27, 2017	28,830	$ 3.96	$ 8.12(5)	$ 6.40
January 25, 2018	82,367	$ 3.96	$ 9.67(6)	$ 7.91
April 4, 2018	1,226,814	$ 10.48	$ 10.48(7)	$ 7.22

(1) The Per Share Exercise Price of Options represents the fair value of our common stock on the date of grant, as determined by our board of directors, after taking into account our most recently available contemporaneous valuation of our common stock as well as additional factors that may have changed since the date of such contemporaneous valuation through the date of grant.

(2) The Per Share Estimated Fair Value of Options reflects the weighted average fair value of options granted on each grant date, determined using the Black-Scholes option-pricing model.

(3) For purposes of recording stock-based compensation for grants of options to non-employees, we measure the fair value of the award on the service completion date (vesting date). At the end of each reporting period prior to completion of the services, we remeasure the value of any unvested portion of the option based on the then-current fair value of the option and adjust the expense accordingly. The weighted average fair value amounts presented in this column for grants to employees, directors and consultants and non-employees

reflect only the grant-date fair value of options granted to consultants and non-employees and not any subsequently remeasured fair value of those options.

(4) At the time of the options granted on April 12, 2017, June 15, 2017, September 19, 2017 and October 18, 2017, our board of directors determined that the fair value of our common stock of $2.49 per share calculated in the contemporaneous valuation as of January 5, 2017 reasonably reflected the per share fair value of our common stock as of the grant dates. However, as described below, the fair value of the common stock at the date of these grants was adjusted to $3.06, $4.53, $6.32 and $6.32 per share, respectively, in connection with a retrospective fair value assessment for financial reporting purposes.

(5) At the time of the options granted on December 15, 2017 and December 27, 2017, our board of directors determined that the fair value of our common stock of $3.96 per share calculated in the contemporaneous valuation as of December 1, 2017 reasonably reflected the per share fair value of our common stock as of the grant dates. However, as described below, the fair value of the common stock at the date of these grants was adjusted to $8.12 per share in connection with a retrospective fair value assessment for financial reporting purposes.

(6) At the time of the options granted on January 25, 2018, our board of directors determined that the fair value of our common stock of $3.96 per share calculated in the contemporaneous valuation as of February 7, 2018 reasonably reflected the per share fair value of our common stock as of the grant date. However, as described below, the fair value of the common stock at the date of these grants was adjusted to $9.67 per share in connection with a retrospective fair value assessment for financial reporting purposes.

(7) At the time of the options granted on April 4, 2018, our board of directors determined that the fair value of our common stock of $10.48 per share calculated in the contemporaneous valuation as of March 30, 2018 reasonably reflected the per share fair value of our common stock as of the grant date.

Valuation of Warrants to Purchase Convertible Preferred Stock

We classify warrants to purchase shares of our Series A, Series A-1, and Series A-3 and Series B convertible preferred stock as a liability on our balance sheets as these warrants are free-standing financial instruments exercisable into contingently redeemable shares. The warrants were initially recorded at fair value on the date of grant, and were subsequently remeasured to fair value at each balance sheet date. Changes in fair value of these warrants are recognized as a component of other income (expense), net in our consolidated statement of operations. We will continue to adjust the liability for changes in fair value until the earlier of the exercise or expiration of the applicable warrant.

We use the Black-Scholes option-pricing model, which incorporates assumptions and estimates, to value the preferred stock warrants. We assess these assumptions and estimates on a quarterly basis as additional information impacting the assumptions is obtained. Estimates and assumptions impacting the fair value measurement include the fair value per share of the underlying convertible preferred stock, the remaining contractual term of the warrant, risk-free interest rate, expected dividend yield and expected volatility of the price of the underlying preferred stock. We determine the fair value per share of the underlying preferred stock by taking into consideration our most recent sales of our convertible preferred stock, results obtained from third-party valuations and additional factors that we deem relevant. We have historically been a private company and lack company-specific historical and implied volatility information of our stock. Therefore, we estimate expected stock volatility based on the historical volatility of publicly traded peer companies for a term equal to the remaining contractual term of the applicable warrant. The risk-free interest rate is determined by reference to the U.S. Treasury yield curve for time periods approximately equal to the remaining contractual term of the applicable warrant. We have estimated a 0% dividend yield based on the expected dividend yield and the fact that we have never paid or declared dividends. Significant changes to the fair value of the underlying stock would have resulted in a significant change in the fair value measurements.

In connection with this offering, the underlying convertible preferred stock will be converted to common stock, the preferred stock warrants will become exercisable for common stock instead of preferred stock and the fair value of the warrant liability at that time will be reclassified to additional paid-in capital, after which they will no longer be remeasured at fair value.

Emerging Growth Company Status

We are an "emerging growth company," as defined in the Jumpstart Our Business Startups Act of 2012, or the JOBS Act, and we may take advantage of reduced reporting requirements that are otherwise applicable to public companies. We may take advantage of these exemptions until we are no longer an emerging growth company. Section 107 of the JOBS Act provides that an emerging growth company can take advantage of the extended transition period afforded by the JOBS Act for the implementation of new or revised accounting standards. We have elected to use the extended transition period for complying with new or revised accounting standards; and as a result of this election, our financial statements may not be comparable to companies that comply with public company effective dates. We may take advantage of these exemptions up until the last day of the fiscal year following the fifth anniversary of this offering or such earlier time that we are no longer an emerging growth company. We would cease to be an emerging growth company if we have more than $1.07 billion in annual revenue, we have more than $700.0 million in market value of our stock held by non-affiliates (and we have been a public company for at least 12 months and have filed one annual report on Form 10-K), or we issue more than $1.0 billion of non-convertible debt securities over a three-year period.

Recently Adopted Accounting Pronouncements

From time to time, new accounting pronouncements are issued by the Financial Accounting Standards Board, or FASB, or other standard setting bodies and adopted by us as of the specified effective date. Unless otherwise discussed, we believe that the impact of recently issued standards that are not yet effective will not have a material impact on its financial position or results of operations upon adoption.

In November 2015, the FASB issued ASU 2015-17, *Balance Sheet Classification of Deferred Taxes*, or ASU 2015-17. The guidance requires that all deferred tax assets and liabilities, along with any related valuation allowance, be classified as noncurrent on the balance sheet. This guidance was effective in the first annual period ended after December 15, 2016, and interim periods thereafter, for public entities. For all entities other than public business entities, the guidance becomes effective for financial statements issued for annual periods beginning after December 15, 2017, and interim periods within annual periods beginning after December 15, 2018. Early adoption is permitted for all entities as of the beginning of an interim or annual reporting period. We adopted ASU 2015- 17 as of January 1, 2016. The adoption of ASU 2015-17 had no material impact on our consolidated financial statements and related disclosures.

In November 2016, the FASB issued ASU 2016-18, *Statement of Cash Flows (Topic 230)*, Restricted Cash, or ASU 2016-18. The amendments of ASU 2016-18 were issued to address the diversity in classification and presentation of changes in restricted cash and restricted cash equivalents on the statement of cash flows which is currently not addressed under Topic 230. ASU 2016-18 would require an entity to include amounts generally described as restricted cash and restricted cash equivalents with cash and cash equivalents when reconciling the beginning of period and end of period total amounts on the statement of cash flows. This guidance is effective for annual reporting periods, and interim periods within those years, beginning after December 15, 2017, for both public entities and no later than for annual reporting periods beginning after December 15, 2018, for non-public entities. Early adoption is permitted and the standard must be applied retrospectively. We adopted this standard as of January 1, 2017 retrospectively for all periods presented.

In January 2017, the FASB issued ASU 2017-01, *Business Combinations (Topic 805): Clarifying the Definition of a Business*, or ASU 2017-01. This new standard clarifies the definition of a business and provides a screen to determine when an integrated set of assets and activities is not a business. The screen requires that when substantially all of the fair value of the gross assets acquired (or disposed of) is concentrated in a single identifiable asset or a group of similar identifiable assets, the set is not a business. Early adoption was permitted. We adopted the requirements of ASU 2017-01 as of January 1, 2016 and applied the screen when evaluating the nature of the assets received in connection with the acquisition of Epiva in 2016. As a result of applying this screen we concluded that Epiva was not a business.

Accounting Pronouncements Issued and Not Adopted as of December 31, 2017

In May 2014, the FASB issued Accounting Standards Update ASU, 2014-09—Revenue from Contracts with Customers (Topic 606), or ASU 2014-09, *Revenue from Contracts with Customers (Topic 606)*, and further updated through ASU 2016-12, or ASU 2016-12, which amends the existing accounting standards for revenue recognition. ASU 2014-09 is based on principles that govern the recognition of revenue at an amount to which an entity expects to be entitled when products are transferred to customers. This guidance is effective for annual reporting periods, and interim periods within those years, beginning after December 15, 2017, for public entities and no later than for annual reporting periods beginning after December 15, 2018, for non-public entities. The new revenue standard may be applied retrospectively to each prior period presented or retrospectively with the cumulative effect recognized as of the date of adoption. While we continue to assess all potential impacts under ASU 2014-09, we do not believe adopting the new revenue recognition standard will have a material impact on our consolidated financial statements as we are not yet generating revenue.

In February 2016, the FASB issued ASU 2016-02, *Leases (Topic 842)*, or ASU 2016-02, which supersedes the guidance in ASC 840, Leases. The new standard requires lessees to apply a dual approach, classifying leases as either finance or operating leases based on the principle of whether or not the lease is effectively a financed purchase by the lessee. This classification will determine whether lease expense is recognized based on an effective interest method or on a straight-line basis over the term of the lease. A lessee is also required to record a right-of-use asset and a lease liability for all leases with a term of greater than 12 months regardless of their classification. Leases with a term of 12 months or less will be accounted for similar to existing guidance for operating leases today. This guidance is effective for annual reporting periods, and interim periods within those years, beginning after December 15, 2018 for public entities and no later than for annual reporting periods beginning after December 15, 2019, and interim period within fiscal years beginning after December 15, 2010 for non-public entities. ASU 2016-02 is expected to impact our consolidated financial statements as we have certain operating lease arrangements for which we are the lessee. We are currently evaluating the impact the adoption of ASU 2016-02 will have on our consolidated financial statements and related disclosures.

In March 2016, the FASB issued ASU 2016-09, *Improvements to Employee Share-based Payment Accounting*, or ASU 2016-09. ASU 2016-09 simplifies several aspects of the accounting for share-based payment transactions, including the income tax consequences, classification of awards as either equity or liabilities, and classification on the statement of cash flows. Some of the areas of simplification apply only to non-public companies. This guidance was effective on December 31, 2016 for public entities. For entities other than public business entities, the amendments are effective for annual periods beginning after December 15, 2017, and interim periods within annual periods beginning after December 15, 2018. Early adoption is permitted for an entity in any interim or annual period for which financial statements have not been issued or made available for issuance. An entity that elects early adoption must adopt all amendments in the same period. We have not early adopted ASU 2016-09. We are currently evaluating the impact the adoption of ASU 2016-09 will have on our consolidated financial statements and related disclosures.

In May 2017, the FASB issued ASU 2017-09, *Compensation—Stock Compensation (Topic 718): Scope of Modification Accounting*, or ASU 2017-09, which clarifies when to account for a change to the terms or conditions of a share-based payment award as a modification. Under the new guidance, modification accounting is required only if the fair value, the vesting conditions, or the classification of the award (as equity or liability) changes as a result of the change in terms or conditions. This guidance is effective for annual reporting periods, and interim periods within those years, beginning after December 15, 2017, for both public entities and non-public entities. Early adoption is permitted. We are currently evaluating the impact of adopting this standard on our consolidated financial statements and related disclosures but do not expect it to have a significant impact.

Quantitative and Qualitative Disclosure about Market Risk

Interest Rate Fluctuation Risk

We are exposed to market risk related to changes in interest rates. As of December 31, 2017, our cash and cash equivalents consisted of cash and money market accounts. Our primary exposure to market risk is interest income sensitivity, which is affected by changes in the general level of U.S. interest rates. However, because of the short-term nature of the instruments in our portfolio, an immediate 10% change in market interest rates would not have a material impact on the fair market value of our investment portfolio or on our financial position or results of operations.

As of December 31, 2017, we had $10.0 million of borrowings outstanding under term loans pursuant to our loan and security agreement with Pacific Western Bank. These term loans bear interest at a variable annual rate equal to the greater of (a) 0.25% above the Prime Rate or (b) 3.75%, thereby exposing us to interest rate risk. In February 2018, we borrowed an additional $5.0 million under the loan and security agreement. This resulted in an increase to the interest rate to the higher of (i) prime plus 0.25% or (ii) 4.50% per annum. Based on the $10.0 million of principal outstanding as of December 31, 2017, an immediate 10% change in the Prime Rate would not have a material impact on our debt-related obligations, financial position or results of operation.

Foreign Currency Fluctuation Risk

We are not currently exposed to significant market risk related to changes in foreign currency exchange rates; however, we have contracted with and may continue to contract with foreign vendors that are located in Europe. Our operations may be subject to fluctuations in foreign currency exchange rates in the future.

Inflation Fluctuation Risk

Inflation generally affects 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 years ended December 31, 2017 and 2016.

BUSINESS

Overview

Evelo Biosciences is discovering and developing potential therapies designed to act on the gut-body network. The action of our therapies is based on our growing understanding of the central role of the gut in controlling immune and biological activity throughout the body. The gut-body network represents the connections of the gut to all organs and tissues, which enables the gut to exert a significant level of control over the body's immune and biological systems. The centrality of the gut-body network to the immune system has only recently become appreciated, and modern medicine and drug discovery have largely overlooked the importance of the gut-body network in fighting disease. We believe that we have the potential to use the unexplored biology of the gut-body network to develop novel therapies that could transform the treatment of many major diseases, potentially driving profound benefits to patients and society.

The gut, or the gastrointestinal tract, is the largest part of the immune system and is a central hub of the body's network of lymphatic vessels. Immune cells from around the body circulate via these lymphatic vessels through tissues of the gut, where they are conditioned by exposure to the many antigens and immunomodulatory agents that continuously pass through the gut. These conditioned immune cells then continue to travel throughout the body and can impact disease and health at all sites of the body. Microbes, in particular, have the ability to condition immune cells in the gut.

We are developing orally-delivered pharmaceutical compositions of specific strains of naturally-occurring microbes derived from a single clone which we refer to as monoclonal microbials. Our monoclonal microbials are designed to act on the gut-body network. We and our collaborators have observed in preclinical studies that specific monoclonal microbials can downregulate or upregulate immune responses throughout the body by acting on the gut-body network with naturally-evolved pharmacology. We believe that monoclonal microbials exert their effects through interactions with host immune cells as they pass through the gut, which we believe suggests that monoclonal microbials may have limited systemic off-target effects and adverse events. Based on our preclinical studies, we believe that our product candidates could significantly improve the treatment of many diseases.

We have built a proprietary platform designed to develop monoclonal microbials as therapeutics. Our platform integrates tools and capabilities necessary to source, select, develop and manufacture monoclonal microbials as therapies. The efficiency of our platform has, in a relatively short period of time, allowed us to produce three product candidates for a range of inflammatory diseases and cancer that we are advancing into clinical trials in 2018, beginning with a trial of EDP 1066, for which we dosed the first subject in April 2018.

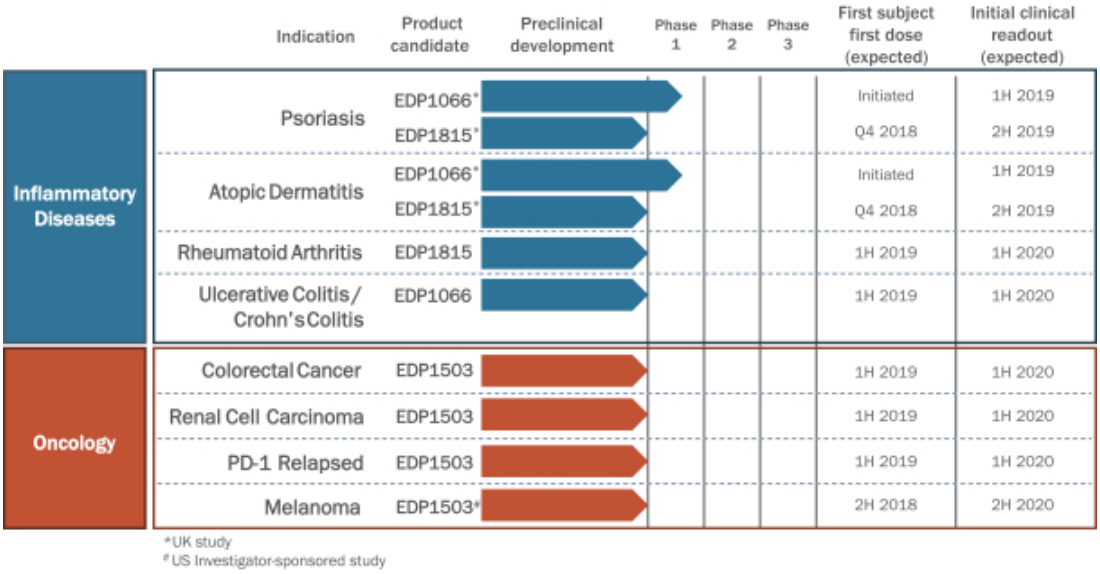
We believe that monoclonal microbials have the potential to address significant patient need at various stages of disease. We believe this is due to their potentially superior characteristics over current therapies and the advantages of our platform, specifically:

- We have observed activity in preclinical animal models for each of our lead product candidates. Each of our monoclonal microbials acts through multiple naturally-evolved biological pathways. By acting on multiple pathways simultaneously, we believe monoclonal microbials can impact disease in ways that are not addressable with current single-target therapies.
- We believe our monoclonal microbials are likely to be well tolerated given that they are single strains of naturally-evolved human commensal microbes that act on the gut-body network without significant risk of systemic exposure. If we validate this profile in clinical trials, we believe monoclonal microbials have the potential to be used at earlier stages of disease and, by extension, in many more patients than current immunomodulatory drugs.
- Our development of monoclonal microbials has the potential to be more efficient than those of other therapeutic classes such as cell therapy, monoclonal antibodies and small molecules. We believe that

monoclonal microbials do not require the lengthy target validation and compound discovery requirements of conventional drug discovery. Additionally, we believe the manufacture of monoclonal microbials is meaningfully faster than that of certain other biologics and can further accelerate our path to clinical testing and commercialization.

Our product development strategy is to evaluate a range of monoclonal microbials with different activities in clinical trials across multiple diseases. The initial trials for our product candidates are expected to provide information on safety and biomarkers of immune response at and beyond the site of disease. We believe this biomarker data will enable expansion into a broad range of clinical indications. We dosed the first subject in our clinical trial of our first monoclonal microbial candidate in inflammatory diseases, EDP1066, in April 2018, and expect to initiate a clinical trial for our second inflammation candidate, EDP1815, in the fourth quarter of 2018. We expect initial biomarker and clinical data in the first half of 2019 for EDP1066 and the second half of 2019 for EDP1815. We are also developing monoclonal microbial therapies in oncology. The first oncology product candidate is EDP1503, for which we expect to initiate clinical trials in the second half of 2018 and the first half of 2019 and to obtain initial clinical data during 2020.

Our initial product candidates and intended plan for initial clinical trials are illustrated below.



Beyond our first set of product candidates, we have identified several other potential candidates from our discovery program, and we are continuing to invest in the discovery of additional potential candidates. We believe monoclonal microbials and our platform have broad potential utility beyond our initial therapeutic focus areas of inflammatory diseases and oncology, and we plan to pursue many opportunities in which our platform has the potential to transform medicine.

Our Strategy

Our goal is to create and develop a new class of therapies that have the potential to transform the treatment of a broad range of diseases by focusing on the gut-body network. We intend to translate this biology to the clinic and fully explore therapeutic applications.

Key elements of our strategy to achieve this goal are to:

- ***Realize the full potential of the gut-body network to create an expansive and diversified product portfolio.*** We believe the gut-body network has applicability across a range of disease areas and we are committed to pursuing the many opportunities in which our platform has the potential to transform medicine. Our initial focus is on inflammatory diseases and oncology, and we intend to expand into other disease areas, such as autoimmune diseases, respiratory diseases, neuro-inflammation and degeneration, liver diseases, type I diabetes, food allergy, neurobehavior, cardiovascular disease and diseases of metabolism.
- ***Develop best-in-class therapies to improve outcomes across various stages of disease.*** We intend to develop best-in-class orally-delivered therapies and intend to explore the potential of monoclonal microbials across various stages of disease, not only in patients with severe or advanced disease. We intend to pursue what we believe to be the inherent advantages of monoclonal microbials to enable use in earlier stages of disease and to develop and provide treatments for a wide range of patients in multiple geographies.
- ***Generate early clinical readouts with biomarker driven validation to efficiently advance our product candidates.*** We have prioritized indications with ease of accessibility to biopsies for biomarker analysis. We intend to use these biomarkers to clinically validate the immunological activity and dose of our monoclonal microbials and to guide subsequent clinical expansion and patient selection.
- ***Industrialize monoclonal microbials to advance and scale our platform.*** We plan to continue to invest in our platform, which integrates microbiology, immunology and computational biology capabilities. We intend to expand the diversity of our monoclonal microbial library and enhance our proprietary *in vitro* and *in vivo* models to optimize selection of our future product candidates. Our manufacturing processes are designed to ensure the quality and scalability of our products. We plan to continue to invest in novel methods for process development, manufacturing and formulation for our monoclonal microbials. Future plans include investment in commercial scale manufacturing. We plan to leverage the efficiency of our integrated capabilities to accelerate the clinical development of many product candidates.
- ***Strengthen and expand our intellectual property to protect our platform.*** We have exclusive rights to our technologies including issued composition of matter and method of use patents in the United States for our product candidates. We intend to diligently pursue patent protection for our scientific innovations and to maintain a strong and broad estate of patents and trade secrets in the United States and other geographies.
- ***Collaborate to realize the potential of the gut-body network and monoclonal microbials.*** We intend to continue to seek collaborations with academic groups, biotech and pharmaceutical companies to realize the value of our broad platform and extend the range of our development activities and disease areas in a timely and cost-effective manner. We plan to commercialize products in multiple geographies both on our own and with collaborators.

Evelo Biosciences and Flagship Pioneering

Evelo Biosciences was founded by Flagship Pioneering to commercialize insights, inventions and innovations developed by the VentureLabs founding team across two primary explorations. A first exploration focused on the interface between microbes and cancers. The VentureLabs founding team identified means by which various microbes could be used to drive anti-cancer effects. A second exploration focused on the interface between the microbes in the gut and the immune system. The VentureLabs founding team identified unique mechanisms by which microbes shape and interact with the immune system. The exploration identified specific mechanisms by which microbes could induce tolerance, immune class shifting, cytokine production and beyond, identifying opportunities across autoimmune disease, allergy, etc. These insights formed the basis of a VentureLabs-developed patent estate directed at microbes that potentially could be administered to treat cancer and inflammatory diseases through immune, metabolic and other mechanisms. Flagship Pioneering provided initial and ongoing capital needed

to form, launch and grow Evelo Biosciences so that the company could seek to unlock the potential for single, orally administered microbes to drive immune-associated biology through the gut.

The Immune System and the Use of Immunotherapy in Disease

Immunology and Current Immunotherapy

The immune system consists of many different cell types that act together as a coordinated system to constantly scan for, identify and respond to both human and microbial signals. Immune cells, including different types of T-cells, circulate throughout the body via the lymphatic system searching for signs of disease or infection. When this immune surveillance is functioning correctly, immune cells recognize and destroy both pathogens and cancer cells. However, when the immune system responds excessively, diseases such as psoriasis, rheumatoid arthritis, asthma, inflammatory bowel disease and multiple sclerosis can result. Conversely, an inadequate immune system response may allow various types of cancer to progress unchecked.

Advances in our understanding of how the immune system affects a broad spectrum of disease has resulted in the development of immunotherapies, which are medicines that reduce, suppress, elicit or amplify specific immune responses. Antibody-based immunotherapies for inflammatory diseases and oncology have fundamentally changed the treatment landscape for patients. For example, anti-TNFa antibodies are widely used to treat moderate to severe stages of many inflammatory diseases. In 2017, three of the five top selling drugs worldwide were anti-TNFa antibodies, with HUMIRA alone generating worldwide annual net sales of $18.4 billion. In oncology, checkpoint inhibitor antibodies, including those targeting the programmed cell death protein/ligand 1, or PD-1/PD-L1 pathways, block the tumor's ability to suppress the immune response. They have significantly improved the treatment of many cancers and are expected as a class to reach peak annual net sales of $30 billion by 2025. While existing immunotherapies have been successful in treating inflammatory diseases and oncology, there remains a significant unmet need for a majority of patients.

Emergence of a New Paradigm in Immunotherapy

Until recently, immunotherapeutic approaches have largely ignored one of the body's naturally-evolved routine immunological processes and its associated immune organ—the gut. Immunomodulation through the gut has the potential to address certain limitations of current immunotherapies by acting on multiple naturally-evolved pathways. We believe this novel approach presents significant advantages, including potentially minimizing adverse events, enhancing patient convenience and targeting multiple immune pathways simultaneously. We believe that a novel class of therapeutics with these attributes has the potential to be transformative in treating a broad range of immune-mediated diseases. Furthermore, we believe this approach could also expand the use of immunotherapies for the treatment of patients with earlier stages of disease.

The Gut-Body Network is Central to Human Biology and Immunology

The gut is the largest part of the immune system. The gut is networked to almost all parts of the body by the lymphatic and nervous systems. As part of this connected network, which we call the gut-body network, the body's immune cells regularly traffic through the gut. The natural biology of the gut acts as an important regulator of the human immune system. Specific types of immune cells, including antigen-presenting cells such as dendritic cells and macrophages, traffic through lymphoid tissues of the gut, where they sample specific contents in the interior of the gut, which is called the lumen. These antigen-presenting cells then circulate to lymph nodes where they condition important immune cells, including T-cells. These conditioned T-cells then travel throughout the body via the lymphatic system to impact disease. We believe the gut-body network provides an opportunity for gut-mediated immunomodulation throughout the body after oral delivery of products that remain physically restricted to the lymphoid tissues of the gut and lumen. As such, immunomodulation on the gut-body network may represent an underappreciated opportunity to condition T-cells to drive therapeutically relevant immune responses throughout the body.

The Gut-Body Network and Microbes

Microbes are single-cell organisms that have co-evolved with humans and their immune systems for millennia. Many human immune cells are programmed to sense and respond to microbes that they contact in the gut. Research in mucosal immunology has revealed that microbial interactions in the gut can drive activity on the gut-body network.

Multiple mechanisms for direct interactions between microbes and immune cells in the gut have been demonstrated. We believe that dendritic cells and macrophages in the lymphoid tissues of the gut are key target cells of immunomodulatory microbes. Dendritic cells are a specialized type of immune cell that survey the body's tissues and present antigens to T-cells. Macrophages can take on many functional forms depending on the conditioning of their environment in the body, and are important for both anti-inflammatory and anti-tumor immunity. Antigen-presenting cells, such as dendritic cells and macrophages, can extend protrusions through junctions between epithelial cells of the gut lining. These protrusions come into direct contact with and sample the microbial contents of the gut lumen. These antigen-presenting cells then drain to mesenteric lymph nodes where they come into contact with T-cells. Dendritic cells and macrophages that have been primed by exposure to microbes in the gut condition T-cells and push them towards inflammatory or immunoregulatory activities depending on the specific strain of the original microbe. Conditioned T-cells continue to move through the body via the lymphatic system to other parts of the body where they may act in local tissue to modulate an immune response.

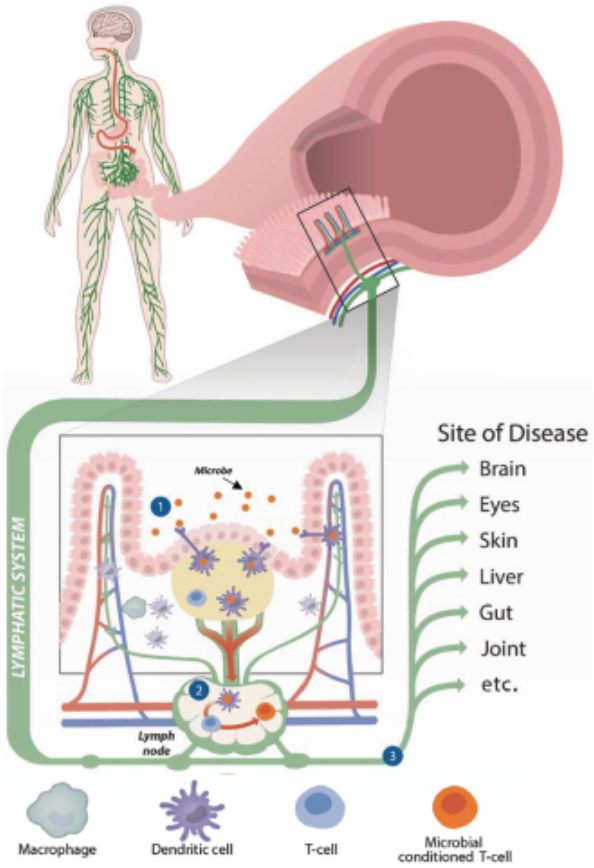


Figure 1: The gut-body network and microbes. The gut-body network is pictured in the upper portion of the figure. The gut is connected to many other parts of the body via the lymphatic system in green. The cross-section of the small intestine depicts (1)

sampling of microbes in the gut by dendritic cells and macrophages, (2) conditioning of T-cells by dendritic cells and macrophages in the lymph node, and (3) migration of conditioned T-cells to other areas of the body.

Several of our academic collaborators have explored the functional consequences of the interactions between immune cells and single strains of microbes in the gut. Veena Taneja, Ph.D. and Joseph Murray M.D. of Mayo Clinic showed that an orally-administered strain of *Prevotella histicola* modulated immune function in mouse models of rheumatoid arthritis and multiple sclerosis. In the field of immuno-oncology, Thomas Gajewski, M.D., Ph.D. and his group at the University of Chicago conducted an experiment in which a single strain of orally-administered *Bifidobacterium* had equivalent activity to an anti-PD-L1 antibody and additive activity in combination in a mouse model of melanoma. We believe these and other examples from the academic literature support our theory that single strains of microbes act on the gut-body network to suppress or activate immune responses throughout the body.

Monoclonal Microbials as a Potential New Class of Therapies

We were formed to discover and develop therapies that act on the gut-body network. We aim to develop therapies based on our recent understanding of the central role of the gut in modulating immune activity throughout the body and the equally important role of microbes as key modulators of the gut-body network.

We believe that now is an opportune time to translate observations from the naturally-evolved gut-body network into immunotherapies to treat many diseases. While microbes have evolved with humans for millennia, until recently, the scientific community lacked the necessary tools to deconstruct and analyze the complex interactions between microbes, the immune system, and the gut-body network. Advances in next-generation sequencing, immunology and computational analyses of large microbial datasets have led to a better understanding of the microbes that live on and inside humans and have provided critical insights into their specific functions and mechanisms. In turn, these insights have allowed us to develop the tools necessary to isolate, select, and develop specific microbes that have historically been difficult to culture. This extends from the initial stages of microbial isolation to the final stages of monoclonal microbial manufacturing. We have developed proprietary insights and tools that enhance our ability to produce pharmaceutical compositions of monoclonal microbials at scale. This allows us to deliver potentially therapeutic doses of our appropriately formulated select strain.

We are developing monoclonal microbials to act on the gut-body network to either downregulate or upregulate immune responses for the treatment of disease. Monoclonal microbials are single strains of naturally-occurring microbes. Our product candidates are pharmaceutical compositions of specific monoclonal microbials that we believe can interact with and modulate the human immune system.

We believe key features and advantages of our monoclonal microbial product candidates are:

- ***Single strain.*** Our product candidates are pharmaceutical compositions of single strain monoclonal microbials that we have selected for their specific pharmacology. Our preclinical data suggests that various strains of microbes within the same genus or species can have vastly different immunomodulatory properties. We extensively characterize the ability of our product candidates to elicit a desired immunomodulatory effect. We also believe single strain microbes have manufacturing advantages over biologics and consortia of microbes.
- ***Orally-administered formulation.*** We intend to deliver our initial product candidates to patients at pharmacological doses as dry, white powder inside capsules coated for targeted release in the gut. Patients typically prefer oral administration to intravenous infusion and subcutaneous injection, which we believe will facilitate the adoption of our product candidates, if approved.
- ***Limited systemic exposure.*** In preclinical studies, we observed that monoclonal microbials had limited systemic exposure, that they cleared from the gut within 24 to 48 hours and that colonization was not required for beneficial activity. We believe that these factors suggest that monoclonal microbials may have limited systemic off-target effects and adverse events.

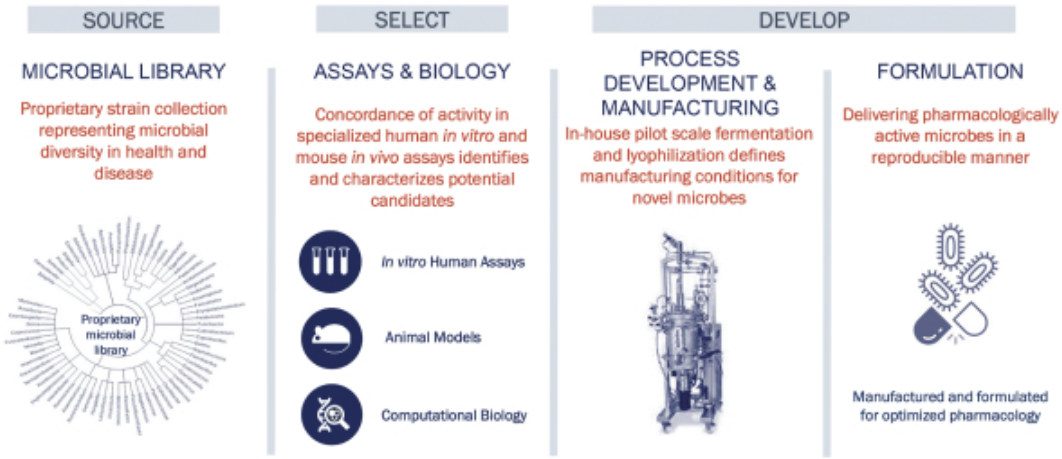
- ***Multiple naturally-evolved pathways.*** Our preclinical data has shown that monoclonal microbials may act simultaneously on multiple naturally-evolved biological pathways. The diseases we intend to treat are multifactorial, and we believe that our potential therapies will be advantageous over single-target treatments.
- ***Manufacturing capabilities.*** Although manufacturing of monoclonal microbials is complex, we believe that we have developed capabilities that will accelerate the process from strain identification to clinical supply. Unlike the lengthy timelines associated with current Good Manufacturing Practices, or cGMP, manufacturing of antibodies, we have been able to manufacture monoclonal microbials in a shorter timeframe, which we believe may accelerate our speed into the clinic. Additionally, we believe that we may be able to cost-effectively manufacture monoclonal microbials.

Given these expected features, we believe that monoclonal microbial therapies may have a number of advantages in comparison to other immunotherapies such as antibodies, cell therapies and small molecules.

Our Monoclonal Microbial Platform

We have developed an integrated platform designed to identify individual strains of microbes capable of modulating the immune system by acting on the gut-body network when administered at pharmacologically active doses. We use the process development and formulation capabilities of our platform to develop selected microbes as product candidates.

Our proprietary monoclonal microbial platform is comprised of the following four key areas:



Monoclonal microbial library. We have developed a proprietary library of diverse strains of microbes. Microbes in our library are isolated from natural sources, including samples from healthy and diseased humans, in order to benefit from the co-evolution of microbes and the human immune system. To increase our probability of finding microbes with potent immunomodulatory activity, we sample from body sites where microbes interact with the immune system, such as gut tissues. We also have bolstered and continue to add to our library through selective licensing agreements and collaborations with academic partners.

Assays and biology. The proprietary tools within our platform are designed to efficiently identify and extensively characterize our monoclonal microbials through a series of *in vitro, in vivo* and *ex vivo* assays. We have constructed our proprietary *in vitro* assays to simulate the complex interactions between microbes and the human immune system, allowing us to evaluate the immunological activity of each microbe in a relevant

experimental system. Our *in vitro* assays are capable of screening hundreds of microbes in parallel and producing more than 150 data points per strain, including levels of pro-inflammatory and anti-inflammatory cytokines and chemokines. This assists our comprehensive selection process to identify select candidates for testing in disease-relevant animal models. By conducting our *in vitro* assays in both mouse and human immune cells, we add to our mechanistic understanding. We believe this increases the probability of translation of preclinical *in vivo* results to the clinic.

Process development and manufacturing. Process development and manufacturing are critical for the translation of monoclonal microbials into therapies. Our expertise and investments in pilot scale manufacturing have allowed us to surmount challenges inherent to monoclonal microbial manufacturing at clinical scale. Major challenges include: limited understanding and characterization of novel microbes; strict anaerobic growth conditions required by certain microbes, many of which have never before been fermented; and temperature and oxygen sensitivities that affect downstream processing. We believe that our approach to these challenges may enable us to accelerate the process from strain identification to clinical supply.

Process development is integrated into our research activities, combining discovery and downstream development. We have achieved significant control of quality, identity, purity, and potency throughout the process of strain selection, fermentation, formulation, and pharmacology, with high yield. Importantly, our manufacturing processes enable us to produce a drug substance that is pharmacologically active in the form of a lyophilized powder, which is suitable for cGMP production. For each of our three initial product candidates, we have observed therapeutic activity in lyophilized powder form in relevant preclinical mouse models.

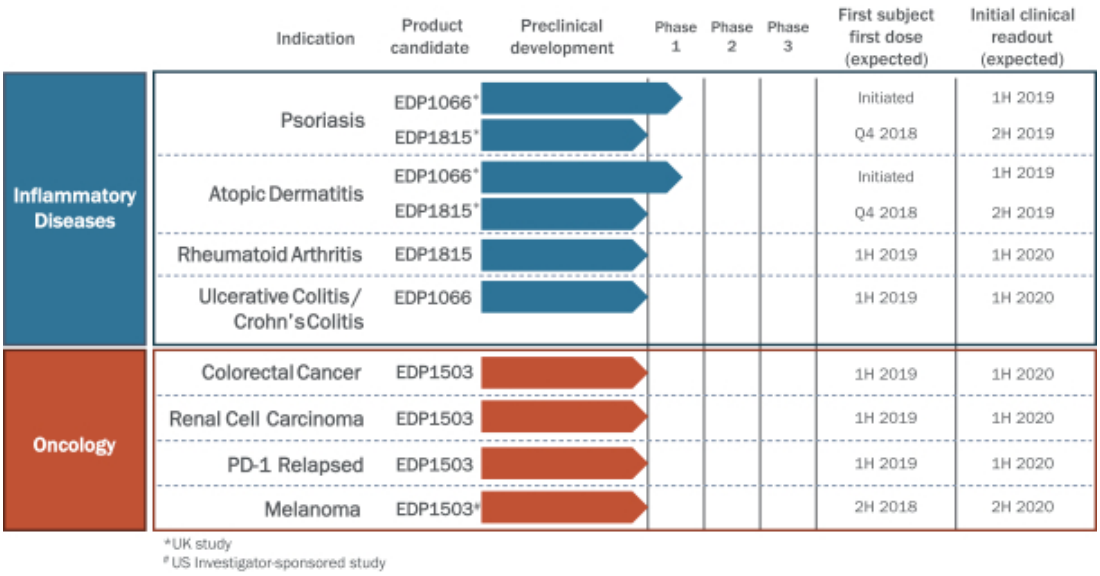
Formulation. We plan to formulate our first clinical product candidates as capsules containing lyophilized powder, with targeted release in the gut. We aim to provide patients with optimally formulated and conveniently delivered oral therapies with limited off-target effects that preserve the therapeutic activity observed in preclinical studies. We continuously invest in formulation to evaluate optimal delivery of our product candidates and enhance their ability to act on the gut-body network.

Product Development Strategy and Portfolio

We are advancing monoclonal microbials to potentially treat a spectrum of immune-mediated diseases with an initial focus on inflammatory diseases and oncology. We expect our initial clinical trials for our product candidates to provide information on safety and biomarkers of immune response in multiple indications with different pathologies and sites of disease. This may allow for expansion into a broad range of clinical indications, which could enable us to capture the breadth of clinical value.

Beyond our first wave of product candidates in inflammatory diseases and oncology, we are continuing to invest in the discovery of new candidates to build a deep pipeline across a wide range of diseases and tissue types to leverage the broad potential of our platform. We also intend to opportunistically collaborate to expand indications and accelerate development of programs where collaborators can contribute further disease-specific expertise to our platform.

Our initial product candidates and intended plan for initial clinical trials are illustrated below.



Inflammatory Diseases Portfolio

We are advancing two monoclonal microbials, EDP1066 and EDP1815, into the clinic for treatment of inflammatory diseases. We dosed the first subject in our first clinical trial for EDP1066 in April 2018 and expect to initiate a clinical trial for EDP1815 in the fourth quarter of 2018. Several other potential product candidates have been identified in our discovery program.

Our first-in-human studies for EDP1066 and EDP1815 will evaluate safety and tolerability in healthy volunteers and dose and biomarker signals relative to placebo in patients with psoriasis and atopic dermatitis. EDP1066-001 is a dose-escalating safety and tolerability clinical study of EDP1066 in 36 healthy volunteers and in 60 patients with psoriasis or atopic dermatitis. It will test a range of daily doses in healthy volunteers over 14 days and in patients over 28 days. We will evaluate safety as a primary endpoint, as well as a variety of pharmacodynamic markers, including biomarker signals from paired biopsies of affected skin in patients, as secondary endpoints. We dosed the first subject in April 2018. We expect that study results will be available in the first half of 2019 and will include safety and tolerability, as well as biomarker and clinical efficacy observations in patients. We intend to initiate a similar safety and tolerability study for EDP1815 in the fourth quarter of 2018 and the first half of 2019. Based on feedback from the MHRA, the United Kingdom regulatory authority, and our strong relationships with principal investigators who we would expect to be able to enroll healthy volunteers as well as psoriasis and atopic dermatitis patients under a single study, we intend to conduct both of these studies in the United Kingdom. We expect that data from these initial studies in the United Kingdom will be accepted by regulatory agencies in major regions, including the United States, according to guidance from the International Conference on Harmonisation of Technical Requirements for Registration of Pharmaceuticals for Human Use, or ICH. We intend to initiate future additional trials in the United States and other countries.

We selected mild-to-moderate psoriasis and atopic dermatitis as indications for first-in-human studies primarily based upon need in large patient populations, the ease of access to patient tissue for biomarker analysis and the speed of clinical data readout. Patients with mild-to-moderate disease represent between 80% and 90% of the patient population, which in the United States represents more than 25 million people. We believe these

patients are underserved by current treatments, including steroids, which either inadequately control inflammation or are not safe for long-term use. The majority of novel therapies, including next generation biologics targeting IL-17 and IL-23, are only approved for patients with moderate-to-severe disease. A large proportion of these eligible patients do not receive biologics, instead opting for topicals or oral systemic therapies. These factors suggest a need for a novel therapeutic option that is safe, effective and convenient.

We believe the potential profiles of our monoclonal microbial product candidates may be better suited to treat pediatric patients as well as patients at earlier stages of inflammatory diseases than current therapies. Particularly in atopic dermatitis, many patients are infants or young children who have fewer therapy options than adult patients. If our product candidates demonstrate tolerability and limited adverse events in clinical trials, they could open up a larger market than the one currently treated by biologics. If proof-of-concept in mild-to-moderate patients is established, we also intend to broaden our studies to treat patients with moderate-to-severe inflammation, potentially expanding this market opportunity further.

If we successfully demonstrate the safety of EDP1066 and EDP1815 at planned therapeutic doses in first-in-human studies, we plan to initiate additional studies of EDP1815 in rheumatoid arthritis and EDP1066 in inflammatory bowel disease, or IBD. These initial four indications are driven by differentiated combinations of Th1, Th2 and Th17 biologies. The results from these trials are intended to guide clinical expansion to additional indications with related biology. For example, early proof-of-concept in atopic dermatitis could support expansion to other atopies and Th2-driven diseases, including asthma and food allergy.

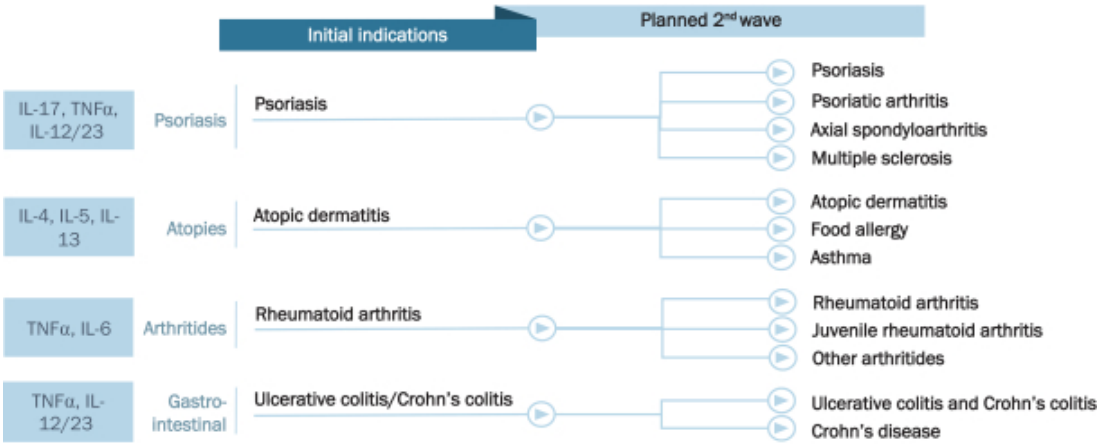


Figure 2: Biomarker data from initial clinical studies in inflammatory diseases may allow for rational expansion to mechanistically similar inflammatory diseases. Cytokines associated with disease clusters are shown at the left of the figure.

In preclinical mouse models, our inflammatory disease product candidates reduced systemic inflammation with equal or better activity than current standard of care therapies. We believe that this observation may translate to broad activity across a variety of inflammatory diseases. We have produced preclinical data in distinct mouse models that are representative of different biologies, suggesting that single monoclonal microbials may impact multiple immune pathways.

T-cells of the Th1 or Th17 type are implicated in psoriasis, joint inflammatory diseases and neuroinflammation, while T-cells of the Th2 type are more important for atopies and allergic diseases. With current cytokine-directed therapies, agents are targeted towards a specific cytokine to influence one or more of these pathways. For instance, Th1-driven inflammation can be controlled by TNFa inhibition, Th17-driven inflammation can be controlled by IL-17 inhibition, and Th-2 driven inflammation can be controlled by IL-4 or IL-13 inhibition.

Each of our monoclonal microbial candidates have demonstrated the ability to simultaneously impact multiple of these pathways and associated cytokines in preclinical assays, suggesting that they may have broader applicability than individual cytokine-directed therapies. Separately, there are additional anti-inflammatory cytokines such as IL-10 and IL-27 that can inhibit the production of certain pro-inflammatory cytokines. Certain of our product candidates enabled increased production of IL-10 and IL-27 in preclinical assays.

EDP1066

EDP1066 is a monoclonal microbial product candidate being developed to treat inflammatory diseases. We selected EDP1066 for its *in vitro* profile in human immune cell assays combined with its anti-inflammatory activity in a range of mouse inflammation models. In preclinical studies, orally-administered EDP1066 acted on the gut-body network to modulate systemic immune responses in multiple mechanistically and anatomically varied *in vivo* models, including the Th1-mediated delayed type hypersensitivity, or DTH, model, which measures skin inflammation after antigen challenge, the Th2-mediated 2,4-dinitrofluorobenzene, or DNFB, skin inflammation model, and the dextran-sodium sulfate, or DSS, model of immune-cell mediated gut inflammation.

In Vitro Assays

Our *in vitro* assays measure the effects of individual strains of bacteria on human immune cells and test several dozen immunomodulatory characteristics. A representative example of a human *in vitro* assay data for EDP1066 is shown in Figure 3. Plotted to show IL-10 and IL-27 cytokines produced, each circle on the plot represents a different individual strain from our microbial library. The size of each circle represents the magnitude of pro-inflammatory chemokine CXCL10. Each strain was co-cultured with human macrophages, an immune cell type that is abundant in the gut and is a known controller of inflammation. In the assay, EDP1066 was a high inducer of anti-inflammatory cytokines, IL-10 and IL-27. Conversely, EDP1066 did not significantly induce CXCL10, a pro-inflammatory mediator, in the assay. We believe these characteristics could be suitable for an anti-inflammatory agent.

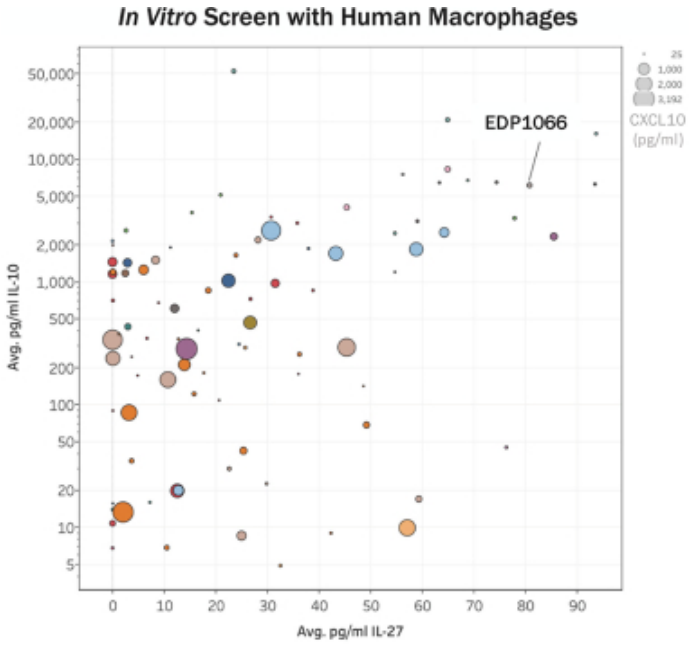


Figure 3: Production of cytokines by human macrophages after co-culture with monoclonal microbials. Macrophages purified from human peripheral blood mononuclear cells were co-cultured with 95 individual monoclonal microbials (each represented by a circle). Cytokines produced

by macrophages were measured. EDP1066 induced higher levels of IL-10 and IL-27, relative to other monoclonal microbials screened. EDP1066 also induced relatively lower levels of pro-inflammatory chemokine, CXCL10 (represented by the size of the circle).

Preclinical DTH Mouse Models

DTH in a mouse is a well-established model of Th1-driven inflammation resulting from pro-inflammatory antigen-specific T-cells. In the mouse model depicted in Figure 4, daily oral administration of EDP1066 reduced skin inflammation in response to antigen challenge. In the model, immunomodulation by EDP1066 on the gut-body network was as active as a therapeutic dose of the steroid, dexamethasone. The DTH model also suggests that individual monoclonal microbials may exert differentiated effects on the immune system. For example, a control monoclonal microbial, from the same species as EDP1066 did not reduce inflammation. In the model, orally-delivered and gut-restricted EDP1066 was able to induce certain systemic effects in a mouse as depicted below. We believe this data supports our development of EDP1066 in human diseases with Th1-driven systemic inflammation, starting with psoriasis and arthritides.

P-value is a conventional statistical method for measuring the statistical significance of experimental results. A p-value of less than 0.05 is generally considered to represent statistical significance, meaning that there is a less than five percent likelihood that the observed results occurred by chance. In the figure below and all subsequent figures where p-values are included, a p-value of less than 0.05 is represented by "*". P-values of less than 0.01 or less than 0.001 are represented by "**" or "***," respectively, and are considered to have higher statistical significance. Unless otherwise specified, the p-values shown represent a comparison of each treatment group to the vehicle or control group.

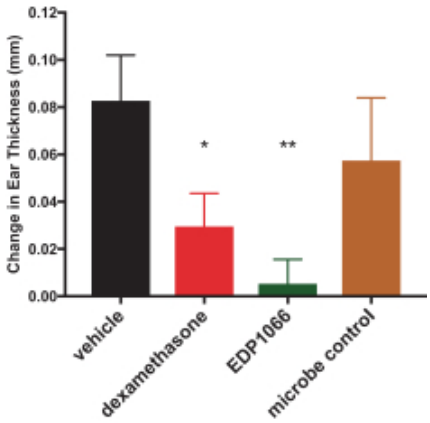


Figure 4: EDP1066 reduced skin inflammation in a DTH mouse model. Mice were sensitized with a foreign antigen, chicken ovalbumin, and Complete Freund's Adjuvant subcutaneously at day zero. Mice were orally-dosed for 10 days from sensitization on day zero with either vehicle, dexamethasone (1 mg/kg), EDP1066, or a microbe control. Eight days after sensitization, mice were given an intradermal ear challenge with ovalbumin. Change in ear thickness, a measure of skin inflammation, was evaluated 48 hours post-challenge. Treatment with EDP1066 resulted in greater reduction in inflammation relative to all other groups. (Significance relative to vehicle: ** = p<0.01, * = p<0.05, ns = not significant)

In a separate preclinical DTH study, we dosed mice with EDP1066 across a range of doses. In this experiment, the activity of EDP1066 was dose-dependent within a 100-fold dose range. Ascending doses varied by a factor of 10. At the two higher doses, change in ear thickness, a measure of skin inflammation, was comparable to treatment with dexamethasone. Because therapeutic activity is not further increased between these two higher doses, we believe that we are at a dose plateau indicative of maximum therapeutic activity in mice. We have used this information to determine the dosing range for our first-in-human clinical study.

Preclinical DNFB Mouse Model

We assessed the therapeutic activity of EDP1066 in an *in vivo* mouse model using DNFB skin challenge. DNFB causes a chronic T-cell and cytokine-dependent skin inflammation resembling atopic dermatitis in human patients. This model is dependent on the Th2 class of T-cells, which is associated with atopic and allergic conditions. In the study, we compared daily oral administration of EDP1066 to daily topical administration of clobetasol, a highly potent steroid cream applied to the skin in patients with atopic dermatitis and psoriasis. In the model, we observed no inflammation in the EDP1066 group eight days after the DNFB challenge, whereas there was not a significant difference between clobetasol and the control. At day 15, inflammation scores for clobetasol and EDP1066 were similar. We believe this activity supports our plan to target Th2-mediated diseases with initial clinical testing in atopic dermatitis.

Preclinical DSS Mouse Model

We also tested EDP1066 in a mouse model of gut inflammation. Dextran sodium sulfate, or DSS, was administered in the drinking water of mice, resulting in immune-mediated gut inflammation and significant weight loss. Anti-IL-12/23 antibodies are often used as a positive control in this model. Daily oral administration of EDP1066 reduced weight loss and signs of inflammation in this model, as shown in Figure 5. Additionally, EDP1066 was more active than anti-IL-12/23, which is a mouse analog that acts on the same pathway as ustekinumab (STELARA), an approved therapy for inflammatory bowel disease. A closely related strain from the same species as EDP1066 was used as a microbe control and demonstrated no therapeutic benefit in this model. We believe the data observed in this model suggests the potential role of EDP1066 in controlling gut inflammation, which is important for IBD.

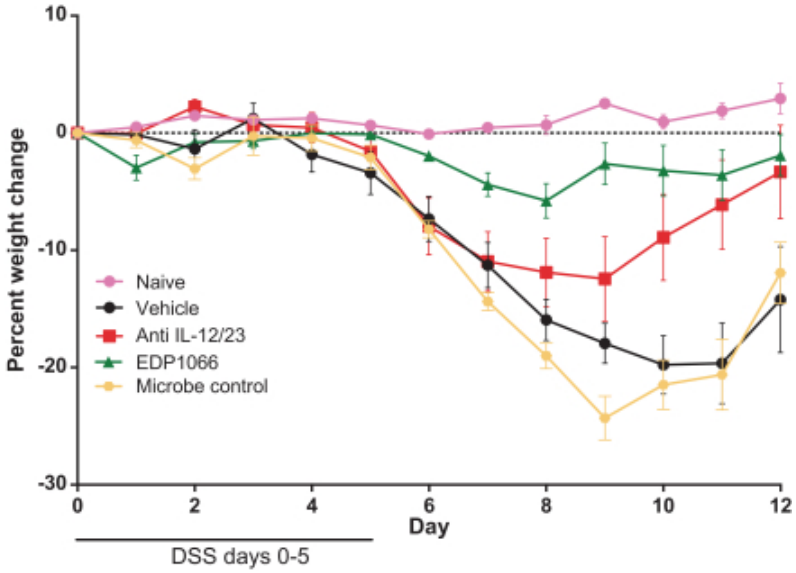


Figure 5: EDP1066 reduced weight loss in a mouse model of colitis. Dextran sodium sulfate (DSS) was administered to mice in drinking water from days 0-5. Mice were dosed daily with oral vehicle, oral EDP1066, oral microbe control, or anti-IL-12/23 (twice weekly intra-peritoneally). Mice treated with EDP1066 exhibited less weight loss compared to mice in vehicle, anti-IL-12/23 and microbe control groups.

First-in-Human Study

We are conducting the first-in-human clinical study of EDP1066-001 in the United Kingdom, and we dosed the first healthy volunteer in April 2018. We expect initial safety, biomarker and clinical data in the first half of 2019.

EDP1815

EDP1815 is our second monoclonal microbial product candidate that is being developed to treat inflammatory diseases. In preclinical testing, EDP1815 has exhibited a different set of biological activities than EDP1066. In preclinical studies, EDP1815 has shown immunomodulatory activity on human immune cells and anti-inflammatory activity in many discrete tissues, including skin, joints, gut and the central nervous system after oral delivery in mouse models.

In Vitro Assays

Data from a representative example of a human *in vitro* assay for EDP1815 are shown in Figure 6. In the *in vitro* assay, human macrophages were pre-conditioned with lipopolysaccharide, or LPS, and interferon gamma, or IFNg, for 24 hours to put them into a strongly pro-inflammatory state. These pre-conditioned human macrophages were then co-cultured with various microbes for another 24 hours to determine their effects on macrophage inflammatory activity. EDP1815 induced production of the anti-inflammatory cytokine IL-10.

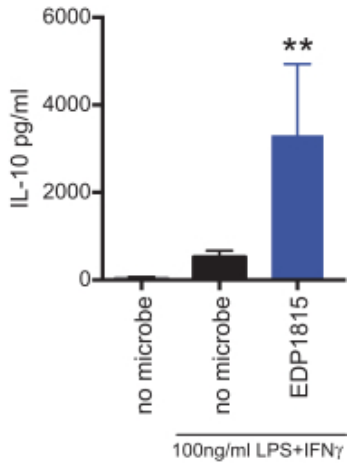


Figure 6: EDP1815 stimulated IL-10 production by human macrophages. Human macrophages were purified from peripheral blood mononuclear cells and pre-conditioned to a pro-inflammatory state with LPS and IFNg. Pre-conditioned macrophages co-cultured with EDP1815 produced significantly higher levels of IL-10 compared to a pre-conditioned control alone (= p<0.01).**

Preclinical DTH Mouse Model

We also tested EDP1815 in a DTH mouse model of Th1-driven skin inflammation relative to dexamethasone, a steroid, and fingolimod (GILENYA), a potent inhibitor of T-cell trafficking which is an approved therapy for multiple sclerosis. Results of the study, represented in Figure 7, show that suppression of inflammation by EDP1815 was comparable to dexamethasone and fingolimod. The dose of fingolimod used in this study was higher than the equivalent dose level in humans that would be used for treatment. Moreover, doses of EDP1815 within a 10-fold range were comparable to fingolimod. Because higher doses of EDP1815 did not further increase therapeutic effect, we believe we achieved a dose plateau for maximum therapeutic activity in

mice. We plan to use this information to calculate the dosing range for our first-in-human clinical study. We believe the data from this preclinical study may be supportive of development efforts in human diseases with Th1-driven inflammation, starting with psoriasis and arthritides.

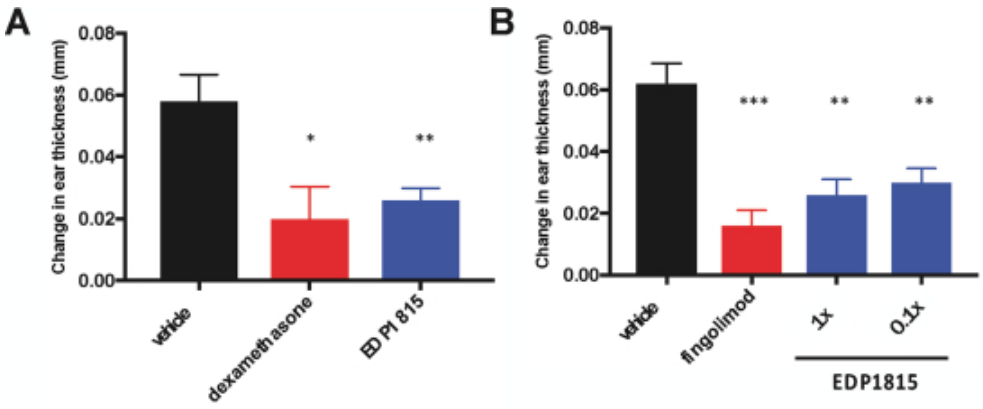


Figure 7: EDP1815 reduced skin inflammation in DTH mouse models. Mice were sensitized with a foreign antigen, keyhole lympet hemocyanin, and Complete Freund's Adjuvant subcutaneously at day zero. Mice were orally-dosed for 10 days from sensitization on day zero with (A) vehicle, dexamethasone (one mg/kg), or EDP1815, or (B) vehicle, fingolimod (supratherapeutic. dose of three mg/kg), or doses of EDP1815 within a 10-fold range. Eight days after sensitization, mice were given an intradermal ear challenge with KLH. Change in ear thickness, a measure of skin inflammation, was evaluated 24 hours post-challenge. Treatment with EDP1815 resulted in greater reduction in inflammation relative to all other groups. (Significance relative to vehicle: *** = p<0.001, ** = p<0.01, * = p<0.05)

Preclinical CIA Mouse Model

Our collaborators at Mayo Clinic observed therapeutic activity of EDP1815 in a mouse model of collagen-induced arthritis, or CIA, which is driven by a Th17 inflammatory response. In this model, CIA mice were conditioned to have autoimmune responses to their own collagen. This is intended to result in the destruction of the joints and mimic human arthritides, including rheumatoid arthritis. In the study, both therapeutic and prophylactic oral administration of EDP1815 significantly reduced disease incidence and severity, as shown in Figure 8 from our collaborators at Mayo Clinic.

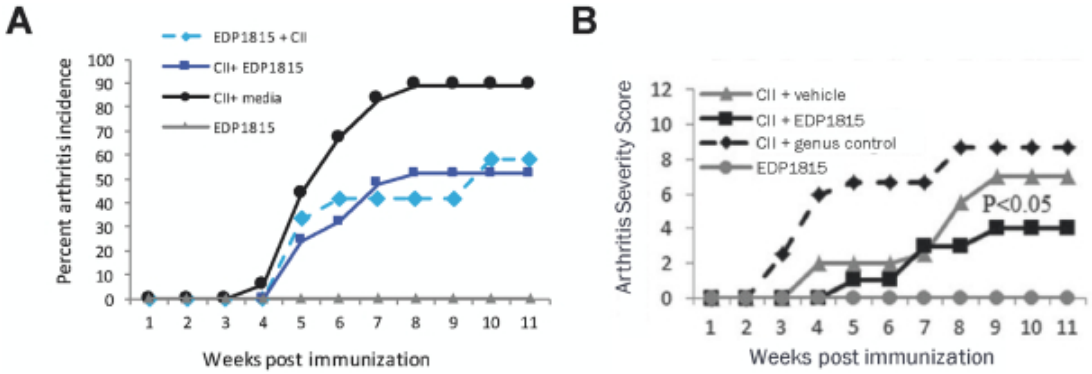


Figure 8: EDP1815 reduced arthritis incidence and severity in a mouse model of rheumatoid arthritis. Inflammatory arthritis was induced in DQ8 mice by immunization with type II collagen, or CII. Mice were treated with 100 microliters of EDP1815 every other day either before or after arthritis induction. Treatment was initiated either 10 days prior (EDP1815 + CII – prophylactic) or

two weeks after CIA induction (CII + EDP1815 – therapeutic), and continued for six weeks post-immunization. (A) Both prophylactic and therapeutic dosing of EDP1815 resulted in a lower percentage of arthritis incidence compared to treatment with vehicle. A control using EDP1815 alone, without immunization with CII, showed no arthritis. (B) Arthritis severity score was also measured over time. Therapeutic treatment with EDP1815 (CII + EDP1815) significantly reduced ($p<0.05$) arthritis severity score relative to control (CII + vehicle). A separate control with a microbe from the same genus as EDP1815 was used (CII + genus control) and did not improve arthritis severity score. Reprinted from Marietta et al. 2016. Arthritis and Rheumatology 68(12): 2878-2888 with permission from Wiley.

Although EDP1815 remained physically restricted to the gut and associated lymphoid tissue in our biodistribution studies, our collaborators at Mayo Clinic observed its immunomodulatory activity throughout the body in mouse models. Blood samples were taken from CIA mice to determine the effects of treatment on circulating levels of immune biomarkers. As shown in Figure 9 from our collaborators at Mayo Clinic, cytokine profiling from serum of treated mice revealed that oral administration of EDP1815 resulted in reduced levels of IL-13 and IL-17, which are relevant to diseases of Th2 and Th17 inflammation, respectively. We believe the data suggests that EDP1815 may be able to treat inflammatory diseases driven by both of these pathways.

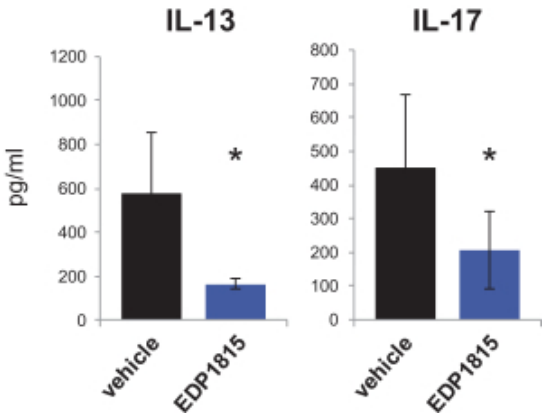


Figure 9: Oral administration of EDP1815 reduced levels of inflammatory serum cytokines. Levels of serum cytokines were evaluated in DQ8 mice immunized with type II collagen and treated with either EDP1815 or with vehicle. IL-13 and IL-17 cytokine levels were significantly reduced in the serum of EDP1815-treated mice compared to mice treated with vehicle. (Significance relevant to vehicle: * = $p<0.05$) Reprinted from Marietta et al. 2016. Arthritis and Rheumatology 68(12): 2878-2888 with permission from Wiley.

Preclinical EAE Mouse Model

In addition, our collaborators at Mayo Clinic tested EDP1815 in a mouse model of experimental autoimmune encephalomyelitis, or EAE. This is a model of antigen-specific Th17-driven neuro-inflammation. In the study, mice were immunized with myelin peptide. Clinical inflammation was then monitored and scored for a 30-day period. The data from the EAE model in Figure 10 from our collaborators at Mayo Clinic show that oral administration of EDP1815 significantly suppressed disease scores, which is the standard measurement for severity of paralysis in this model. These results were strain dependent—a genus control and two Gram-negative bacterial controls did not result in lower clinical disease scores.

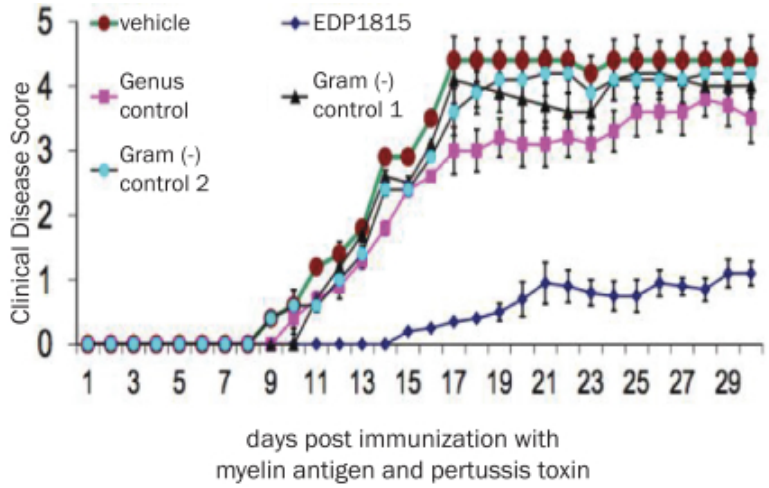


Figure 10: EDP1815 reduced disease scores in a mouse model of experimental autoimmune encephalomyelitis, or EAE. HLA-DR3.DQ8 mice were immunized with myelin peptide PLP91-110 at day zero and were orally-dosed with either vehicle, EDP1815, or other microbe controls starting on day seven. Treatment was continued every other day for a total of seven doses. EDP1815-treated mice exhibited lower daily mean clinical scores compared with mice treated with vehicle or microbe controls.

We believe that data in the above model suggests that EDP1815 anti-inflammatory activity is mediated through the Th17 pathway. Spleen cells were extracted from animals in the study and restimulated *ex vivo* with myelin to recapitulate the inflammatory response that causes disease. The results shown in Figure 11 from our collaborators at Mayo Clinic suggest that EDP1815 treatment induced an anti-inflammatory response in immune cells outside the gut, marked by downregulated IL-17 and IFNg and upregulated IL-10. We believe this further substantiates the potential role of EDP1815 in controlling Th17-driven neuroinflammation, which is relevant to multiple sclerosis. We believe this ability to impact systemic inflammation and inhibit IL-17 outside of the gut may be relevant to other Th17-driven human diseases, such as psoriasis.

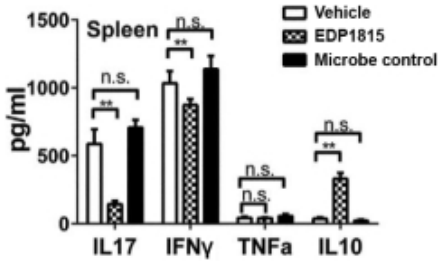


Figure 11: Splenocytes from EAE mice treated with EDP1815 produced an anti-inflammatory cytokine profile. Splenocytes from EDP1815-treated HLA-DR3.DQ8 EAE mice re-stimulated with PLP91-110 had reduced levels of inflammatory cytokines IL-17 and

IFNg and increased levels of anti-inflammatory cytokine IL-10, compared with splenocytes from medium-treated mice. Similar observations were noted when compared to mice treated with a microbe control (*E. coli*). (Significance relative to medium: ** = p<0.01, ns = not significant) Reprinted from Mangalam et al. 2017. Cell Reports 20: 1269-1277 with permission from Elsevier.

Preclinical DSS Mouse Model

We also tested EDP1815 in the DSS model of gut inflammation. In this preclinical study, we observed better activity of EDP1815 compared to anti-IL-12/23 with respect to weight loss, as well as bloody stool score and tissue damage as measured by endoscopy. Anti-IL-12/23 is a mouse analog that acts through the same pathway as ustekinumab (STELARA), an approved therapy for inflammatory bowel disease. A microbe control demonstrated no therapeutic benefit in this model. We believe that the observed activity of EDP1815 in this model suggests the potential role of EDP1815 in IBD.

Planned First-in-Human Study

The manufacturing process for EDP1815 has been established and transferred to our cGMP CMO partner and manufacturing is in progress. We plan to initiate clinical studies of EDP1815 in psoriasis and atopic dermatitis in the fourth quarter of 2018.

Oncology Portfolio

We are developing monoclonal microbials intended for the treatment of cancer. We expect to initiate clinical testing for our first oncology product candidate, EDP1503, in the second half of 2018. We are actively evaluating and expect to select additional oncology clinical candidates through our discovery program.

We expect to conduct the first-in-human study for EDP1503, EDP1503-001, in metastatic melanoma and to evaluate EDP1503 in combination with a PD-1 inhibitor. Both PD-1-naïve and PD-1-relapsed melanoma patients will be recruited into the study. The University of Chicago will conduct this investigator-sponsored study. Patients will receive a 2-week run with a single dose of EDP1503 monotherapy, administered daily, prior to receiving the combination. We will be evaluating paired biopsies taken before and at the conclusion of this 2-week run in. We expect that the study will enroll between 55 and 70 patients, with full clinical readouts for safety, tolerability and efficacy expected in the second half of 2020.

We expect to initiate additional oncology combination studies with EDP1503 in the first half of 2019. We plan to enroll patients with colorectal cancer and renal cell carcinoma, as well as patients who have relapsed on prior PD-1/L1 inhibitor treatment across multiple tumor types.

The rationale for these clinical studies is based on our preclinical data, which suggests that EDP1503 is active through different immune mechanisms beyond those targeted by checkpoint inhibitors, such as PD-1/PD-L1, or cytotoxic T-lymphocyte associated protein 4, or CTLA-4, inhibitors. Research suggests that checkpoint inhibition prevents the downregulation of the immune system induced by tumors. In preclinical models, we observed that EDP1503 stimulated upregulation of the immune response to tumors. Oral administration of EDP1503 in preclinical mouse models appeared to delay tumor progression to a similar extent as checkpoint inhibitors using different immune mechanisms. In mouse models, EDP1503 had additive effects when combined with a checkpoint inhibitor.

Multiple clinical studies have demonstrated that checkpoint inhibitor activity is dependent on underlying T-cell infiltration and tumor mutational burden. Consequently, checkpoint inhibitors alone are typically ineffective in tumors without sufficient immune cell infiltration. Furthermore, resistance to checkpoint inhibitors can arise through multiple pathways of immune escape, including downregulation of antigen-presentation pathways (*e.g.*, MHC I, TAP, LMP2, LMP7 proteins), loss of tumor antigens recognized by effector T-cells, upregulation of immunosuppressive cytokines and increased resistance of tumor cells to apoptosis.

We believe that our existing and potential monoclonal microbial product candidates have the potential to broaden the base of cancer immunotherapy. The preclinical data of EDP1503 suggests a variety of effects in mouse tumor models, including upregulation of CD8+ T-cell infiltration, increased intratumoral pro-inflammatory chemokines, upregulation of MHC Class I expression and augmentation of NK cell infiltration. We believe that the ability of a monoclonal microbial to induce these effects across multiple pathways makes it an attractive combination candidate for checkpoint inhibitors relative to other immunotherapies in development that target a single pathway.

Checkpoint inhibitors are projected to generate $30 billion in revenue by 2025. However, efficacy of these therapies has thus far been limited to a subset of patients within select indications. Even in melanoma, where checkpoint inhibition is considered the frontline standard of care, almost half of the patients do not respond to PD-1 + CTLA-4 inhibitor combination and at least a third of responders relapse within two years. Given few additional therapy options, we believe there is high unmet need for the growing population of patients who relapse on PD-1/L1 inhibitors. In approved indications other than melanoma, the majority of patients do not benefit, with response rates ranging from only 10% to 30%. In renal cell carcinoma, PD-1 + CTLA-4 inhibitor combination only demonstrated benefit in a subset of frontline patients with poor to intermediate risk. Lastly, several other tumor types are not responsive to checkpoint inhibition alone. For example, in colorectal cancer, generic chemotherapy continues to be standard-of-care and PD-1 inhibitors have only shown benefit in a small proportion of late-line patients with high microsatellite instability or those who are mismatch repair-deficient. Approximately 95% of colorectal cancer patients are microsatellite stable and do not benefit from checkpoint inhibition alone. These factors suggest a substantial need for non-cytotoxic therapy options.

In all these indications, agents with differentiated immune mechanisms of action may be complementary to checkpoint inhibitors by both augmenting existing effects and testing alternative pathways of immunotherapy in checkpoint inhibitor non-responsive tumor types and patients. However, some combination approaches in oncology have been limited by the toxicity caused by dosing multiple agents concurrently. Because monoclonal microbials may work through differentiated pathways to modulate systemic immune responses without systemic exposure, we believe they may be well-suited for combination with immuno-oncology agents or other standard-of-care therapies.

EDP1503

EDP1503 is a product candidate being developed to treat cancer. We selected EDP1503 based on its observed *in vitro* profile in human immune cell assays, as well as its anti-tumor activity in a range of preclinical mouse tumor models.

In Vitro Assay

Macrophages play an important role in cancer immunity, through both direct and indirect effects on other cells, including T-cells, in the tumor microenvironment. There are two broad classes of macrophages: (1) M1, which are pro-inflammatory and have anti-tumor effects; and (2) M2, which primarily have a tissue repair function and tend to block inflammation and promote tumor growth. Data from an *in vitro* screening assay, depicted in Figure 12, shows the result of co-culture of 37 distinct microbe strains with human macrophages. We assessed the strains based on their ability to polarize macrophages to an M1 or M2 type. We created an M1 control by pre-conditioning macrophages with LPS and IFNg, putting them into a strongly pro-inflammatory state. We created an M2 control by pre-conditioning macrophages with IL-4 and IL-13, inducing an anti-inflammatory, pro-repair state. The aggregate production of pro-inflammatory cytokines, which are characteristic of M1 macrophages, is mapped on the y-axis. EDP1503 is the most M1-polarizing strain in this figure, suggesting that it has the strongest pro-inflammatory properties of the strains evaluated, which we believe is a favorable attribute of an oncology candidate.

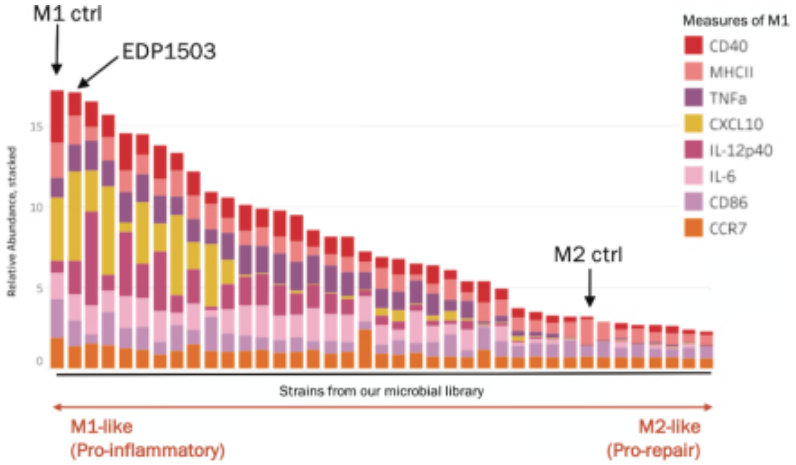


Figure 12: Induction of human macrophage inflammatory responses by EDP1503. Monoclonal microbials candidates and controls were co-cultured with macrophages purified from human peripheral blood mononuclear cells for 24 hours. Controls included LPS and IFNg to push macrophages into a strongly pro-inflammatory state (M1 ctrl) and IL-4 and IL-13 to induce an anti-inflammatory state (M2 ctrl). Cytokine levels were evaluated at the end of the co-culture period. Of all monoclonal microbials tested, EDP1503 induced the highest aggregate level of pro-inflammatory cytokines.

We also tested these strains for their ability to drive antigen-dependent activation of human T-cells. In a separate *in vitro* assay, we co-cultured human dendritic cells with different microbes from our library for 24 hours. We then removed the microbes and tested the ability of respective microbe-conditioned dendritic cells to enhance the inflammatory response of human CD8 T-cells. T-cell response was evaluated through production of IFNg by human CD8 T-cells stimulated by a MHC Class I peptide pool, a marker of T-cell activation. EDP1503 was one of the highest inducers of antigen-specific CD8 T-cell IFNg responses, which we believe suggests it may have the ability to significantly enhance inflammatory T-cell responses in humans.

Preclinical Melanoma and Colon Cancer Mouse Models

We also tested EDP1503 in mouse models of melanoma and colon cancer, as shown in Figure 13. In a melanoma model, we administered EDP1503 daily beginning eight days after tumor implantation in mice, as depicted in Figure 13A below. Reduction in tumor volume was similar to that observed with an anti-PD-L1 antibody, a mouse analog of the current standard of care in melanoma. Furthermore, EDP1503 showed an

additive effect with an anti-PD-L1 antibody, further reducing tumor volume. We observed similar results in a colon cancer model shown in Figure 13B. EDP1503 activity was comparable to an anti-PD-1 antibody and showed additive activity in combination with an anti-PD-1 antibody. We believe these models suggest that orally-delivered EDP1503 is able to induce systemic anti-tumor effects in mice, which may support clinical development in a range of solid tumors. Multiple experiments conducted by a variety of contract research organizations reproduced these results, suggesting that the results were not dependent on specific experimental conditions or on the background microbiota of the mice.

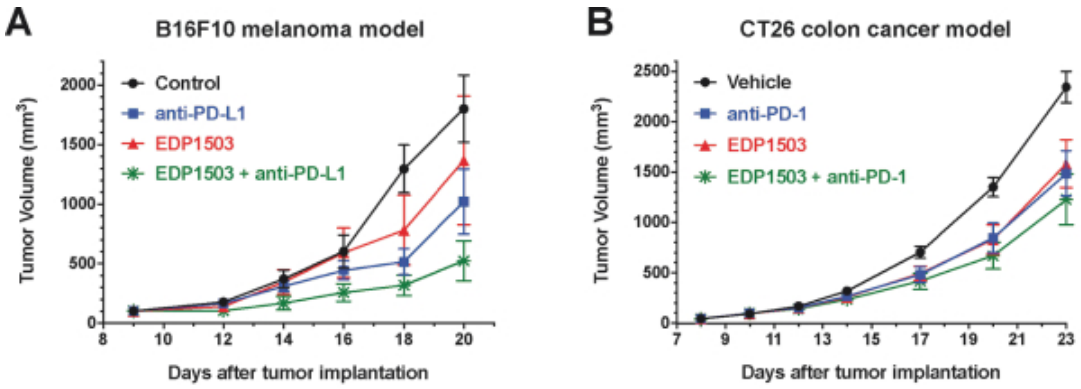


Figure 13: EDP1503 slowed progression of tumors in syngeneic tumor models. (A) B16.F10 melanoma cells were implanted subcutaneously in mice. Treatment was initiated at day nine when tumors reached a volume of 100 mm3. (B) CT26 colon cancer cells were implanted subcutaneously in mice. Treatment was initiated at day seven when tumors reached a volume of 100 mm3. In both models, vehicle and EDP1503 were given orally daily and anti-PD-1/L1 antibodies were administered intra-peritoneally every four days. Mean tumor volumes were recorded at multiple timepoints. EDP1503 demonstrated anti-tumor activity as a monotherapy and in combination with anti-PD-1/L1 antibodies in both tumor models.

Additional testing in the colon cancer model suggested that the anti-tumor activity of EDP1503 was dose-dependent over a 100-fold range. Ascending doses varied by a factor of 10. When we assessed mean tumor volume 12 days post-treatment, activity at higher doses of EDP1503 was comparable to an anti-PD-1 antibody. By showing that the highest dose we evaluated did not significantly increase therapeutic effect over a slightly lower dose, we gained a better understanding of the maximum therapeutic activity in mice. We used this information to calculate the dose for our first-in-human clinical study.

Ex Vivo Analyses of Colon Cancer Mouse Model

Research suggests that T-cell infiltration into tumors is important for immunotherapeutic responses in oncology patients. In an *ex vivo* analysis of a CT26 mouse tumor study, we used a CD3 cell surface marker on dissected tumor sections to identify all T-cells as shown on the left in Figure 14 below. The graphs depicted on the right in Figure 14 plot the total number of CD3 positive T-cells in a defined microscopic view of tumors, treated with EDP1503 or vehicle, respectively. The tumors in mice treated with EDP1503 had increased T-cell infiltration relative to vehicle-treated mice. The increases correlated with therapeutic activity on tumor growth. We have observed in separate preclinical experiments that the majority of these infiltrating T-cells are positive for the T-cell marker CD8, which identifies T-cells thought to be particularly important for killing tumor cells in patients.

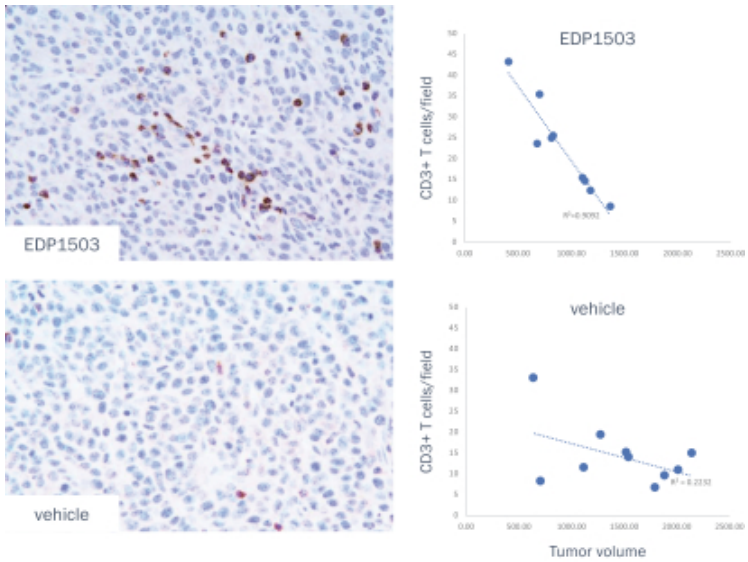


Figure 14: EDP1503 induced T-cell infiltration into tumors. Microscopy images show CD3+ T-cell infiltration in defined microscopic fields of CT26 mouse tumors treated with EDP1503 or vehicle (left). Quantitation of CD3+ T-cell infiltration was plotted against tumor volume. EDP1503 treated mice show greater T-cell infiltration in tumors, with the extent of infiltration being greater in smaller tumors (right).

CXCL10 is a protein hormone of the immune system, or a chemokine, which is produced in response to IFNg. CXCL9 is also produced under similar conditions. Clinical research has demonstrated that melanoma patients that have a high concentration of CXCL10 in their tumors have a significantly better prognosis.

As depicted in Figure 15, we removed colon tumor tissue from a mouse model following treatment with vehicle, anti-PD-1 antibody, EDP1503 or a combination of EDP1503 and anti-PD-1 antibody, and then extracted lymphocytes that had infiltrated the treated tumor. We then tested these lymphocytes for their ability to produce CXCL9 and CXCL10. Lymphocytes from EDP1503-treated tumors induced CXCL9, while those from anti-PD-1 antibody-treated tumors did not. However, we did observe a synergistic effect in combination treated tumors. Lymphocytes from EDP1503-treated tumors more highly induced CXCL10 than those treated with anti-PD-1 antibody and the effect of EDP1503 was greater when used in combination with anti-PD-1.

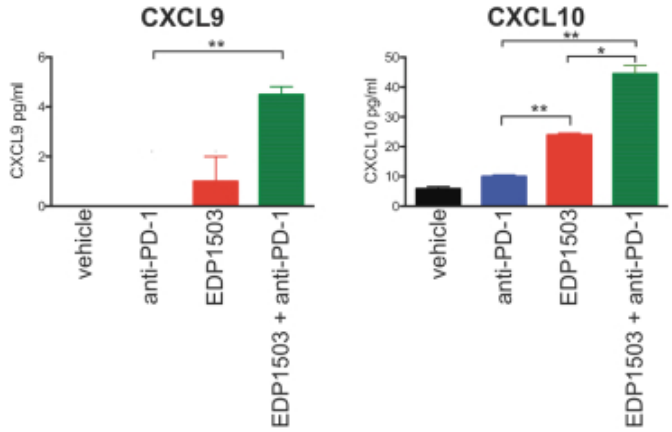


Figure 15: EDP1503 induced production of CXCL9 and CXCL10 in tumors. Secretion of pro-inflammatory chemokines, CXCL9 and CXCL10, by CD8+ T-cells recovered from explanted CT26 tumors in mice treated with anti-PD-1 antibody, EDP1503, or the combination. Compared to anti-PD-1 antibody alone, both EDP1503 monotherapy and combination resulted in greater CXCL9 and CXCL10 secretion by tumor infiltrating lymphocytes. (Significance relative to EDP1503 or anti-PD-1 antibody: ** = p<0.01; * = p<0.05)

In other *ex vivo* analyses of CT26 mouse tumor studies, we have observed that treatment with EDP1503 upregulates MHC Class I expression and augments NK cell infiltration, which are both understood to correlate with improved immune response in cancer patients. Lower MHC Class I expression reduces antigen presentation to immune cells and has been observed in patients with either primary or acquired resistance to checkpoint inhibitors. We believe these data suggest that the action of EDP1503 on the gut-body network enables different immune mechanisms that match the anti-tumor effect of and are potentially complementary to checkpoint inhibitors. We believe this profile offers a range of potential opportunities for improved immuno-oncology treatments.

Biodistribution and Pharmacokinetics

We have used two techniques to determine the pharmacokinetics and biodistribution of EDP1503 *in vivo* in mice: fluorescence microscopy and strain-specific PCR primers.

First, using fluorescence microscopy, we have shown in Figure 16 that labeled EDP1503 reaches the gut epithelium, which we believe is the site of action of the gut-body network.

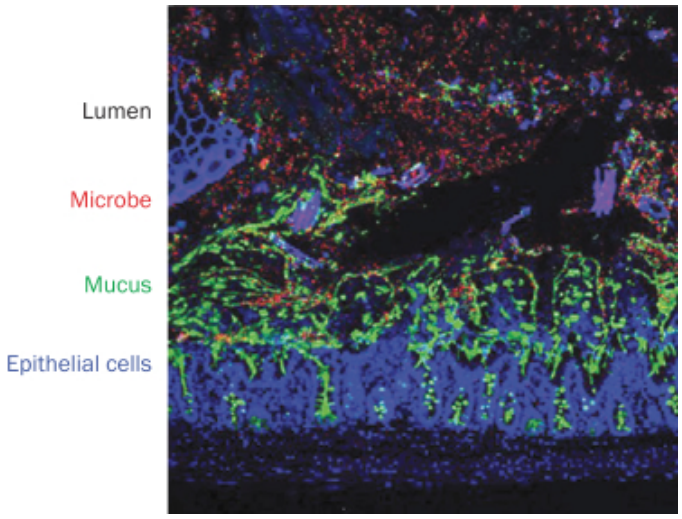


Figure 16: Fluorescence microscopy showing distribution of EDP1503 in the small intestine of a mouse. Mice were treated with a single oral administration of EDP1503, which was covalently labeled with DIBAC-Cy5 (red). A section of small intestine was stained with anti-MUC2 (green), which stains mucus, and DNA-containing epithelial cells were stained with DAPI (blue). EDP1503 (red) is found both free within the lumen, as well as penetrating the mucus layer to the cells of the gut epithelium where it interacts with the gut-body network.

We believe that EDP1503 has an ability to engage with target immune cells *in vivo*. In the experiment plotted in Figure 17, we gave mice oral doses of 10^8 or 10^9 fluorescently labeled EDP1503. After three hours, we removed mesenteric lymph nodes. Mesenteric lymph nodes are the lymph nodes that monitor immune activity in the gut. We broke down the lymph nodes into single cells and then assayed them on a fluorescence activated cell analyzer to determine the level of physical engagement between EDP1503 and antigen-presenting cells, or APCs, such as macrophages (CX3CR1+) and dendritic cells (CD103+). Our observations suggest a dose-dependent association of EDP1503 with the target immune cells above the background of vehicle control. We believe this is consistent with the proposed mechanism of action of EDP1503 and its dose-dependent activity in a colon cancer model.

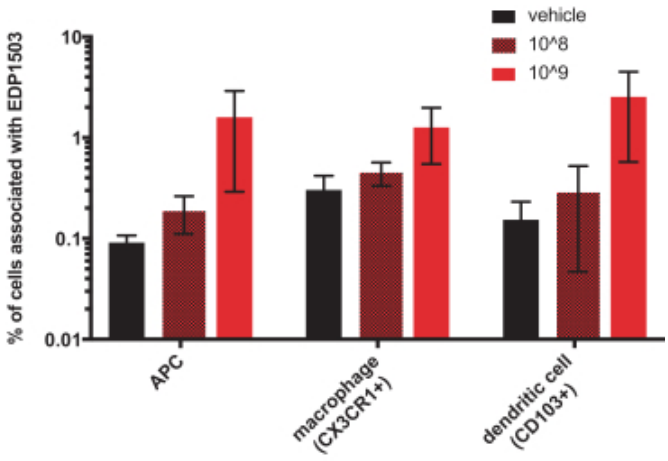


Figure 17: EDP1503 associated with antigen-presenting cells, or APCs, in the mesenteric lymph nodes. Mice were treated with vehicle or 10^8 or 10^9 DIBAC-Cy5 labeled EDP1503. Mesenteric lymph nodes were collected and sorted by flow cytometry, with the proportion of Cy5+ events recorded for each cell type. Increasing proportions of macrophages and dendritic cells show association with EDP1503 with increasing oral dose.

Second, we also used PCR primer pairs specific for EDP1503 to track the passage of EDP1503 through the gut of mice and detected its presence in other tissues. After a single oral dose, EDP1503 cleared from the small intestine within 16 hours and from the colon and stool within 24 to 48 hours. There was no evidence of persistence or colonization either in this model or in the longer-term multi-dose tumor models. The exposure of EDP1503 in other body sites was negligible.

Planned First-in-Human Study

We expect that the first-in-human clinical study EDP1503-001 will be conducted at the University of Chicago and that the first patient will be dosed in the second half of 2018. Clinical EDP1503 cGMP drug substance has been manufactured and drug product is currently being manufactured. We met with the FDA in a pre-Investigational New Drug meeting in November 2017 and in April 2018 an IND application was submitted for the study to be conducted by The University of Chicago.

New Candidate Discovery

Our *in vitro* and *in vivo* assays continue to identify novel monoclonal microbial strains that have the potential to become product candidates. As an example, we identified ES1114 from our monoclonal microbial library as a potential candidate. We have tested ES1114 in the same two mouse tumor models as EDP1503. As

depicted in the charts in Figure 18, it had comparable activity to anti-PD-1 antibody in a colon cancer model and showed additive activity to anti-PD-L1 antibody in a melanoma model.

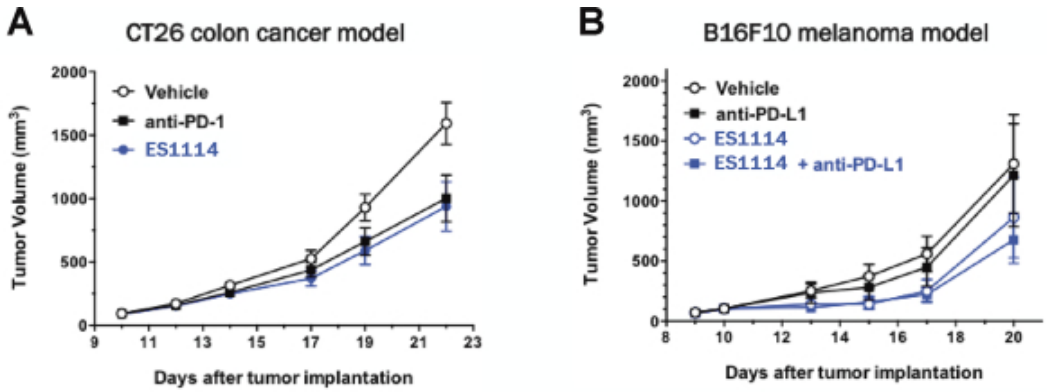


Figure 18: ES1114 slowed progression of tumors in syngeneic tumor models. (A) Mice were implanted subcutaneously with CT26 cells. Treatment was initiated at day 10 when tumors reached a volume of 100 mm3. (B) Mice were implanted subcutaneously with B16F10 melanoma cells. Treatment was initiated at day nine when tumors reached a volume of 100 mm3. In both models, vehicle and ES1114 were given orally daily, and anti-PD-1/L1 antibodies were administered intra-peritoneally every four days. Mean tumor volumes were recorded at multiple timepoints. ES1114 demonstrated anti-tumor activity as monotherapy and in combination with anti-PD-L1 antibody in the B16F10 melanoma model.

Additional *in vitro* and *in vivo* studies, as well as feasibility for manufacturing process development, are underway with ES1114 and other leads for potential additional oncology product candidates.

Manufacturing

We have developed proprietary methods for the manufacture of pharmacologically active monoclonal microbials that are scalable and transferable to cGMP manufacturing facilities. Monoclonal microbials are isolated, proliferated and purified in a manner analogous to the manufacture of pharmaceutical drugs. Monoclonal microbials maintain activity through the manufacturing process, which produces drug substance in a powder form that makes our candidates suitable for oral administration in the form of a capsule. Additionally, we have established robust analytical methods to assess the identity, strength and purity of monoclonal microbials. We expect that these controlled manufacturing processes and analytical methods will allow us to produce and release cGMP batches of material with consistent quality.

Our internal manufacturing capabilities include production of non-GMP materials for *in vitro* and *in vivo* preclinical assessment of product candidates. We currently rely on third-party manufacturers for the production of materials for clinical studies. Our internal personnel have extensive cGMP manufacturing experience to ensure efficient technology transfer and oversee the development and manufacturing activities conducted by third-party manufacturers. Our agreements with third-party manufacturers include confidentiality and intellectual property provisions to protect our proprietary rights to our monoclonal microbial candidates.

We expect our third-party manufacturers will be able to meet manufacturing requirements and drug supply required by our clinical studies. In some instances, we have reserved resources from third-party manufacturers for the development and manufacture of our monoclonal microbial candidates for near-term clinical programs. We believe that these relationships are integral to ensuring reliable, high-quality drug supply for clinical development.

While we do not have a current need for commercial manufacturing capacity, we intend to evaluate both building internal capabilities and contracting with third-party manufacturers at the appropriate time.

Process development and manufacturing are critical for translation of monoclonal microbials. We believe our internal expertise and external partnerships have allowed us to address unique challenges associated with monoclonal microbial manufacturing. Some of these major challenges include: limited prior know-how in the field for novel microbes; strict anaerobic growth conditions required by many commensal microbes; and temperature and oxygen sensitivities that affect downstream processing.

Our proprietary methods for the manufacture of pharmacologically active monoclonal microbials address these three major challenges. Many human commensals are strict anaerobes with no prior development precedent. Process development of commensal microbes requires strong technical expertise in microbiology and anaerobic fermentation. We are pioneering strict anaerobic bioprocessing technologies that allow for rapid development of reproducible manufacturing processes. We continue to optimize our processes across a wide range of parameters including media, temperature, pH, and harvest conditions. By modifying these parameters, we were able to develop a fermentation process for EDP1815, which is an anaerobic microbe with sensitive growth requirements. As depicted in Figure 19, our proprietary fermentation process increased yield, or production of EDP1815 biomass, by 10,000-fold compared to production of EDP1815 biomass produced from an industry standard fermentation process.

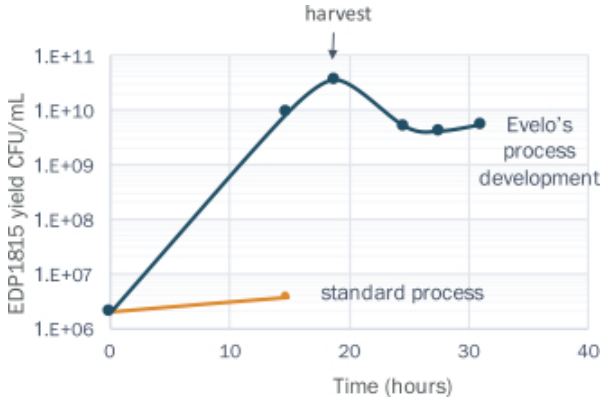


Figure 19. Our process development defines fermentation parameters for EDP1815. Fermentation profile for EDP1815 when grown according to an industry standard fermentation process (orange) and our proprietary process (blue).

Our monoclonal microbial manufacturing processes consist of drug substance and drug product manufacturing. We have established expertise across all aspects of drug substance manufacturing unit operations including cell banking, fermentation, cell separation and lyophilization. We have also advanced knowledge related to drug product manufacturing and our drug product has demonstrated stability under long-term storage conditions. We will continue to advance novel formulation technologies for enhanced delivery and activity in future trials.

Sales and Marketing

Given the current developmental stage of our product candidates and platform, we have not yet established a commercial organization. We intend to commercialize our products globally and in multiple disease areas. We intend to do this both through selectively building our own sales and marketing team and partnering or collaborating with third parties.

Intellectual Property

We strive to protect the proprietary technology that we believe is important to our business, including seeking and maintaining patents intended to cover both our broad platform and individual product candidates.

We seek to obtain domestic and international patent protection, and endeavor to promptly file patent applications for new commercially valuable inventions. We also rely on trade secrets to protect aspects of our business that are not amenable to, or that we do not consider appropriate for, patent protection.

We plan to continue to expand our intellectual property estate by filing patent applications directed to pharmaceutical compositions, methods of treatment, methods of manufacture, methods for patient selection created or identified from our ongoing development of our product candidates, as well as discovery based on our proprietary platform. Our success will depend on our ability to obtain and maintain patent and other proprietary protection for commercially important technology, inventions and know-how related to our business, defend and enforce any patents that we may obtain, preserve the confidentiality of our trade secrets and operate without infringing the valid and enforceable patents and proprietary rights of third parties. We also rely on know-how and continuing technological innovation to develop and maintain our proprietary position and, in the future, may rely on or leverage in-licensing opportunities.

The patent positions of biopharmaceutical companies like us are generally uncertain and involve complex legal, scientific and factual questions. In addition, the coverage claimed in a patent may be challenged in courts after issuance. Moreover, many jurisdictions permit third parties to challenge issued patents in administrative proceedings, which may result in further narrowing or even cancellation of patent claims. We cannot predict whether the patent applications we are currently pursuing will issue as patents in any particular jurisdiction or at all, whether the claims of any patent applications, should they issue, will cover our product candidates, or whether the claims of any issued patents will provide sufficient protection from competitors or otherwise provide any competitive advantage.

Because patent applications in the United States and certain other jurisdictions are maintained in secrecy for 18 months or potentially even longer, and because publication of discoveries in the scientific or patent literature often lags behind actual discoveries and patent application filings, we cannot be certain of the priority of inventions covered by pending patent applications. Accordingly, we may not have been the first to invent the subject matter disclosed in some of our patent applications or the first to file patent applications covering such subject matter, and we may have to participate in interference proceedings or derivation proceedings declared by the United States Patent and Trademark Office, or USPTO, to determine priority of invention.

Patent Portfolio

Our patent portfolio includes patent applications in varying stages of prosecution in the United States and selected jurisdictions outside of the United States. As of April 27, 2018, our patent portfolio consisted of seven issued patents and 68 pending applications, which include compositions, methods of use, and manufacturing process claims. Of the patents in our portfolio, two are owned by us, four are exclusively licensed from Mayo Clinic and one is exclusively licensed from the University of Chicago. Of the pending applications in our portfolio, 44 are owned by us, 23 are exclusively licensed to us from the University of Chicago and one is exclusively licensed to us from Mayo Clinic. The patent portfolio includes patents and applications covering the following:

- An oral oncology platform exclusively licensed from the University of Chicago, consisting of one issued patent and 23 pending applications. Patents in this family are expected to expire in 2036.
- A translational *in vitro* assay platform developed by us, consisting of one pending provisional application. Any applications claiming priority to this provisional application that issue as a patent are expected to expire in 2038.
- A formulation platform consisting of one pending provisional application. Any applications claiming priority to this provisional application that issue as a patent are expected to expire in 2038.
- A modality platform consisting of two pending provisional applications. Any applications claiming priority to these provisional applications that issue as a patent are expected to expire in 2038.

- Inflammation portfolio:
  - EDP1815, consisting of four issued patents in-licensed from Mayo Clinic, covering compositions and methods of use, one pending application in-licensed from Mayo Clinic (the patents and application from Mayo Clinic expected to expire in 2030) and two Evelo-owned pending provisional applications directed to compositions and methods of use. Any applications claiming priority to these provisional applications that issue as a patent are expected to expire in 2038; and
  - EDP1066, consisting of three pending provisional applications directed to compositions and methods of use. Any applications claiming priority to these provisional applications that issue as a patent are expected to expire in 2038.
- Oncology portfolio:
  - EDP1503, consisting of protection under the oral oncology platform exclusively licensed from the University of Chicago covering methods of use and one Evelo-owned pending provisional application directed to compositions and methods of use. Any applications claiming priority to this provisional application that issue as a patent are expected to expire in 2038; and
  - ES1114, consisting of two Evelo-owned pending provisional applications directed to compositions and methods of use. Any applications claiming priority to these provisional applications that issue as a patent are expected to expire in 2038.

Patent Term

The base term of a U.S. patent is 20 years from the filing date of the earliest-filed non-provisional, patent application from which the patent claims priority. The term of a U.S. patent can be lengthened by patent term adjustment, which compensates the owner of the patent for administrative delays at the USPTO. In some cases, the term of a U.S. patent is shortened by terminal disclaimer that reduces its term to that of an earlier-expiring patent.

The term of a U.S. patent may be eligible for patent term extension under the Drug Price Competition and Patent Term Restoration Act of 1984, referred to as the Hatch-Waxman Act, to account for at least some of the time the drug is under development and regulatory review after the patent is granted. With regard to a drug for which FDA approval is the first permitted marketing of the active ingredient, the Hatch-Waxman Act allows for extension of the term of one U.S. patent that includes at least one claim covering the composition of matter of such an FDA-approved drug, an FDA-approved method of treatment using the drug and/or a method of manufacturing the FDA-approved drug. The extended patent term cannot exceed the shorter of five years beyond the non-extended expiration of the patent or fourteen years from the date of the FDA approval of the drug, and a patent cannot be extended more than once or for more than a single product. During the period of extension, if granted, the scope of exclusivity is limited to the approved product for approved uses. Some foreign jurisdictions, including Europe and Japan, have analogous patent term extension provisions, which allow for extension of the term of a patent that covers a drug approved by the applicable foreign regulatory agency. In the future, if and when our product candidates receive FDA approval, we expect to apply, if appropriate, for patent term extension on patents covering those product candidates, their methods of use and/or methods of manufacture.

Trade Secrets

In addition to patents, we rely on trade secrets and know-how to develop and maintain our competitive position. We typically rely on trade secrets to protect aspects of our business that are not amenable to, or that we do not consider appropriate for, patent protection. We protect trade secrets and know-how by establishing confidentiality agreements and invention assignment agreements with our employees, consultants, scientific advisors, contractors and collaborators. These agreements provide that all confidential information developed or made known during the course of an individual or entities' relationship with us must be kept confidential during

and after the relationship. These agreements also provide that all inventions resulting from work performed for us or relating to our business and conceived or completed during the period of employment or assignment, as applicable, shall be our exclusive property. In addition, we take other appropriate precautions, such as physical and technological security measures, to guard against misappropriation of our proprietary information by third parties.

License and Manufacturing Agreements

We are a party to several license agreements under which we license patents, patent applications and other intellectual property. The licensed intellectual property includes composition of matter and methods of using monoclonal microbials. In some cases, licenses cover physical material in the form of microbial strains. Certain diligence and financial obligations are tied to these agreements. Additionally, we are a party to a manufacturing agreement for committed resources and exclusivity. We consider the following agreements to be material to our business.

University of Chicago License Agreement

In March 2016, we entered into an exclusive license agreement with the University of Chicago. This agreement gives us an exclusive, worldwide, sublicensable license to patent rights related to administration of microbes to treat cancer. Under this agreement, we may make, have made, use, import, have sold, offer to sell, and sell microbial products to treat cancer in combination with checkpoint inhibitors. Many microbial genera are covered by these patent rights, including *Bifidobacterium*, which encompasses our lead oncology candidate, EDP1503. In addition, we have a non-exclusive, worldwide license to use technical information disclosed to us by the University of Chicago for the development and commercialization of microbial products to treat cancer in combination with checkpoint inhibitors. Under this agreement, we must use commercially reasonable efforts to develop and market licensed products. Commercially reasonable efforts can be demonstrated by achieving specific milestones by specific dates.

Pursuant to the terms of the license agreement, we paid the University of Chicago an upfront fee of an amount less than $500,000 and are required to make low five-digit license maintenance fees on an annual basis, creditable against royalties owed in that given year. In addition, we may owe the University of Chicago future milestone payments totaling an aggregate of approximately $60.9 million upon achievement of specific milestones, the vast majority of which are associated with specific regulatory and commercial milestones.

The University of Chicago is entitled to receive low single-digit percentage royalties on annual net sales of products that fall under the licensed patent rights on a country-by-country and product-by-product basis. The royalty percentage depends on the amount of annual net sales and whether the product is covered by valid patent claims, un-published technical information, or published technical information. Our valid claims royalty obligations to the University of Chicago will expire upon the later of (a) expiration of the last-to-expire valid claim covering the product, or (b) the expirations of regulatory exclusivity of a product covered by the patent rights. Technical information royalty obligations will expire upon the earlier of (a) fifteen years from first commercial sale of the applicable product, or (b) until a substantially similar product comes onto the market.

Under the license agreement, we have the right to sublicense licensed rights to third parties, provided that the sublicense agreement is consistent with the terms of the original license and that we hold any sublicensees compliant. Should we enter a sublicense under these patent rights, we are required to pay the University of Chicago a percentage of our sublicense revenue. The University of Chicago is entitled to percentages of sublicense revenue in the low- to mid-teens depending on the stage of development of licensed products at the time the sublicense is entered.

The University of Chicago maintains control of patent prosecution, defense and maintenance on their patent rights. We are responsible for reimbursing the University of Chicago for patent costs incurred. If we cease

payment for patent prosecution, our patent rights will terminate and revert to the University of Chicago. We have the first right, but not obligation, to control any post grant proceedings and to take action in the prosecution or prevention of any infringement by a third party to patent rights.

The license granted by the University of Chicago is subject to any retained rights of the U.S. government in the patent rights and to retained rights of the University of Chicago to use the patent rights for non-commercial research purposes. The license agreement will expire on a country-by-country and product-by-product basis on the later of (a) expiration date of the last to expire licensed patents, or (b) a set number of years in the mid-teens from first commercial sale of a licensed product. Prior to the expiration date, we may terminate the license with written notification to the University of Chicago. Prior to the expiration date, the University of Chicago may terminate the agreement in whole or in part if we fail to make payments within thirty days of receiving a written notice of missed payment, if we breach any material obligation of the agreement and do not cure such breach within thirty days, if we become bankrupt or insolvent, or if we are dissolved or liquidated. The University of Chicago may also terminate the license if we fail to show commercially reasonable efforts in meeting diligence milestones.

License Agreement with Mayo Clinic

In August 2017, we entered into an agreement with the Mayo Foundation for Medical Education and Research, an affiliate of Mayo Clinic, or Mayo Clinic, to license intellectual property and microbial strains. This agreement gives us an exclusive, worldwide, sublicensable license to patent rights related to compositions of matter and methods of using microbes from a specific species to treat autoimmune and inflammatory diseases. In addition to patent rights, this agreement also includes an exclusive, worldwide, sublicensable license to an immuno-modulatory microbial strain isolated from a human small intestinal sample by Mayo Clinic. Under the licensed patent rights and/or using the licensed microbial strain, we may make, have made, use, offer for sale, sell, and import products containing microbes of a specific species to treat autoimmune and inflammatory diseases. In addition, we have a non-exclusive, worldwide license to use know-how disclosed to us by Mayo Clinic related to the development and commercialization of products containing microbes of a specific species to treat autoimmune and inflammatory diseases. The licensed patents include four issued U.S. patents and one pending U.S. patent application. Issued claims cover compositions containing microbes from a specified species and methods of using these compositions to treat all autoimmune and inflammatory diseases. EDP1815, one of our lead candidates in the inflammation program, contains the microbial strain licensed from Mayo Clinic and is covered by these patent rights. Under this agreement, we must use commercially reasonable efforts to bring licensed products to the market.

In consideration for the licenses, we paid Mayo Clinic an upfront payment of $225,000. Beginning on the second anniversary of the effective date, we will owe Mayo Clinic escalating annual license maintenance fees in the low- to mid–five digits. Annual license maintenance fees count towards milestones and royalties owed in a given year. Mayo Clinic is entitled to future clinical, approval and sales milestones. We agreed to pay Mayo Clinic future milestone payments totaling a maximum of $960,000 upon achievement of specific development milestones and $55 million upon achievement of specific regulatory and commercial milestones.

Mayo Clinic will receive low single-digit percentage royalties on annual net sales of products that fall under the licensed patent rights or contain the licensed microbial strain on a country-by-country and product-by-product basis. The royalty percentage depends on the amount of annual net sales and whether the product is covered by valid patent claims or contains the licensed microbial strain. Royalties on products containing the licensed microbial strain will only be due in countries where licensed products are not covered by valid claims. Our valid claims royalty obligations to Mayo Clinic will terminate on expiration of the last-to-expire valid claim covering the product. Royalty obligations on products containing the licensed microbial strain will expire 15 years from the first commercial sale of the licensed product.

Under the license agreement, we have the right to sublicense licensed patent rights and the licensed microbial strain to third parties through multiple tiers, provided that the sublicense agreement is on substantially

the same terms as the original license and that we are responsible for the performance of its sublicensees. We must obtain Mayo Clinic's permission to grant any fully paid-up, royalty-free or exclusive sublicenses. We have no financial obligations to Mayo Clinic related to sublicenses.

Mayo Clinic has the responsibility to prepare, file, prosecute or abandon its patent rights. We may provide prior comment and advice to Mayo Clinic and we are responsible for reimbursing Mayo Clinic for past and future patent costs. If we cease payment for patent preparation, filing or prosecution, our patent rights will terminate and revert to Mayo Clinic. We have the first right, but not obligation, to control any post grant proceedings and to take action in the prosecution or prevention of any infringement by a third party to patent rights.

The license granted by Mayo Clinic is subject to any retained rights of the US government in the patent rights and to retained rights of Mayo Clinic to use the patent rights and licensed microbial strain for non-commercial research purposes, which excludes human use. The license to patent rights will expire on a country-by-country and product-by-product basis upon the expiration date of the last to expire licensed patents. The license to Mayo Clinic's microbial strain will expire 15 years from first commercial sale of a product containing the licensed microbial strain. Prior to the expiration date, Mayo Clinic may terminate the license if we fail to make payments within thirty days of receiving a written notice of missed payment, if we breach any material obligation of the agreement and do not cure such breach within thirty days, if we become bankrupt or insolvent, or if we or any sublicensee directly or indirectly brings suit against Mayo Clinic. Upon early termination of our license, any sublicensee that is not in material breach of the agreement will have the right to retain its sublicense to the patent rights and microbial strain. We do not have the right to terminate the agreement prior to the expiration date.

Biose Committed Resource and Exclusivity Agreement

Effective February 2018, we entered into an exclusivity and commitment agreement with Biose Industrie, or Biose. Under this agreement, Biose reserves sufficient manufacturing resources for the manufacture of our drug substance according to a specified schedule of manufacturing runs over a three-year period. We are required to pay Biose fees in the high five digits to low six digits for each run depending on the type of run being conducted. If we do not use committed manufacturing resources, we are required to pay Biose for these resources unless Biose is able to re-sell unused runs.

In addition to manufacturing resources, this agreement includes exclusivity provisions, which ensure that we are Biose's exclusive customer for the manufacture of certain microbial biotherapeutic products. We are required to pay annual fees in the mid six digits to Biose in consideration for these exclusivity provisions.

The term of the agreement is three years from the effective date. We may terminate at any time with prior notice within a specified period to Biose, or if there is a change of control of Biose that may adversely affect our interest. In the event that we terminate at will, we are obligated to pay Biose a mid-range percentage of the committed manufacturing resource fees for a specified period less than one year following the effective date of termination. In addition, both parties may terminate if the other party materially breaches the agreement and does not cure such breach within a specified period or if either party becomes bankrupt or insolvent, or is dissolved or liquidated.

Competition

The biotechnology and pharmaceutical industries are characterized by rapid growth and a dynamic landscape of proprietary therapeutic candidates. While we believe that our monoclonal microbial platform and candidates, coupled with our resources and industry expertise, give us a competitive advantage in the field, we face competition from a variety of institutions, including larger pharmaceutical companies with more resources. Specialty biotechnology companies, academic research institutions, governmental agencies, as well as public and private institutions are also potential sources of competitive products and technologies.

In both inflammatory diseases and oncology, we anticipate intensifying competition as new therapies are approved and advanced technologies become available. Many of our competitors, either alone or with strategic partners, have considerably greater financial, technical, and human resources than we do. Competitors may also have more experience developing, obtaining approval for, and marketing novel treatments in the indications we are pursuing. These factors could give our competitors an advantage over us in recruiting and retaining qualified personnel, completing clinical development, and commercializing their products. Competitors that are able to obtain FDA or other regulatory approval for their products more rapidly than we can for our products may also establish a stronger market position, diminishing our commercial opportunity. Key considerations that would impact our capacity to effectively compete include the efficacy, safety, ease of use, as well as pricing and reimbursement of our products.

Significant competition exists in the immuno-oncology field, where we are developing our first product candidates in oncology. Although our monoclonal microbial approach is unique from most other existing or investigational therapies in immuno-oncology, we will need to compete with all currently or imminently available therapies within the indications where our development is focused. Although there is a wide range of potentially competitive mechanisms, possible synergies between these and monoclonal microbials will also be evaluated.

The main classes of immunotherapy that are available or are being evaluated by our competitors include:

- ***Checkpoint inhibitors***: Agenus Inc., AstraZeneca plc, Bristol-Myers Squibb, F. Hoffmann-La Roche A.G., Incyte Corporation, Merck & Co., Pfizer Inc.; and
- ***Cell therapy***: Celgene Corporation, Gilead Sciences, Inc., Juno Therapeutics Inc. and Novartis International A.G.

In autoimmune or inflammatory diseases, there is also a wide range of competitors that we will be challenged by. In later stages of disease, the majority of competition will stem from companies marketing or developing biologics and novel small molecule therapies, such as AbbVie Inc., Johnson & Johnson, Pfizer Inc, Novartis International A.G., Regeneron Pharmaceuticals, Inc. and Sanofi S.A. Potentially competing mechanisms of action include TNF, IL-4, IL-17, and JAK inhibitors. Novel delivery of biologics, particularly via oral administration, and the entry of biosimilars will also add to competition within the therapeutic area.

Government Regulation

The FDA and other regulatory authorities at federal, state and local levels, as well as in foreign countries, extensively regulate, among other things, the research, development, testing, manufacture, quality control, import, export, safety, effectiveness, labeling, packaging, storage, distribution, record keeping, approval, advertising, promotion, marketing, post-approval monitoring and post-approval reporting of drugs and biologics such as those we are developing. We, along with our contract manufacturers, will be required to navigate the various preclinical, clinical and commercial approval requirements of the governing regulatory agencies of the countries in which we wish to conduct studies or seek approval for our product candidates. The process of obtaining regulatory approvals and ensuring subsequent compliance with appropriate federal, state, local and foreign statutes and regulations requires the expenditure of substantial time and financial resources.

In the United States, the FDA regulates drug and biologic products under the Federal Food, Drug and Cosmetic Act, its implementing regulations and other laws, including, in the case of biologics, the Public Health Service Act. Our product candidates are subject to regulation by the FDA as biologics. Biologics require the submission of a biologics license application, or BLA, and licensure, which constitutes approval, by the FDA before being marketed in the United States. None of our product candidates has been approved by the FDA for marketing in the United States, and we currently have no BLAs pending. If we fail to comply with applicable FDA or other requirements at any time during product development, clinical testing, the approval process or after approval, we may become subject to administrative or judicial sanctions. These sanctions could include the

FDA's refusal to approve pending applications, suspension or revocation of approved applications, warning letters, product recalls, product seizures, total or partial suspensions of manufacturing or distribution, injunctions, fines, civil penalties or criminal prosecution. Any FDA enforcement action could have a material adverse effect on us.

The process required by the FDA before our biologic product candidates may be marketed in the United States generally involves the following:

- completion of preclinical laboratory tests and animal studies performed in accordance with the FDA's good laboratory practice, or GLP, regulations;
- submission to the FDA of an IND, which must become effective before clinical trials in the United States may begin;
- performance of adequate and well-controlled human clinical trials to establish the safety and efficacy of the product candidate for each proposed indication, conducted in accordance with the FDA's good clinical practice, or GCP, regulations;
- submission to the FDA of a BLA;
- satisfactory completion of an FDA inspection of the manufacturing facility or facilities at which the product is produced to assess compliance with cGMP regulations; and
- FDA review and approval of the BLA prior to any commercial marketing, sale or shipment of the product.

The testing and approval process requires substantial time, effort and financial resources, and we cannot be certain that any approvals for our product candidates will be granted on a timely basis, if at all.

Preclinical and Clinical Trials

Once a product candidate is identified for development, it enters the preclinical testing stage. Preclinical studies include laboratory evaluations of drug chemistry, formulation and stability, as well as studies to evaluate toxicity in animals, which must be conducted in accordance with GLP requirements. The results of the preclinical studies, together with manufacturing information and analytical data, are submitted to the FDA as part of an IND. The IND automatically becomes effective 30 days after receipt by the FDA, unless the FDA, within the 30-day time period, raises concerns or questions about the conduct of the clinical trial, including concerns that human research subjects will be exposed to unreasonable health risks, and imposes a clinical hold. In such a case, the IND sponsor and the FDA must resolve any outstanding concerns before the clinical trial can begin. Submission of an IND may result in the FDA not allowing clinical trials to commence or not allowing clinical trials to commence on the terms originally specified in the IND. A separate submission to an existing IND must also be made for each successive clinical trial conducted during product development, and the FDA must grant permission, either explicitly or implicitly by not objecting, before each clinical trial can begin.

Clinical trials involve the administration of the product candidate to human subjects under the supervision of qualified investigators. Clinical trials are conducted under protocols detailing, among other things, the objectives of the clinical trial and the parameters and criteria to be used in monitoring safety and evaluating effectiveness. Each protocol must be submitted to the FDA as part of the IND. An independent institutional review board, or IRB, for each investigator site proposing to participate in a clinical trial must also review and approve the clinical trial before it can begin at that site, and the IRB must monitor the clinical trial until it is completed. The FDA, the IRB, or the sponsor may suspend or discontinue a clinical trial at any time on various grounds, including a finding that the subjects are being exposed to an unacceptable health risk. Clinical testing also must satisfy extensive GCP requirements, including requirements for informed consent.

For purposes of BLA approval, clinical trials are typically conducted in three sequential phases, which may overlap or be combined.

- *Phase 1*—Phase 1 clinical trials involve initial introduction of the investigational product into healthy human subjects or patients with the target disease or condition. These studies are typically designed to test the safety, dosage tolerance, absorption, metabolism and distribution of the investigational product in humans, the side effects associated with increasing doses, and, if possible, to gain early evidence of effectiveness.

- *Phase 2*—Phase 2 clinical trials typically involve administration of the investigational product to a limited patient population with a specified disease or condition to evaluate the preliminary efficacy, optimal dosages and dosing schedule and to identify possible adverse side effects and safety risks.

- *Phase 3*—Phase 3 clinical trials typically involve administration of the investigational product to an expanded patient population to further evaluate dosage, to provide statistically significant evidence of clinical efficacy and to further test for safety, generally at multiple geographically dispersed clinical trial sites. These clinical trials are intended to establish the overall risk/benefit ratio of the investigational product and to provide an adequate basis for product approval and physician labeling.

In some cases, the FDA may condition approval of a BLA on the sponsor's agreement to conduct additional clinical trials to further assess the biologic's safety and effectiveness after BLA approval. Such post-approval clinical trials are typically referred to as Phase 4 clinical trials.

Although most clinical research performed in the United States in support of a BLA must be authorized in advance by the FDA, under the IND regulations and procedures described above, there are certain circumstances under which clinical trials can be conducted without submission of an IND. For example, a sponsor who wishes to conduct a clinical trial outside the United States may, but need not, obtain FDA authorization to conduct the clinical trial under an IND.

Progress reports detailing the results of the clinical trials, among other information, must be submitted at least annually to the FDA and written IND safety reports must be submitted to the FDA and the investigators for serious and unexpected suspected adverse events, findings from other studies or animal or *in vitro* testing that suggest a significant risk for human subjects and any clinically important increase in the rate of a serious suspected adverse reaction over that listed in the protocol or investigator brochure.

Concurrent with clinical trials, companies usually complete additional animal studies and must also develop additional information about the chemistry and physical characteristics of the biologic and finalize a process for manufacturing the biologic in commercial quantities in accordance with cGMP requirements. The manufacturing process must be capable of consistently producing quality batches of the product candidate and manufacturers must develop, among other things, methods for testing the identity, strength, quality and purity of the final biological product. Additionally, appropriate packaging must be selected and tested and stability studies must be conducted to demonstrate that the product candidate does not undergo unacceptable deterioration over its shelf life.

BLA Submission and FDA Review

The results of preclinical studies and clinical trials, together with other detailed information, including extensive manufacturing information and information on the composition of the biologic, are submitted to the FDA in the form of a BLA requesting approval to market the biologic for one or more specified indications. The submission of a BLA requires payment of a substantial user fee unless a waiver is granted. Each BLA submitted to the FDA is reviewed for administrative completeness and reviewability within 60 days of the FDA's receipt of the application. If the BLA is found to be complete, the FDA will file the BLA, triggering a full substantive review of the application. The FDA may refuse to file any BLA that it deems incomplete or not properly reviewable at the time of submission.

Once a BLA has been accepted for filing, by law the FDA has 180 days to review the application and respond to the applicant. However, the review process is often significantly extended by FDA requests for additional information or clarification. Under the Prescription Drug User Fee Act, the FDA has a goal of reviewing BLAs within ten months of the 60-day filing date for standard review or six months for priority review, but the overall timeframe is often extended by FDA requests for additional information or clarification. The FDA reviews a BLA to determine, among other things, whether the biological product is safe, pure and potent and whether the facility or facilities in which it is manufactured meet standards designed to assure the product's continued safety, purity and potency. The FDA may refer the application to an advisory committee for review, evaluation and recommendation as to whether the application should be approved. The FDA is not bound by the recommendation of an advisory committee, but it generally follows such recommendations.

Before approving a BLA, the FDA will inspect the facility or the facilities at which the biologic product is manufactured, and will not license the product unless cGMP compliance is satisfactory. The FDA may also inspect the sites at which the clinical trials were conducted to assess their compliance with GCP requirements, and will not license the biologic unless compliance with such requirements is satisfactory.

The FDA may deny approval of a BLA if the applicable statutory and regulatory criteria are not satisfied, or it may require additional preclinical or clinical data. Even if such data are submitted, the FDA may ultimately decide that the BLA does not satisfy the criteria for approval. Data from clinical trials are not always conclusive and the FDA may interpret data differently than sponsors. Once the FDA approves a BLA, such approval defines the indicated uses for which the biologic may be marketed. The FDA may also require implementation of a Risk Evaluation and Mitigation Strategy, or REMS, which can include a medication guide, communication plan, or elements to assure safe use, such as restricted distribution methods, physician training, patient registries and other risk minimization tools. The FDA also may condition approval on, among other things, changes to proposed labeling claims or the development of adequate controls and specifications. Once approved, the FDA may withdraw the product approval if compliance with pre- and post-marketing regulatory standards is not maintained or if problems occur after the product reaches the market. The FDA may require one or more Phase 4 post-market studies and surveillance to further assess and monitor the product's safety and effectiveness after commercialization, and may limit further marketing based on the results of these post-marketing studies. After approval, certain changes to the approved biologic, such as adding new indications, manufacturing changes or additional labeling claims, are subject to further FDA review and approval. Depending on the nature of the change proposed, a BLA supplement must be filed and approved before the change may be implemented.

Expedited Development and Review Programs

The FDA maintains several programs intended to facilitate and expedite development and review of new drugs and biologics to address unmet medical needs in the treatment of serious or life- threatening diseases or conditions. These programs include Fast Track designation, Breakthrough Therapy designation, Priority Review designation and Accelerated Approval, and the purpose of these programs is to provide important new drugs to patients earlier than under standard FDA review procedures.

A new drug or biologic is eligible for fast track designation if it is intended to treat a serious or life- threatening disease or condition and demonstrates the potential to address unmet medical needs for such disease or condition. Fast Track designation provides increased opportunities for sponsor meetings with the FDA during preclinical and clinical development, in addition to the potential for rolling review once a marketing application is filed, meaning that the agency may review portions of the marketing application before the sponsor submits the complete application, as well as Priority Review, discussed below. In addition, a new drug or biologic may be eligible for breakthrough therapy designation if it is intended to treat a serious or life-threatening disease or condition and preliminary clinical evidence indicates that the drug may demonstrate substantial improvement over existing therapies on one or more clinically significant endpoints, such as substantial treatment effects observed early in clinical development. Breakthrough Therapy designation provides all the features of Fast Track designation in addition to intensive guidance on an efficient drug development program beginning as early as

Phase 1, and FDA organizational commitment to expedited development, including involvement of senior managers and experienced review staff in a cross-disciplinary review, where appropriate.

Any product submitted to the FDA for approval, including a product with Fast Track or Breakthrough Therapy designation, may also be eligible for additional FDA programs intended to expedite the review process, including Priority Review designation and accelerated approval. A product is eligible for Priority Review if it has the potential to provide a significant improvement in safety or effectiveness in the treatment, diagnosis or prevention of a serious disease or condition. Additionally, products are eligible for accelerated approval if they can be shown to have an effect on a surrogate endpoint that is reasonably likely to predict clinical benefit, or an effect on a clinical endpoint that can be measured earlier than an effect on irreversible morbidity or mortality which is reasonably likely to predict an effect on irreversible morbidity or mortality or other clinical benefit, taking into account the severity, rarity, or prevalence of the condition and the availability or lack of alternative treatments. Accelerated approval is usually contingent on a sponsor's agreement to conduct additional post-approval studies to verify and describe the product's clinical benefit. In addition, unless otherwise informed by the FDA, the FDA currently requires, as a condition for accelerated approval, that all advertising and promotional materials that are intended for dissemination or publication within 120 days following marketing approval be submitted to the agency for review during the pre-approval review period, and that after 120 days following marketing approval, all advertising and promotional materials must be submitted at least 30 days prior to the intended time of initial dissemination or publication.

Fast Track designation, Breakthrough Therapy designation, Priority Review designation and Accelerated Approval do not change the standards for approval but may expedite the development or review process.

Post-Approval Requirements

Licensed biologics that are manufactured or distributed in the United States are subject to pervasive and continuing regulation by the FDA, including, among other things, requirements relating to recordkeeping, periodic reporting, product distribution, advertising and promotion and reporting of adverse experiences with the product. There is also a continuing, annual prescription drug product program user fee.

Any biologics manufactured or distributed by us or our contract manufactures pursuant to FDA approvals would be subject to continuing regulation by the FDA, including recordkeeping requirements and reporting of adverse experiences associated with the product. Manufacturers and their subcontractors are required to register their establishments with the FDA and certain state agencies, and are subject to periodic unannounced inspections by the FDA and certain state agencies for compliance with ongoing regulatory requirements, including cGMP, which impose certain procedural and documentation requirements upon us and our contract manufacturers. Failure to comply with statutory and regulatory requirements can subject a manufacturer to possible legal or regulatory action, such as warning letters, suspension of manufacturing, product seizures, injunctions, civil penalties or criminal prosecution.

Later discovery of previously unknown problems with a product, including adverse events of unanticipated severity or frequency, or with manufacturing processes, or failure to comply with regulatory requirements, may result in revisions to the approved labeling to add new safety information, requirements for post-market studies or clinical trials to assess new safety risks, or imposition of distribution or other restrictions under a REMS. Other potential consequences include, among other things:

- restrictions on the marketing or manufacturing of the product, complete withdrawal of the product from the market or product recalls;
- fines, warning letters or holds on post-approval clinical trials;
- refusal of the FDA to approve applications or supplements to approved applications, or suspension or revocation of product approvals;

- product seizure or detention, or refusal to permit the import or export of products; or
- injunctions or the imposition of civil or criminal penalties.

The FDA closely regulates the post-approval marketing and promotion of biologics, including standards and regulations for direct-to-consumer advertising, off-label promotion, industry-sponsored scientific and educational activities, and promotional activities involving the internet and social media. A company can make only those claims relating to safety and efficacy that are approved by the FDA. Physicians may prescribe legally available biologics for uses that are not described in the product's labeling and that differ from those tested by us and approved by the FDA. The FDA does not regulate the behavior of physicians in their choice of treatments. The FDA does, however, impose stringent restrictions on manufacturers' communications regarding off-label use. Failure to comply with these requirements can result in adverse publicity, warning letters, corrective advertising and potential civil and criminal penalties.

Biosimilars and Regulatory Exclusivity

As part of the Patient Protection and Affordable Care Act enacted in 2010, as amended by the Health Care and Education Reconciliation Act of 2010, collectively the Affordable Care Act, the Biologics Price Competition and Innovation Act, or BPCIA established an abbreviated pathway for the approval of biosimilar and interchangeable biological products. The abbreviated regulatory pathway provides legal authority for the FDA to review and approve biosimilar biologics based on their similarity to an existing brand product, referred to as a reference product, including the possible designation of a biosimilar as interchangeable with a brand product. Under the BPCIA the approval of a biosimilar product may not be made effective by the FDA until 12 years from the date on which the reference product was first licensed. Moreover, the extent to which a biosimilar, once approved, will be substituted for any one of our reference products in a way that is similar to traditional generic substitution for non-biological drug products is not yet clear, and will depend on a number of marketplace and regulatory factors that are still developing. The BPCIA is complex and continues to be interpreted and implemented by the FDA. As a result, its ultimate impact, implementation and meaning are subject to uncertainty. In addition, the period of exclusivity provided by the BPCIA only operates against third parties seeking approval via the abbreviated pathway, but would not prevent third parties from pursuing approval via the traditional approval pathway. In addition, foreign regulatory authorities may also provide for exclusivity periods for approved biological products. For example, biological products in the EU may be eligible for at least a ten-year period of exclusivity.

Orphan Drug Designation

Under the Orphan Drug Act, the FDA may grant orphan designation to a drug or biologic intended to treat a rare disease or condition, which is a disease or condition that affects fewer than 200,000 individuals in the United States, or if it affects more than 200,000 individuals in the United States, there is no reasonable expectation that the cost of developing and making the product available in the United States for the disease or condition will be recovered from sales of the product. Orphan designation must be requested before submitting a BLA. Orphan designation does not convey any advantage in or shorten the duration of the regulatory review and approval process, though companies developing orphan products are eligible for certain incentives, including tax credits for qualified clinical testing and waiver of application fees.

If a product that has orphan designation subsequently receives the first FDA approval for the disease or condition for which it has such designation, the product is entitled to a seven-year period of marketing exclusivity during which the FDA may not approve any other applications to market the same therapeutic agent for the same indication, except in limited circumstances, such as a subsequent product's showing of clinical superiority over the product with orphan exclusivity or where the original applicant cannot produce sufficient quantities of product. Competitors, however, may receive approval of different therapeutic agents for the indication for which the orphan product has exclusivity or obtain approval for the same therapeutic agent for a

different indication than that for which the orphan product has exclusivity. Orphan product exclusivity could block the approval of one of our products for seven years if a competitor obtains approval for the same therapeutic agent for the same indication before we do, unless we are able to demonstrate that our product is clinically superior. Furthermore, if a designated orphan product receives marketing approval for an indication broader than the rare disease or condition for which it received orphan designation, it may not be entitled to orphan exclusivity.

Government Regulation Outside of the United States

To market any product outside of the United States, we would need to comply with numerous and varying regulatory requirements of other countries regarding safety and efficacy and governing, among other things, clinical trials, marketing authorization, manufacturing, commercial sales and distribution of our products. For instance, in the EEA (comprised of the 28 EU Member States plus Iceland, Liechtenstein and Norway) medicinal products must be authorized for marketing by using either the centralized authorization procedure or national authorization procedures.

Centralized procedure—Under the centralized procedure, following the opining of the EMA's Committee for Medicinal Products for Human Use, or, CHMP, the European Commission issues a single marketing authorization valid across the EEA. The centralized procedure is compulsory for human medicines derived from biotechnology processes or advanced therapy medicinal products (such as gene therapy, somatic cell therapy and tissue engineered products), products that contain a new active substance indicated for the treatment of certain diseases, such as HIV/AIDS, cancer, neurodegenerative disorders, diabetes, autoimmune diseases and other immune dysfunctions, viral diseases, and officially designated orphan medicines. For medicines that do not fall within these categories, an applicant has the option of submitting an application for a centralized marketing authorization to the EMA, as long as the medicine concerned contains a new active substance not yet authorized in the EEA, is a significant therapeutic, scientific or technical innovation, or if its authorization would be in the interest of public health in the EEA. Under the centralized procedure the maximum timeframe for the evaluation of an MAA by the EMA is 210 days, excluding clock stops, when additional written or oral information is to be provided by the applicant in response to questions asked by the CHMP. Accelerated assessment might be granted by the CHMP in exceptional cases, when a medicinal product is expected to be of a major public health interest, particularly from the point of view of therapeutic innovation. The timeframe for the evaluation of an MAA under the accelerated assessment procedure is 150 days, excluding clock stops.

National authorization procedures—There are also two other possible routes to authorize medicinal products in several countries, which are available for products that fall outside the scope of the centralized procedure:

- *Decentralized procedure.* Using the decentralized procedure, an applicant may apply for simultaneous authorization in more than one EU country of medicinal products that have not yet been authorized in any EU country and that do not fall within the mandatory scope of the centralized procedure.
- *Mutual recognition procedure.* In the mutual recognition procedure, a medicine is first authorized in one EU Member State, in accordance with the national procedures of that country. Following this, additional marketing authorizations can be sought from other EU countries in a procedure whereby the countries concerned recognize the validity of the original, national marketing authorization.

In the EEA, new products authorized for marketing (i.e., reference products) qualify for eight years of data exclusivity and an additional two years of market exclusivity upon marketing authorization. The data exclusivity period prevents generic or biosimilar applicants from relying on the preclinical and clinical trial data contained in the dossier of the reference product when applying for a generic or biosimilar marketing authorization in the EU during a period of eight years from the date on which the reference product was first authorized in the EU. The market exclusivity period prevents a successful generic or biosimilar applicant from commercializing its product in the EU until ten years have elapsed from the initial authorization of the reference product in the EU. The

ten-year market exclusivity period can be extended to a maximum of eleven years if, during the first eight years of those ten years, the marketing authorization holder obtains an authorization for one or more new therapeutic indications which, during the scientific evaluation prior to their authorization, are held to bring a significant clinical benefit in comparison with existing therapies.

The criteria for designating an "orphan medicinal product" in the EEA are similar in principle to those in the United States. In the EEA a medicinal product may be designated as orphan if (1) it is intended for the diagnosis, prevention or treatment of a life-threatening or chronically debilitating condition; (2) either (a) such condition affects no more than five in 10,000 persons in the EU when the application is made, or (b) the product, without the benefits derived from orphan status, would not generate sufficient return in the EU to justify investment; and (3) there exists no satisfactory method of diagnosis, prevention or treatment of such condition authorized for marketing in the EU, or if such a method exists, the product will be of significant benefit to those affected by the condition. Orphan medicinal products are eligible for financial incentives such as reduction of fees or fee waivers and are, upon grant of a marketing authorization, entitled to ten years of market exclusivity for the approved therapeutic indication. During this ten year orphan market exclusivity period, no marketing authorization application shall be accepted and no marketing authorization shall be granted for a similar medicinal product for the same indication. An orphan product can also obtain an additional two years of market exclusivity in the EU for pediatric studies. The ten year market exclusivity may be reduced to six years if, at the end of the fifth year, it is established that the product no longer meets the criteria for orphan designation, for example, if the product is sufficiently profitable not to justify maintenance of market exclusivity. Additionally, marketing authorization may be granted to a similar product for the same indication at any time if (i) the second applicant can establish that its product, although similar, is safer, more effective or otherwise clinically superior; (ii) the applicant consents to a second orphan medicinal product application; or (iii) the applicant cannot supply enough orphan medicinal product.

Similar to the United States, the various phases of non-clinical and clinical research in the European Union are subject to significant regulatory controls.

The Clinical Trials Directive 2001/20/EC, the Directive 2005/28/EC on Good Clinical Practice, or GCP, and the related national implementing provisions of the individual EU Member States govern the system for the approval of clinical trials in the European Union. Under this system, an applicant must obtain prior approval from the competent national authority of the EU Member States in which the clinical trial is to be conducted. Furthermore, the applicant may only start a clinical trial at a specific study site after the competent ethics committee has issued a favorable opinion. The clinical trial application must be accompanied by, among other documents, an investigational medicinal product dossier (the Common Technical Document) with supporting information prescribed by Directive 2001/20/EC, Directive 2005/28/EC, where relevant the implementing national provisions of the individual EU Member States and further detailed in applicable guidance documents.

In April 2014, the new Clinical Trials Regulation, (EU) No 536/2014 (Clinical Trials Regulation) was adopted. The Regulation is anticipated to come into application in 2019. The Clinical Trials Regulation will be directly applicable in all the EU Member States, repealing the current Clinical Trials Directive 2001/20/EC. Conduct of all clinical trials performed in the European Union will continue to be bound by currently applicable provisions until the new Clinical Trials Regulation becomes applicable. The extent to which ongoing clinical trials will be governed by the Clinical Trials Regulation will depend on when the Clinical Trials Regulation becomes applicable and on the duration of the individual clinical trial. If a clinical trial continues for more than three years from the day on which the Clinical Trials Regulation becomes applicable the Clinical Trials Regulation will at that time begin to apply to the clinical trial. The new Clinical Trials Regulation aims to simplify and streamline the approval of clinical trials in the European Union. The main characteristics of the regulation include: a streamlined application procedure via a single entry point, the "EU portal"; a single set of documents to be prepared and submitted for the application as well as simplified reporting procedures for clinical trial sponsors; and a harmonized procedure for the assessment of applications for clinical trials, which is divided in two parts. Part I is assessed by the competent authorities of all EU Member States in which an application for

authorization of a clinical trial has been submitted (Member States concerned). Part II is assessed separately by each Member State concerned. Strict deadlines have been established for the assessment of clinical trial applications. The role of the relevant ethics committees in the assessment procedure will continue to be governed by the national law of the concerned EU Member State. However, overall related timelines will be defined by the Clinical Trials Regulation.

Coverage and Reimbursement

Significant uncertainty exists as to the coverage and reimbursement status of any product candidates for which we obtain regulatory approval. In the United States and markets in other countries, sales of any products for which we receive regulatory approval for commercial sale will depend, in part, on the extent to that third-party payors provide coverage, and establish adequate reimbursement levels for such products.

In the United States, third-party payors include federal and state healthcare programs, private managed care providers, health insurers and other organizations. The process for determining whether a third-party payor will provide coverage for a product may be separate from the process for setting the price of a product or for establishing the reimbursement rate that such a payor will pay for the product. Third-party payors may limit coverage to specific products on an approved list, also known as a formulary, which might not include all of the FDA-approved products for a particular indication. Third-party payors are increasingly challenging the price, examining the medical necessity and reviewing the cost-effectiveness of medical products, therapies and services, in addition to questioning their safety and efficacy. We may need to conduct expensive pharmaco-economic studies in order to demonstrate the medical necessity and cost-effectiveness of our products, in addition to the costs required to obtain the FDA approvals. Our product candidates may not be considered medically necessary or cost-effective. A payor's decision to provide coverage for a product does not imply that an adequate reimbursement rate will be approved. Furthermore, one payor's determination to provide coverage for a product does not assure that other payors will also provide coverage for the product. Adequate third-party reimbursement may not be available to enable us to maintain price levels sufficient to realize an appropriate return on our investment in product development.

Different pricing and reimbursement schemes exist in other countries. In the EU, governments influence the price of pharmaceutical products through their pricing and reimbursement rules and control of national health care systems that fund a large part of the cost of those products to consumers. Some jurisdictions operate positive and negative list systems under which products may only be marketed once a reimbursement price has been agreed. To obtain reimbursement or pricing approval, some of these countries may require the completion of clinical trials that compare the cost-effectiveness of a particular product candidate to currently available therapies. Other member states allow companies to fix their own prices for medicines, but monitor and control company profits. The downward pressure on health care costs has become very intense. As a result, increasingly high barriers are being erected to the entry of new products. In addition, in some countries, cross-border imports from low-priced markets exert a commercial pressure on pricing within a country.

The marketability of any product candidates for which we receive regulatory approval for commercial sale may suffer if the government and third-party payors fail to provide adequate coverage and reimbursement. In addition, emphasis on managed care in the United States has increased and we expect will continue to increase the pressure on healthcare pricing. Coverage policies and third-party reimbursement rates may change at any time. Even if favorable coverage and reimbursement status is attained for one or more products for which we receive regulatory approval, less favorable coverage policies and reimbursement rates may be implemented in the future.

Employees

As of April 18, 2018, we had 59 full-time employees, including 27 with M.D. or Ph.D. degrees. Of those full-time employees, 43 are engaged in research and development. None of our employees is represented by a

labor union or covered by a collective bargaining agreement. We consider our relationship with our employees to be good.

Facilities

Our corporate headquarters are located in Cambridge, Massachusetts, where we currently lease 9,132 square feet of office and laboratory space that expires in June 2018. We also lease 6,437 square feet of office and laboratory space that expires in May 2020 and sublease 40,765 square feet of office and laboratory space that expires in September 2025, both in Cambridge, Massachusetts. We believe that our facilities are sufficient to meet the current needs of the company and that suitable space will be available as and when needed.

Legal Proceedings

We are not subject to any material legal proceedings.

MANAGEMENT

Executive Officers and Directors

The following table sets forth the name, age and position of each of our executive officers and directors as of April 18, 2018.

Name	Age	Position
Executive Officers		
Balkrishan (Simba) Gill, Ph.D.	53	President, Chief Executive Officer and Director
Mark Bodmer, Ph.D.	60	Chief Scientific Officer and President of Research and Development
Duncan McHale, M.D., Ph.D.	51	Chief Medical Officer
Jonathan Poole	43	Chief Financial Officer, Secretary and Treasurer
Directors		
Noubar B. Afeyan, Ph.D.(2)(3)	55	Chairman of the Board of Directors
Lord Ara Darzi(1)	57	Director
David R. Epstein(2)(3)	56	Director
Theodose Melas-Kyriazi(1)(2)	58	Director
David P. Perry(3)	50	Director
Nancy A. Simonian, M.D.(1)	57	Director

(1) Member of the audit committee.
(2) Member of the compensation committee.
(3) Member of the nominating and corporate governance committee.

Executive Officers

Balkrishan (Simba) Gill, Ph.D. has served as our President, Chief Executive Officer and member of our board of directors since September 2015. Dr. Gill has also served on the board of directors of Realm Therapeutics PLC since 2016, and as a Venture Partner at Flagship Pioneering, a life sciences innovation enterprise, since 2015. From 2006 to 2015, Dr. Gill served as the President and Chief Executive Officer of moksha8 Pharmaceuticals, Inc., a pharmaceutical company. Dr. Gill received his Ph.D. from King's College, London and his M.B.A. from INSEAD. We believe Dr. Gill's knowledge and experience in the venture capital and pharmaceutical industries qualify him to serve on our board of directors.

Mark Bodmer, Ph.D. has served as our Chief Scientific Officer and President of Research and Development since April 2016. From April 2015 to April 2016, Dr. Bodmer served on the board of directors of BioIndustry Association, a biotechnology trade association. From January 2012 to April 2016, Dr. Bodmer served as the Vice President of New Medicines Therapeutics at UCB S.A., a biopharmaceutical company. Dr. Bodmer received his Ph.D. from Cambridge University.

Duncan McHale, M.D., Ph.D. has served as our Chief Medical Officer since February 2018. Dr. McHale has also served as director and Chief Executive Officer at Weatherden, Ltd., a clinical development firm, since April 2017, and as a director at Excite Ventures. From September 2011 to May 2017, Dr. McHale served as the Head of Global Exploratory Development at UCB S.A., a biopharmaceutical company. Dr. McHale received his M.B.B.S. from Newcastle University and his Ph.D. in clinical genetics from the University of Leeds.

Jonathan Poole has served as our Chief Financial Officer since March 2018. Mr. Poole was Chief Financial Officer of Genocea Biosciences Inc., a biotechnology company developing neoantigen cancer vaccines, from

April 2014 to March 2018. From December 2006 to March 2014, Mr. Poole worked for Shire plc, a global biopharmaceutical company, where he was a Senior Vice President and held a number of senior roles in finance and strategic planning and portfolio management, including as leader of the finance teams supporting Shire's global business development, R&D and technical operations activities and divisional CFO and head of strategic planning and portfolio management of Shire HGT, its rare disease division. Mr. Poole received his M.B.A. from London Business School.

Directors

Noubar B. Afeyan, Ph.D. is a co-founder and has served as chairman of our board of directors since May 2014. Dr. Afeyan has served as the Chief Executive Officer of Flagship Pioneering, a life sciences innovation enterprise, since 1999. Dr. Afeyan has also served on the board of directors of Seres Therapeutics, Inc. since 2012. Dr. Afeyan has previously served on the board of directors of BG Medicine, Inc., Eleven Biotherapeutics, Inc. and BIND Therapeutics, Inc. He currently serves on several private biotechnology company boards including Moderna Therapeutics, Inc. and Rubius Therapeutics, Inc. Dr. Afeyan is a member of the corporation (board of trustees) of the Massachusetts Institute of Technology and a member of the board of overseers of the Boston Symphony Orchestra. Dr. Afeyan received his B.S. in Chemical Engineering from McGill University and his Ph.D. in Biochemical Engineering from the Massachusetts Institute of Technology. We believe that Dr. Afeyan is qualified to serve on our board of directors because of his extensive experience as an entrepreneur in the life sciences industry and his service on the boards of directors of other life sciences companies.

Professor the Lord Ara Darzi of Denham has served as a member of our board of directors since February 2018. Lord Darzi also currently serves on the board of directors of HQI Holdings Limited, Health Quality Improvement LLC, Ara Darzi Qatar Limited, SQI Limited and SPI Investments Limited. He also currently serves as the Vice Chair of the Board of Governors of Sidra Medical and Research Center, Qatar, a Council Member at the Engineering and Physical Sciences Research Council, the Executive Chair of the World Innovation Summit for Health, as the Chair of Surgery at Imperial College London and as Professor of Surgery at the Institute of Cancer Research. From 2013 to 2015, Lord Darzi served as the Vice-Dean of Health Policy and Engagement at the Imperial College of London. Lord Darzi received his Medical Degree from Trinity College. We believe Lord Darzi's extensive business experience in the biotechnology and healthcare industries qualifies him to serve on our board of directors.

David R. Epstein has served as a member of our board of directors since March 2017. Mr. Epstein also currently serves as an Executive Partner at Flagship Pioneering, a life sciences innovation enterprise, and as a director at International Flavors & Fragrances, Inc. From January 2010 to July 2016, Mr. Epstein served as Chief Executive Officer of Novartis Pharmaceuticals, a Division of Novartis AG, a pharmaceutical company. Mr. Epstein received his M.B.A. from Columbia University Graduate School of Business. We believe Mr. Epstein's extensive business experience in the biotechnology and biopharmaceutical industries qualifies him to serve on our board of directors.

Theodose Melas-Kyriazi has served as a member of our board of directors since February 2017. Mr. Melas-Kyriazi has also served as Chief Financial Officer of Levitronix Technologies LLC, a biotechnology company, since 2006. From 2003 to 2016, Mr. Melas-Kyriazi served as a director at Valeant Pharmaceuticals International, Inc. Mr. Melas-Kyriazi received his M.B.A. from Harvard Business School. We believe Mr. Melas-Kyriazi is able to make a valuable contribution to our board of directors due to his vast experience as a finance professional in the biomedical and pharmaceutical industries.

David P. Perry has served as a member of our board of directors since June 2016. Mr. Perry has also served as Chief Executive Officer, President and Director of Indigo Agriculture, Inc., a plant microbiome company, since January 2015. From March 2002 to March 2014, Mr. Perry served as a director and Chief Executive Officer of Anacor Pharmaceuticals, Inc., a pharmaceutical company. Mr. Perry received his M.B.A. from Harvard Business School. We believe Mr. Perry's extensive business experience in the biotechnology and biopharmaceutical industries qualifies him to serve on our board of directors.

Nancy A. Simonian, M.D. has served as a member of our board of directors since April 2018. Dr. Simonian has also served as President and Chief Executive Officer of Syros Pharmaceuticals, Inc., a biotechnology company, since November 2012. She has also served on the boards of directors of Syros Pharmaceuticals, Inc. since 2013 and Seattle Genetics, Inc. since March 2012. From 2001 to 2011, Dr. Simonian served as the Chief Medical Officer at Takeda Pharmaceutical Company, formerly Millennium Pharmaceuticals, Inc., a pharmaceutical company. Dr. Simonian received her M.D. from the University of Pennsylvania Medical School. We believe Dr. Simonian's extensive business experience in the biotechnology and biopharmaceutical industries qualifies her to serve on our board of directors.

Board Composition and Election of Directors

Director Independence

Our board of directors currently consists of seven members. Our board of directors has determined that, of our seven directors, Noubar B. Afeyan, Ph.D., Lord Ara Darzi, David R. Epstein, Theodose Melas-Kyriazi, David P. Perry and Nancy A. Simonian, M.D. do not have a relationship that would interfere with the exercise of independent judgement in carrying out the responsibilities of a director and that each of these directors is "independent" as that term is defined under the rules of The Nasdaq Stock Market LLC, or the Nasdaq rules. There are no family relationships among any of our directors or executive officers.

Classified Board of Directors

In accordance with our restated certificate of incorporation that will go into effect in connection with the closing of this offering, our board of directors will be divided into three classes with staggered, three-year terms. At each annual meeting of stockholders, the successors to directors whose terms then expire will be elected to serve from the time of election and qualification until the third annual meeting following election. In connection with the closing of this offering, our directors will be divided among the three classes as follows:

- the Class I directors will be Theodose Melas-Kyriazi, David P. Perry and Nancy A. Simonian, M.D., and their terms will expire at our first annual meeting of stockholders following this offering;
- the Class II directors will be Lord Ara Darzi and David R. Epstein, and their terms will expire at our second annual meeting of stockholders following this offering; and
- the Class III directors will be Noubar B. Afeyan, Ph.D. and Balkrishan (Simba) Gill, Ph.D., and their terms will expire at the third annual meeting of stockholders following this offering.

Our restated certificate of incorporation that will go into effect in connection with the closing of this offering will provide that the authorized number of directors may be changed only by resolution of the board of directors. Any additional directorships resulting from an increase in the number of directors will be distributed among the three classes so that, as nearly as possible, each class will consist of one-third of the directors. The division of our board of directors into three classes with staggered three-year terms may delay or prevent a change of our management or a change in control of our company. Our directors may be removed only for cause by the affirmative vote of the holders of at least two-thirds of our outstanding voting stock entitled to vote in the election of directors.

Board Leadership Structure

Our board of directors is currently chaired by Noubar B. Afeyan, Ph.D. Our corporate governance guidelines provide that, if the chairman of the board is a member of management or does not otherwise qualify as independent, the independent directors of the board may elect a lead director. The lead director's responsibilities would include, but would not be limited to: presiding over all meetings of the board of directors at which the chairman is not present, including any executive sessions of the independent directors; approving board meeting schedules and agendas; and acting as the liaison between the independent directors and the chief executive officer and chairman of the board. Our corporate governance guidelines further provide the flexibility for our board of directors to modify our leadership structure in the future as it deems appropriate.

Role of the Board in Risk Oversight

One of the key functions of our board of directors is informed oversight of our risk management process. Our board of directors does not have a standing risk management committee, but rather administers this oversight function directly through our board of directors as a whole, as well as through various standing committees of our board of directors that address risks inherent in their respective areas of oversight. In particular, our board of directors is responsible for monitoring and assessing strategic risk exposure and our audit committee has the responsibility to consider and discuss our major financial risk exposures and the steps our management has taken to monitor and control these exposures, including guidelines and policies to govern the process by which risk assessment and management is undertaken. Our audit committee also monitors compliance with legal and regulatory requirements. Our nominating and corporate governance committee monitors the effectiveness of our corporate governance practices, including whether they are successful in preventing illegal or improper liability-creating conduct. Our compensation committee assesses and monitors whether any of our compensation policies and programs has the potential to encourage excessive risk-taking. While each committee is responsible for evaluating certain risks and overseeing the management of such risks, our entire board of directors is regularly informed through committee reports about such risks.

Board Committees

Our board of directors has established three standing committees—audit, compensation and nominating and corporate governance—each of which operates under a charter that has been approved by our board of directors. The composition and functioning of all of our committees will comply with all applicable requirements of the Sarbanes-Oxley Act of 2002, Nasdaq rules and SEC rules and regulations. Each committee's charter is available under the Corporate Governance section of our website at *www.evelobio.com*. The reference to our website address does not constitute incorporation by reference of the information contained at or available through our website, and you should not consider it to be a part of this prospectus.

Audit Committee

The audit committee's responsibilities include:

- appointing, approving the compensation of, and assessing the independence of our registered public accounting firm;
- overseeing the work of our registered public accounting firm, including through the receipt and consideration of reports from such firm;
- reviewing and discussing with management and the registered public accounting firm our annual and quarterly financial statements and related disclosures;
- coordinating our board of directors' oversight of our internal control over financial reporting, disclosure controls and procedures and code of business conduct and ethics;
- discussing our risk management policies;
- meeting independently with our internal auditing staff, if any, registered public accounting firm and management;
- reviewing and approving or ratifying any related person transactions; and
- preparing the audit committee report required by SEC rules.

The members of our audit committee are Lord Ara Darzi, Theodose Melas-Kyriazi and Nancy A. Simonian, M.D.. Mr. Melas-Kyriazi serves as the chairperson of the committee. All members of our audit committee meet the requirements for financial literacy under the applicable Nasdaq rules. Our board of directors has determined that Lord

Darzi, Mr. Melas-Kyriazi and Dr. Simonian meet the independence requirements of Rule 10A-3 under the Exchange Act and the applicable Nasdaq rules. Our board of directors has determined that Mr. Melas-Kyriazi is an "audit committee financial expert" as defined by applicable SEC rules and has the requisite financial sophistication as defined under the applicable Nasdaq rules.

Compensation Committee

The compensation committee's responsibilities include:

- reviewing and approving, or recommending for approval by the board of directors, the compensation of our Chief Executive Officer and our other executive officers;
- overseeing and administering our cash and equity incentive plans;
- reviewing and making recommendations to our board of directors with respect to director compensation;
- reviewing and discussing annually with management our "Compensation Discussion and Analysis," to the extent required;
- reviewing with management our major compensation-related risk exposures and the steps management has taken, or should consider taking, to monitor or mitigate such exposures; and
- preparing the annual compensation committee report required by SEC rules, to the extent required.

The members of our compensation committee are Noubar B. Afeyan, Ph.D., David R. Epstein and Theodose Melas-Kyriazi. Mr. Melas-Kyriazi serves as the chairperson of the committee. Our board of directors has determined that each of Dr. Afeyan and Messrs. Epstein and Melas-Kyriazi is independent under the applicable Nasdaq rules, including the Nasdaq rules specific to membership on the compensation committee, and is a "non-employee director" as defined in Rule 16b-3 promulgated under the Exchange Act.

Nominating and Corporate Governance Committee

The nominating and corporate governance committee's responsibilities include:

- identifying individuals qualified to become board members;
- recommending to our board of directors the persons to be nominated for election as directors and to each board committee;
- developing and recommending to our board of directors corporate governance guidelines, and reviewing and recommending to our board of directors proposed changes to our corporate governance guidelines from time to time; and
- overseeing a periodic evaluation of our board of directors.

The members of our nominating and corporate governance committee are Noubar B. Afeyan, Ph.D., David R. Epstein and David P. Perry. Dr. Afeyan serves as the chairperson of the committee. Our board of directors has determined that Dr. Afeyan and Messrs. Epstein and Perry are independent under the applicable Nasdaq rules.

Compensation Committee Interlocks and Insider Participation

No member of our compensation committee is or has been our current or former officer or employee. None of our executive officers served as a director or a member of a compensation committee (or other committee serving an equivalent function) of any other entity, one of whose executive officers served as a director or member of our compensation committee during the fiscal year ended December 31, 2017.

Code of Ethics and Code of Conduct

We have adopted a written code of business conduct and ethics that applies to our directors, officers and employees, including our principal executive officer, principal financial officer, principal accounting officer or controller, or persons performing similar functions. Our code of business conduct and ethics is available under the Corporate Governance section of our website at *www.evelobio.com*. In addition, we intend to post on our website all disclosures that are required by law or the Nasdaq rules concerning any amendments to, or waivers from, any provision of the code. The reference to our website address does not constitute incorporation by reference of the information contained at or available through our website, and you should not consider it to be a part of this prospectus.

EXECUTIVE AND DIRECTOR COMPENSATION

Executive Compensation

This section discusses the material components of the compensation program for our executive officers who are named in the 2017 Summary Compensation Table below. In 2017, our named executive officers and their positions were:

- Balkrishan (Simba) Gill, Ph.D., President, Chief Executive Officer and Director;
- Mark Bodmer, Ph.D., Chief Scientific Officer and President of Research and Development; and
- Duncan McHale, M.D., Ph.D., Chief Medical Officer.

This discussion may contain forward-looking statements that are based on our current plans, considerations, expectations and determinations regarding future compensation programs. Actual compensation programs that we adopt following the completion of this offering may differ materially from the currently planned programs summarized in this discussion.

2017 Summary Compensation Table

The following table sets forth information concerning the compensation of our named executive officers for the year ended December 31, 2017.

Name and Principal Position	Year	Salary ($)	Bonus ($)	Option Awards ($)(2)	Non-Equity Incentive Plan Compensation ($)(3)	All Other Compensation ($)	Total ($)
Balkrishan (Simba) Gill, Ph.D.	2017	437,500(4)	—	1,175,550	218,720	—	1,831,770
President, Chief Executive Officer and Director							
Mark Bodmer, Ph.D.	2017	355,000(5)	20,000	397,224	124,250	40,000(6)	936,474
Chief Scientific Officer and President of Research and Development							
Duncan McHale, M.D., Ph.D.(1)	2017	12,656(1)	—	831,559	—	690(7)	844,905
Chief Medical Officer							

(1) Dr. McHale became our employee in December 2017 and is a U.K. resident paid in pound sterling. The amounts reported for Dr. McHale and paid in pounds sterling were converted to U.S. dollars based on a spot exchange rate as of December 31, 2017 of 1.35 U.S. dollars to one pound sterling. Dr. McHale's annual base salary for 2017 was £225,000.

(2) Amounts represent the full grant-date fair value of stock options granted during 2017 computed in accordance with ASC Topic 718, rather than the amounts paid to or realized by the named executive officer. We provide information regarding the assumptions used to calculate the value of the stock options in Note 11 to our audited consolidated financial statements included in this prospectus. For Dr. Bodmer, the amount reported also includes $22,320, representing the incremental fair value, computed in accordance with ASC Topic 718 as of the modification date, of a modification made during 2017 to certain stock options held by Dr. Bodmer. For Dr. McHale, the amount shown includes stock options that were granted to him as compensation for performing services as our employee and under our supply of services agreement with Weatherden, Ltd. Refer to "—Narrative Disclosure to Summary Compensation Table—Equity Compensation" below for additional information.

(3) Amounts reported represent annual bonuses paid based upon the achievement of our corporate objectives for 2017. Refer to "—Narrative Disclosure to Summary Compensation Table—2017 Bonuses" below for additional information.
(4) Dr. Gill's annual salary increased from $400,000 to $475,000, effective July 1, 2017.
(5) Dr. Bodmer's annual salary increased from $350,000 to $360,000, effective July 1, 2017.
(6) Amount shown represents $35,600 in lease payments for a Company-provided corporate apartment in the Cambridge, Massachusetts area and $4,400 in Company-paid travel expenses. Refer to "—Named Executive Officer Employment Agreements" below for additional information.
(7) Amount shown represents $563 to pay for personal health insurance coverage and $127 in Company contributions to a group personal pension scheme initiated by the Company in accordance with Dr. McHale's employment agreement accrued for 2017. Refer to "—Narrative Disclosure to Summary Compensation Table—Other Elements of Compensation" below for additional information.

Narrative Disclosure to Summary Compensation Table

The primary elements of compensation for our named executive officers are base salary, annual performance bonuses and long-term equity-based compensation awards. The named executive officers also generally participate in employee benefit plans and programs that we offer to our other full-time employees on the same basis.

2017 Salaries

We pay our named executive officers a base salary to provide a fixed component of compensation reflecting the named executive officer's skill set, experience, role and responsibilities. Base salaries for our named executive officers have generally been set at levels deemed necessary to attract and retain the named executive officers and were originally established in each named executive officer's employment agreement or offer letter. Drs. Gill and Bodmer each received annual base salary increases effective July 1, 2017. Dr. McHale became an employee in December 2017 and did not receive any base salary increase in 2017.

The following table shows the annual base salaries of our named executive officers before and after the 2017 increases:

Name	Annual Base Salary Before Increase	Annual Base Salary After Increase
Balkrishan (Simba) Gill, Ph.D.	$ 400,000	$ 475,000
Mark Bodmer, Ph.D.	$ 350,000	$ 360,000
Duncan McHale, M.D., Ph.D.	—	£ 225,000

Dr. McHale's annual base salary was determined taking into account the expectation that he work approximately 75% of full time in performing services for the Company.

2017 Bonuses

We offer our named executive officers the opportunity to earn annual performance bonuses to compensate them for attaining short-term company and individual goals established by our board of directors. Our board of directors determines the amount of any annual performance bonus payment by multiplying the level of achievement of the applicable performance criteria by the named executive officer's target bonus percentage and the named executive officer's annual base salary earned for the year. As a result, the actual bonus earned by a named executive officer could be more or less than the named executive officer's target bonus amount. However, the maximum performance bonus attainable generally may not exceed 200% of the target bonus amount. In addition, the board of directors retains discretion to adjust the bonus amounts upward or downward based on any factors that it determines are relevant. For 2017, performance bonuses were based on attaining corporate goals relating to the overall business, including the advancement of product candidates, sustaining a leadership position in the monoclonal microbial field, capitalization, and key employee retention and recruitment.

The 2017 target bonus amounts for our named executive officers, expressed as percentages of their respective annual base salaries, were 50% for Dr. Gill and 35% for Dr. Bodmer. Dr. McHale became an employee in December 2017 and was not eligible for a 2017 performance bonus. The actual cash bonuses earned by Drs. Gill and Bodmer for 2017 performance are set forth in the Summary Compensation Table in the column titled "Non-Equity Incentive Plan Compensation."

Equity Compensation

We generally offer stock options to our named executive officers as the long-term incentive component of our compensation program. Stock options allow our employees to purchase shares of our common stock at a price equal to the fair market value on the date of grant, as determined by the board of directors. Our stock options generally vest over four years from the applicable grant date with 25% of the option vesting on the first anniversary of the grant date, and with the remainder of the shares vesting quarterly thereafter. From time to time, our board of directors has also constructed alternate vesting schedules as it determined were appropriate to motivate particular employees. Historically, our employee stock options have been intended to qualify as "incentive stock options" to the extent permitted under the Code, and may allow "early exercise" of the unvested portion in exchange for shares or restricted stock subject to the same vesting schedule as the underlying stock option.

The following table sets forth the stock option awards granted to our named executive officers in 2017:

Named Executive Officer	2017 Options Granted(#)
Balkrishan (Simba) Gill, Ph.D.	183,868
Mark Bodmer, Ph.D.	72,370
Duncan McHale, M.D., Ph.D.	123,599

These stock options were issued under our 2015 Stock Incentive Plan, or the 2015 Plan, with exercise prices equal to the fair market value of common stock on the date of grant, as determined by the board of directors. Dr. McHale received both a grant of an option to purchase 40,859 shares of our common stock for performing services under our supply of services agreement with Weatherden, Ltd. and a grant of an option to purchase 82,740 shares of common stock made in connection with his commencing employment. Refer to "—Outstanding Equity Awards at 2017 Fiscal Year End" for information regarding the vesting of the stock options issued to our named executive officers in 2017 and to "—Named Executive Officer Employment Agreements" below for additional information regarding Dr. McHale's services under the supply of services agreement with Weatherden, Ltd.

In addition, in December 2017, our board of directors amended certain stock options that had been granted to Dr. Bodmer in 2015 and 2016 subject to performance-based vesting conditions to provide that the options would instead vest in two equal installments on December 15, 2020 and December 31, 2021, subject to Dr. Bodmer's continued service through the vesting date.

In connection with this offering, our board of directors and our stockholders adopted the 2018 Plan to facilitate the grant of cash and equity incentive awards to directors, employees (including our named executive officers) and consultants of our Company and to enable our Company to obtain and retain services of these individuals, which we believe is essential to our long-term success. Refer to "Incentive Compensation Plans" below for additional information about the 2018 Plan.

Other Elements of Compensation

Retirement Plans

We maintain a 401(k) retirement savings plan for our employees, including our named executive officers, who satisfy certain eligibility requirements. Our named executive officers other than Dr. McHale are eligible to

participate in the 401(k) plan on the same terms as our full-time employees generally. During 2017, we did not provide employer matching or other contributions to employees participating in the 401(k) plan. Effective as of the first payroll period beginning on or after this offering, we intend to begin making employer matching contributions to the 401(k) plan equal to 50% of employee contributions up to a maximum of 6% of eligible compensation or $4,000 per year, whichever is less. All matching contributions vest in full upon the completion of one year of service with us. Under the terms of Dr. McHale's employment agreement, if Dr. McHale contributes an amount equal to at least 1% of his base salary annually to a group personal pension scheme initiated by us, we will contribute an additional amount to the scheme equal to 1% of his base salary annually.

Employee Benefits and Perquisites

All of our full-time employees, including our named executive officers other than Dr. McHale, are eligible to participate in our health and welfare plans, including medical and dental benefits, medical and dependent care flexible spending accounts, commuter benefits, gym reimbursement, short-term and long-term disability insurance, and life insurance to the same extent as our other full-time employees generally, subject to the terms and eligibility requirements of those plans. Under the terms of his employment agreement, Dr. McHale receives additional payments of £10,000 per year in lieu of participating in our employee welfare benefit programs. In addition, to assist with Dr. Bodmer's relocation to the Boston area, Dr. Bodmer's employment agreement entitles him to receive an allowance of $5,000 per month for temporary living and travel costs for up to 24 months after his commencing employment, payment for the legal and administrative costs associated with submission of an O-1 visa application and up to $10,000 in reimbursements for tax advisory services during each of his first two years of employment. In April 2018, our board of directors elected to extend Dr. Bodmer's entitlement to payments for temporary living and travel costs for an additional 12 months.

Outstanding Equity Awards at 2017 Fiscal Year-End

The following table summarizes the number of shares of common stock underlying outstanding equity incentive plan awards for each named executive officer as of December 31, 2017.

		Option Awards					Stock Awards	
Name	Vesting Start Date	Number of Securities Underlying Unexercised Options (#) Exercisable	Number of Securities Underlying Unexercised Options (#) Unexercisable	Equity Incentive Plan Awards: Number of Securities Underlying Unexercised Unearned Options (#)	Option Exercise Price ($)	Option Expiration Date	Number of Shares or Units of Stock That Have Not Vested (#)	Market Value of Shares or Units of Stock That Have Not Vested ($)(2)
Balkrishan (Simba) Gill, Ph.D. (1)	03/23/2015	—	—	—	—	—	48,265(3)	391,777
	07/01/2015	245,853	151,688(4)	—	0.49	11/04/2025	—	—
	07/01/2016	186,549	410,410(4)	—	1.14	10/04/2026	—	—
	07/01/2017	—	183,868(4)	—	3.96	12/14/2027	—	—
Mark Bodmer Ph.D.	04/19/2016	—	—	—	—	—	114,917(3)	932,805
	—	—	—	—	—	—	36,773(5)	298,494
	07/01/2016	50,946	112,083(4)	—	1.14	10/04/2026	—	—
	—	—	23,290(6)	—	1.14	10/04/2026	—	—
	—	—	—	46,580(7)	1.14	10/04/2026	—	—
	—	—	72,370(8)	—	2.49	09/18/2027	—	—
Duncan McHale, M.D., Ph.D.	01/01/2017	—	40,859(4)	—	2.49	09/18/2027	—	—
	12/15/2017	—	82,740(4)	—	3.96	12/14/2027	—	—

(1) All stock options held by Dr. Gill will become immediately vested upon a change in control of our company (as defined in the applicable stock option agreement). Dr. Gill's stock option with a vesting start date of July 1, 2015 permits early exercise of the unvested portion of the award in exchange for restricted stock and was, therefore, fully exercisable as of December 31, 2017. The number of shares shown for this option as being exercisable and unexercisable represent the number of shares for which the option was vested and unvested as of December 31, 2017, respectively.
(2) There was no public market for our common stock as of December 31, 2017. We have calculated the market value of unvested stock awards based on an estimated value per share of our common stock of $8.12, which incorporates the retrospective fair value assessment performed for accounting purposes in connection with this offering. Refer to "Management's Discussion and Analysis of Financial Condition and Results of Operations—Critical Accounting Policies and Use of Estimates—Determination of the Fair Value of Common Stock" for additional information.
(3) Represents shares of restricted stock obtained upon early exercise of a stock option. The shares vest over four years with 25% vesting on the first anniversary of the vesting start date indicated and the remainder vesting quarterly thereafter.
(4) The stock option vests over four years with 25% vesting on the first anniversary of the vesting start date indicated and the remainder vesting quarterly thereafter.
(5) Represents shares of restricted stock obtained upon early exercise of a stock option. The shares vest in two equal installments on December 15, 2020 and December 31, 2021.
(6) The stock option vests in two equal installments on December 15, 2020 and December 31, 2021.
(7) The stock option vests monthly following attainment of a clinical trial milestone on or before December 31, 2019, with the first installment occurring on the first day of the first calendar month that occurs after attainment of the milestone and the final installment occurring July 1, 2020.
(8) The stock option vests as to 20% of the underlying shares on July 1, 2018, as to 5% of the underlying shares upon the completion of each three full months of service between July 1, 2018 and July 1, 2019 and as to 7.5% of the underlying shares upon the completion of each three full months of service thereafter.

Named Executive Officer Employment Agreements

We have entered into agreements with each of our named executive officers that govern the terms and conditions of their employment with us. Certain key terms of these agreements are described below.

Balkrishan (Simba) Gill, Ph.D.

We entered into an offer letter with Dr. Gill effective June 25, 2015. The offer letter entitles Dr. Gill to receive an annual base salary of at least $400,000, subject to increase from time to time by the Company and the opportunity to earn an annual bonus with a target of 50% of his annual base salary.

If we terminate Dr. Gill's employment other than for Cause, death, or Disability (as these capitalized terms are defined in his offer letter), he will be entitled to receive (a) payments equal to 12 months of his then-current base salary, payable in periodic installments over 12 months in accordance with the Company's normal payroll practices, and (b) direct payment of or reimbursement for a portion of his COBRA premiums at the Company's normal rate of contribution for employees for up to 12 months. If we terminate Dr. Gill's employment other than for Cause, death or Disability, or if Dr. Gill resigns for Good Reason (as defined in his offer letter) within 12 months following a Change of Control (as defined in his offer letter), in addition to the foregoing payments and benefits, Dr. Gill will also be entitled to accelerated vesting of all of the Company's equity or equity-based awards that are subject to time vesting conditions. Dr. Gill's right to receive severance payments and benefits is subject to his execution and non-revocation of a release of claims and his compliance with certain confidentiality obligations and restrictive covenants.

We have entered into an amendment to our offer letter with Dr. Gill that will become effective upon the consummation of this offering. The amendment provides that if we terminate Dr. Gill's employment other than

for Cause or Dr. Gill resigns for Good Reason (as such capitalized terms are defined in the amended offer letter), Dr. Gill will be entitled to receive (a) payments equal to 12 months of his then-current annual base salary, payable in periodic installments over 12 months in accordance with our normal payroll practices, and (b) direct payment of or reimbursement for a portion of his COBRA premiums at our normal rate of contribution for employees for up to 12 months. If the employment termination occurs on the date of or within 12 months following a Change in Control (as defined in the 2018 Plan), Dr. Gill will instead be entitled to receive payments equal to 18 months of his then-current annual base salary plus 150% of his target annual bonus amount, payable in periodic installments over 18 months in accordance with our normal payroll practices, direct payment of or reimbursement for a portion of his COBRA premiums at the Company's normal rate of contribution for employees for up to 18 months and immediate vesting of all unvested equity or equity-based awards under any of our equity compensation plans that vest solely based upon the passage of time. Dr. Gill's right to receive severance payments and benefits is subject to his execution and non-revocation of a release of claims and his compliance with certain confidentiality obligations and restrictive covenants.

Mark Bodmer, Ph.D.

We entered into an offer letter with Dr. Bodmer effective October 6, 2015. The offer letter entitles Dr. Bodmer to receive an annual base salary of at least $350,000, subject to increase from time to time by the Company, and the opportunity to earn an annual performance-based bonus with a target of 35% of his annual base salary. The agreement does not entitle Dr. Bodmer to any payments or benefits upon a termination of employment other than as required by law.

Duncan McHale, M.D., Ph.D.

We entered into an employment agreement with Dr. McHale effective December 15, 2017. The agreement entitles Dr. McHale to receive an annual base salary of at least £225,000, subject to increase from time to time by the Company, and the opportunity to earn an annual performance-based bonus without a specified target amount. The agreement further entitles Dr. McHale to the payments described in "—Narrative Disclosure to Summary Compensation Table—Other Elements of Compensation" above. Under the terms of his employment agreement, Dr. McHale is expected to work a minimum of 75% of full time in performing services for the Company but may be required to work additional hours, without additional pay, in order to properly perform his duties. Both the Company and Dr. McHale are required to provide three months prior notice of termination to the other, provided that the Company may elect in lieu of providing notice to pay Dr. McHale the salary he would have earned during the notice period and may terminate Dr. McHale's employment immediately upon the occurrence of certain specified events or conditions.

Prior to becoming our employee in December 2017, Dr. McHale provided services to us under the supply of services agreement with Weatherden, Ltd. described under "Certain Relationships and Related Person Transactions—Weatherden, Ltd. Agreement" below. The compensation payable to Dr. McHale for his services under this agreement was determined and paid by Weatherden, Ltd. For 2017 and all prior periods, no amount payable by us under the agreement was separately allocated to Dr. McHale's services. In addition, in September 2017, we issued Dr. McHale an option to purchase 40,859 shares of our common stock as compensation for his performing services to us under the supply services agreement. Refer to "—Outstanding Equity Awards at 2017 Fiscal Year End" for additional information regarding this stock option award.

Effective April 16, 2018, we amended Dr. McHale's employment agreement with us to provide that he will be employed as a full-time employee with a corresponding increase in annual base salary to £300,000. In addition, we have entered into an amended and restated employment agreement with Dr. McHale that will become effective upon the closing of the offering. Under the amended and restated agreement, we and Dr. McHale are each required to provide three months prior notice of termination to the other, provided that we may elect in lieu of providing notice to pay Dr. McHale the salary he would have earned during the notice period and may terminate Dr. McHale's employment immediately upon the occurrence of certain specified events or conditions. In addition, if we terminate Dr. McHale's employment under circumstances that entitle him to receive

three months prior notice (or pay in lieu of notice), then Dr. McHale will also be entitled to receive (a) payments equal to 6 months of the his then-current annual base salary, payable in periodic installments over 6 months in accordance with our normal payroll practices, and (b) £7,500 in lieu of the continuation of any contractual benefits, payable in installments over 6 months in accordance with our normal payroll practices. If the termination occurs within the 12-month period following a Change in Control (as defined in the 2018 Plan), Dr. McHale will instead be entitled to payments equal to 9 months of his then-current annual base salary plus 100% of his target annual bonus amount, payable in periodic installments over 9 months in accordance with our normal payroll practices, £10,000 in lieu of the continuation of any contractual benefits, payable in installments over 9 months in accordance with our normal payroll practices, and immediate vesting of all unvested equity or equity-based awards under any of our equity compensation plans that vest solely based upon the passage of time. Dr. McHale's right to receive severance payments and benefits is subject to his execution and non-revocation of a release of claims and his compliance with certain confidentiality obligations and restrictive covenants.

Recent Changes in Executive Compensation

In April 2018, our board of directors approved certain changes to our named executive officers' compensation arrangements, as described in more detail below.

Annual Base Salaries

Our board of directors approved increases to Dr. Gill's annual base salary to $489,300 effective April 16, 2018 and to $500,000 effective upon consummation of this offering. In addition, our board of directors approved Dr. McHale's engagement as a full-time employee and a corresponding increase in his annual base salary to £300,000, effective April 16, 2018.

Target Bonuses

Our board of directors approved 2018 target annual bonus amounts for our named executive officers of 50% of his base salary for Dr. Gill, 40% of his base salary Dr. Bodmer, and 30% of his base salary for Dr. McHale, effective upon the consummation of this offering.

Equity Incentive Awards

Effective April 4, 2018, our board of directors granted the following options to purchase shares of our common stock under the 2015 Plan to our named executive officers:

Named Executive Officer	Number of Options(#)
Balkrishan (Simba) Gill, Ph.D.	279,479
Mark Bodmer, Ph.D.	92,546
Duncan McHale, M.D., Ph.D.	120,310

These options have an exercise price of $10.48 per share, which our board of directors determined was the fair market value of our common stock on the date of grant. The options granted to Drs. Bodmer and McHale vest as to 25% of the underlying shares on April 4, 2019 and as to the remaining shares in equal quarterly installments over the following three years. Dr. Gill received an option to purchase 144,643 shares that vests in two equal installments occurring on March 21, 2022 and March 21, 2023, and an option to purchase 134,836 shares that vests as to 25% of the shares on March 21, 2019 and as to the remaining shares in equal quarterly installments over the following three years.

In addition, effective on the date that the registration statement of which this prospectus forms a part became effective, our board of directors has approved grants to our named executive officers of the following options to purchase shares of our common stock under the 2018 Plan:

Named Executive Officer	Number of Options(#)
Balkrishan (Simba) Gill, Ph.D	145,869
Mark Bodmer, Ph.D	55,437
Duncan McHale, M.D., Ph.D	79,052

These options have an exercise price equal to the initial public offering price of our common stock and will vest and become exercisable as to 25% of the underlying shares on the first anniversary of the effective date of grant and as to the remaining shares in equal quarterly installments over the following three years.

Evelo Biosciences, Inc. Executive Severance Plan

Our board of directors adopted an Executive Severance Plan, which we refer to as the Severance Plan, effective upon the consummation of this offering. Under the Severance Plan, if we terminate the employment of certain of our employees, including Dr. Bodmer, without Cause or if the employee resigns for Good Reason (as such capitalized terms are defined in the Severance Plan), the employee will be entitled to receive (a) payments equal to 9 months of the employee's then-current annual base salary, payable in periodic installments over 9 months in accordance with our normal payroll practices, and (b) direct payment of or reimbursement for a portion of the employee's COBRA premiums at our normal rate of contribution for employees for up to 9 months. If the employment termination occurs on the date of or within 12 months following a Change in Control (as defined in the 2018 Plan), the employee will instead be entitled to receive payments equal to 12 months of the employee's then-current annual base salary plus 100% of the employee's target annual bonus amount, payable in periodic installments over 12 months in accordance with our normal payroll practices, direct payment of or reimbursement for a portion of the employee's COBRA premiums at our normal rate of contribution for employees for up to 12 months and immediate vesting of all unvested equity or equity-based awards under any of our equity compensation plans that vest solely based upon the passage of time. The right to receive severance payments and benefits is subject to an employee's execution and non-revocation of a release of claims and compliance with certain confidentiality obligations and restrictive covenants. Our board of directors has reserved the right to modify or terminate the Severance Plan at any time, except that no modification or termination may affect the rights of an employee to claim benefits under the Severance Plan for a termination of employment occurring prior to the date of the modification or termination and the Severance Plan may not be amended or modified during the 12 months following a Change in Control (as defined in the 2018 Plan) in a way that adversely affects a participant's rights.

Director Compensation

Directors who are also our employees do not receive additional compensation for their service as directors. Certain of our non-employee directors have historically received awards of our stock options as compensation for their service as directors.

Recent Developments Regarding Director Compensation

In April 2018, we granted Lord Ara Darzi, who joined our board of directors in February 2018, an option to purchase 63,741 shares of our common stock under our 2015 Plan for an exercise price $10.48, which our board of directors determined was the fair market value per share of common stock on the date of grant. The option will vest and become exercisable as to 25% of the underlying shares on February 2, 2019 and as to the remaining shares in equal quarterly installments over the following three years. In addition, effective on the date that the registration statement of which this prospectus forms a part became effective, we granted Nancy A. Simonian, M.D, who joined our board of directors in April 2018, an option to purchase 31,380 shares of our common stock under our 2018 Plan for an exercise price equal to the initial public offering price of our common stock. The option will vest and become exercisable in 36 equal monthly installments following the effective date of grant.

Effective on the date that the registration statement of which this prospectus forms a part became effective, we adopted and, prior to commencing this offering, our stockholders approved a compensation program for our non-employee directors under which each non-employee director will receive the following amounts for their services on our board of directors:

- an option to purchase 31,380 shares of our common stock upon the director's initial election or appointment to our board of directors that occurs after our initial public offering,
- if the director has served on our board of directors for at least six months as of the date of an annual meeting of stockholders, an option to purchase 15,690 shares of our common stock on the date of the annual meeting,
- an annual director fee of $35,000, and
- if the director serves on a committee of our board of directors or in the other capacities stated below, an additional annual fee as follows:
    - chairman of the board or lead independent director, $30,000,
    - chairman of the audit committee, $15,000,
    - audit committee member other than the chairman, $7,500,
    - chairman of the compensation committee, $10,000,
    - compensation committee member other than the chairman, $5,000,
    - chairman of the nominating and corporate governance committee, $8,000, and
    - nominating and corporate governance committee member other than the chairman, $4,000.

Stock options granted to our non-employee directors under the program will have an exercise price equal to the fair market value of our common stock on the date of grant and will expire not later than ten years after the date of grant. The stock options granted upon a director's initial election or appointment will vest in thirty-six (36) substantially equal monthly installments following the date of grant. The stock options granted annually to directors will vest in a single installment on the earlier of the day before the next annual meeting or the first anniversary of the date of grant. In addition, all unvested stock options will vest in full upon the occurrence of a change in control.

Director fees under the program will be payable in arrears in four equal quarterly installments not later than the fifteenth day following the final day of each calendar quarter, provided that the amount of each payment will be prorated for any portion of a quarter that a director is not serving on our board and no fee will be payable in respect of any period prior to the effective date of the registration statement of which this prospectus is a part.

2017 Director Compensation Table

The following table sets forth in summary form information concerning the compensation that was earned by or paid to each of our non-employee directors during the year that ended December 31, 2017:

Name	Option Awards ($)(1)	Total ($)
Noubar B. Afeyan, Ph.D.	—	—
David A. Berry, M.D., Ph.D.(2)	—	—
David R. Epstein	$219,800	$ 219,800
Theodose Melas-Kyriazi	$125,994	$ 125,994
David P. Perry	$230,403	$ 230,403
Mark Pruzanski(3)	—	—

(1) Amounts represent the full grant-date fair value of stock options granted during 2017 computed in accordance with ASC Topic 718, rather than the amounts paid to or realized by the named individual. We provide information regarding the assumptions used to calculate the value of the stock options in Note 11 to our audited consolidated financial statements included in this prospectus.
(2) David A. Berry, M.D., Ph.D. resigned from our board of directors in February 2018.
(3) Mark Pruzanski resigned from our board of directors in January 2017.

The table below shows the aggregate numbers of option awards (exercisable and unexercisable) and unvested stock awards held as of December 31, 2017 by each non-employee director as of December 31, 2017.

Name	Options Awards Outstanding at Fiscal Year End (#)
Noubar B. Afeyan, Ph.D.	—
David A. Berry, M.D., Ph.D.(1)	—
David R. Epstein	98,063
Theodose Melas-Kyriazi	56,386
David P. Perry	35,793
Mark Pruzanski(2)	—

(1) David A. Berry, M.D., Ph.D. resigned from our board of directors in February 2018.
(2) Mark Pruzanski resigned from our board of directors in January 2017.

Incentive Compensation Plans

The following summarizes the material terms of the long-term incentive compensation plans in which our named executive officers will be eligible to participate following the consummation of this offering and the 2015 Plan, under which we have previously made periodic grants of equity and equity-based awards to our named executive officers and other key employees.

2015 Stock Incentive Plan

Our board of directors and stockholders have approved the 2015 Plan, under which we may grant stock options, stock appreciation rights, restricted stock, restricted stock units and other stock-based awards to employees, directors and consultants of our company. A total of 5,417,044 shares of our common stock have been authorized for issuance under the 2015 Plan.

Following the effectiveness of the 2018 Plan, we will not make any further grants under the 2015 Plan. However, the 2015 Plan will continue to govern the terms and conditions of the outstanding awards granted under it. Shares of our common stock subject to awards granted under the 2015 Plan that are forfeited, lapse unexercised or are settled in cash and which following the effective date of the 2015 Plan are not issued under the 2015 Plan will be available for issuance under the 2018 Plan.

Administration

Our board of directors administers the 2015 Plan and has the authority to: (i) grant awards; (ii) adopt, amend and repeal administrative rules, guidelines and practices relating to the 2015 Plan; (iii) construe and interpret the 2015 Plan and any award agreements thereunder; and (iv) correct any defect, supply any omission or reconcile any inconsistency in the 2015 Plan or any award. The board of directors may delegate its authority under the 2015 Plan to one or more committees or subcommittees.

Types of Awards; Eligibility

The 2015 Plan provides for the grant of stock options, stock appreciation rights, restricted stock, restricted stock units and other stock-based awards to employees, officers, directors and consultants of our company and its qualifying parents and subsidiaries. Currently, only stock options and awards of restricted stock are outstanding under the 2015 Plan.

Certain Transactions

If certain changes are made in, or events occur with respect to, our common stock, the 2015 Plan and outstanding awards will be adjusted in the class, number and, as applicable, exercise price of securities as determined by the board of directors. In the event of certain corporate transactions of our company, including a merger, consolidation, sale of our common stock, or our liquidation or dissolution, our board of directors may take the following actions as to options outstanding under the 2015 Plan: (i) provide that such awards will be assumed or substantially equivalent awards substituted, (ii) upon written notice to participants, provide that unexercised awards will terminate unless exercised, (iii) provide that outstanding awards will become exercisable, (iv) if the transaction involves cash payments in exchange for the sale of our common stock, terminate awards for a cash payment equal to the excess of the transaction price of the underlying shares over the exercise price of the applicable award, (v) provide that, in connection with our liquidation or dissolution, awards will convert into a right to receive liquidation proceeds and (vi) any combination of the foregoing.

Amendment and Termination

The board of directors may amend outstanding awards under the 2015 Plan, including by reducing the exercise price per share of the award, without participant consent and may amend, suspend or terminate the 2015 Plan; provided in each case, that any amendment, suspension or termination does not materially or adversely affect the rights of participants holding outstanding awards under the 2015 Plan. Any modification or amendment that requires stockholder approval under applicable law or, with respect to incentive stock options, or ISOs, Section 422 of the Code may not be effected without approval by the company's stockholders.

2018 Incentive Award Plan

Our board of directors adopted and our stockholders approved, effective the day prior to the first public trading date of our common stock, the 2018 Plan, under which we may grant cash and equity-based incentive awards to eligible service providers in order to attract, retain and motivate the persons who make important contributions to our company. The material terms of the 2018 Plan are summarized below.

Eligibility and Administration

Our employees, consultants and directors will be eligible to receive awards under the 2018 Plan. The 2018 Plan will be administered by our board of directors, which may delegate its duties and responsibilities to one or more committees of our directors and/or officers (referred to collectively as the plan administrator below), subject to the limitations imposed under the 2018 Plan, Section 16 of the Exchange Act, stock exchange rules and other applicable laws. The plan administrator will have the authority to take all actions and make all determinations under the 2018 Plan, to interpret the 2018 Plan and award agreements and to adopt, amend and repeal rules for the administration of the 2018 Plan as it deems advisable. The plan administrator will also have the authority to grant awards, determine which eligible service providers receive awards and set the terms and conditions of all awards under the 2018 Plan, including any vesting and vesting acceleration provisions, subject to the conditions and limitations in the 2018 Plan.

Shares Available for Awards

An aggregate of 1,344,692 shares of our common stock will initially be available for issuance under the 2018 Plan. The number of shares initially available for issuance will be increased by an annual increase on

January 1 of each calendar year beginning in 2019 and ending in and including 2028, equal to the lesser of (A) 4% of the shares of common stock outstanding on the final day of the immediately preceding calendar year and (B) a smaller number of shares determined by our board of directors. No more than 18,141,701 shares of common stock may be issued under the 2018 Plan upon the exercise of incentive stock options. The foregoing numbers are subject to adjustment in certain events, as described below. Shares issued under the 2018 Plan may be authorized but unissued shares, shares purchased on the open market or treasury shares.

If an award under the 2018 Plan or the 2015 Plan expires, lapses or is terminated, exchanged for cash, surrendered, repurchased, canceled without having been fully exercised or forfeited, any unused shares subject to the award will, as applicable, become or again be available for new grants under the 2018 Plan. Awards granted under the 2018 Plan in substitution for any options or other stock or stock-based awards granted by an entity before the entity's merger or consolidation with us or our acquisition of the entity's property or stock will not reduce the shares available for grant under the 2018 Plan, but will count against the maximum number of shares that may be issued upon the exercise of incentive stock options.

Awards

The 2018 Plan provides for the grant of stock options, including incentive stock options, or ISOs, and nonqualified stock options, or NSOs, stock appreciation rights, or SARs, restricted stock, dividend equivalents, restricted stock units, or RSUs, and other stock or cash based awards. Certain awards under the 2018 Plan may constitute or provide for payment of "nonqualified deferred compensation" under Section 409A of the Code. All awards under the 2018 Plan will be set forth in award agreements, which will detail the terms and conditions of awards, including any applicable vesting and payment terms and post-termination exercise limitations. A brief description of each award type follows.

- *Stock Options and SARs*. Stock options provide for the purchase of shares of our common stock in the future at an exercise price set on the grant date. ISOs, by contrast to NSOs, may provide tax deferral beyond exercise and favorable capital gains tax treatment to their holders if certain holding period and other requirements of the Code are satisfied. SARs entitle their holder, upon exercise, to receive from us an amount equal to the appreciation of the shares subject to the award between the grant date and the exercise date. The plan administrator will determine the number of shares covered by each option and SAR, the exercise price of each option and SAR and the conditions and limitations applicable to the exercise of each option and SAR. The exercise price of a stock option or SAR will not be less than 100% of the fair market value of the underlying share on the grant date (or 110% in the case of ISOs granted to certain significant stockholders), except with respect to certain substitute awards granted in connection with a corporate transaction. The term of a stock option or SAR may not be longer than ten years (or five years in the case of ISOs granted to certain significant stockholders).
- *Restricted Stock and RSUs.* Restricted stock is an award of nontransferable shares of our common stock that remain forfeitable unless and until specified conditions are met and which may be subject to a purchase price. RSUs are contractual promises to deliver shares of our common stock in the future, which may also remain forfeitable unless and until specified conditions are met and may be accompanied by the right to receive the equivalent value of dividends paid on shares of our common stock prior to the delivery of the underlying shares. The plan administrator may provide that the delivery of the shares underlying RSUs will be deferred on a mandatory basis or at the election of the participant. The terms and conditions applicable to restricted stock and RSUs will be determined by the plan administrator, subject to the conditions and limitations contained in the 2018 Plan.
- *Other Stock or Cash Based Awards*. Other stock or cash based awards are awards of cash, fully vested shares of our common stock and other awards valued wholly or partially by referring to, or otherwise based on, shares of our common stock or other property. Other stock or cash based awards may be granted to participants and may also be available as a payment form in the settlement of other awards, as standalone payments and as payment in lieu of compensation to which a participant is otherwise entitled.

The plan administrator will determine the terms and conditions of other stock or cash based awards, which may include any purchase price, performance goal, transfer restrictions and vesting conditions.

Performance Criteria

The plan administrator may select performance criteria for an award to establish performance goals for a performance period. Performance criteria under the 2018 Plan may include, but are not limited to, the following: net earnings or losses (either before or after one or more of interest, taxes, depreciation, amortization, and non-cash equity-based compensation expense); gross or net sales or revenue or sales or revenue growth; net income (either before or after taxes) or adjusted net income; profits (including but not limited to gross profits, net profits, profit growth, net operation profit or economic profit), profit return ratios or operating margin; budget or operating earnings (either before or after taxes or before or after allocation of corporate overhead and bonus); cash flow (including operating cash flow and free cash flow or cash flow return on capital); return on assets; return on capital or invested capital; cost of capital; return on stockholders' equity; total stockholder return; return on sales; costs, reductions in costs and cost control measures; expenses; working capital; earnings or loss per share; adjusted earnings or loss per share; price per share or dividends per share (or appreciation in or maintenance of such price or dividends); regulatory achievements or compliance; implementation, completion or attainment of objectives relating to research, development, regulatory, commercial, or strategic milestones or developments; market share; economic value or economic value added models; division, group or corporate financial goals; customer satisfaction/growth; customer service; employee satisfaction; recruitment and maintenance of personnel; human resources management; supervision of litigation and other legal matters; strategic partnerships and transactions; financial ratios (including those measuring liquidity, activity, profitability or leverage); debt levels or reductions; sales-related goals; financing and other capital raising transactions; cash on hand; acquisition activity; investment sourcing activity; and marketing initiatives, any of which may be measured in absolute terms or as compared to any incremental increase or decrease. Such performance goals also may be based solely by reference to the company's performance or the performance of a subsidiary, division, business segment or business unit of the company or a subsidiary, or based upon performance relative to performance of other companies or upon comparisons of any of the indicators of performance relative to performance of other companies. When determining performance goals, the plan administrator may provide for exclusion of the impact of an event or occurrence which the plan administrator determines should appropriately be excluded, including, without limitation, non-recurring charges or events, acquisitions or divestitures, changes in the corporate or capital structure, events unrelated to the business or outside of the control of management, foreign exchange considerations, and legal, regulatory, tax or accounting changes.

Certain Transactions

In connection with certain corporate transactions and events affecting our common stock, including a change in control, or change in any applicable laws or accounting principles, the plan administrator has broad discretion to take action under the 2018 Plan to prevent the dilution or enlargement of intended benefits, facilitate the transaction or event or give effect to the change in applicable laws or accounting principles. This includes canceling awards for cash or property, accelerating the vesting of awards, providing for the assumption or substitution of awards by a successor entity, adjusting the number and type of shares subject to outstanding awards and/or with respect to which awards may be granted under the 2018 Plan and replacing or terminating awards under the 2018 Plan. In addition, in the event of certain non-reciprocal transactions with our stockholders, the plan administrator will make equitable adjustments to the 2018 Plan and outstanding awards as it deems appropriate to reflect the transaction.

Provisions of the 2018 Plan Relating to Director Compensation

The 2018 Plan provides that the plan administrator may establish compensation for non-employee directors from time to time subject to the 2018 Plan's limitations. Prior to commencing this offering, our stockholders approved the initial terms of a compensation program for our non-employee directors, which is described under

"—Director Compensation." Our board of directors or its authorized committee may modify the non-employee director compensation program from time to time in the exercise of its business judgment, taking into account such factors, circumstances and considerations as it shall deem relevant from time to time, provided that the sum of any cash compensation or other compensation and the grant date fair value of any equity awards granted under the 2018 Plan as compensation for services as a non-employee director during any fiscal year may not exceed $750,000 in the fiscal year of a non-employee director's initial service as a non-employee director or $320,000 in any subsequent fiscal year. The plan administrator may make exceptions to this limit for individual non-employee directors in extraordinary circumstances, as the plan administrator may determine in its discretion, subject to the limitations in the 2018 Plan.

Plan Amendment and Termination

Our board of directors may amend or terminate the 2018 Plan at any time; however, no amendment, other than an amendment that increases the number of shares available under the 2018 Plan, may materially and adversely affect an award outstanding under the 2018 Plan without the consent of the affected participant and stockholder approval will be obtained for any amendment to the extent necessary to comply with applicable laws. Further, the plan administrator cannot, without the approval of our stockholders, amend any outstanding stock option or SAR to reduce its price per share, other than in the context of corporate transactions or equity restructurings, as described above. The 2018 Plan will remain in effect until the tenth anniversary of its effective date, unless earlier terminated by our board of directors. No awards may be granted under the 2018 Plan after its termination.

Foreign Participants, Claw-Back Provisions, Transferability and Participant Payments

The plan administrator may modify awards granted to participants who are foreign nationals or employed outside the United States or establish sub-plans or procedures to address differences in laws, rules, regulations or customs of such foreign jurisdictions. All awards will be subject to any company claw-back policy as set forth in such claw-back policy, the 2018 Plan or the applicable award agreement. Except as the plan administrator may determine or provide in an award agreement, awards under the 2018 Plan are generally non-transferrable, except by will or the laws of descent and distribution, or, subject to the plan administrator's consent, pursuant to a domestic relations order, and are generally exercisable only by the participant. With regard to tax withholding obligations arising in connection with awards under the 2018 Plan, and exercise price obligations arising in connection with the exercise of stock options under the 2018 Plan, the plan administrator may, in its discretion, accept cash, wire transfer or check, shares of our common stock that meet specified conditions, a promissory note, a "market sell order," such other consideration as the plan administrator deems suitable or any combination of the foregoing.

2018 Employee Stock Purchase Plan

Our board of directors and stockholders have approved, effective the day prior to the first public trading date of our common stock, the 2018 Employee Stock Purchase Plan, or the 2018 ESPP. The material terms of the 2018 ESPP are summarized below.

Shares Available for Awards; Administration

A total of 336,356 shares of our common stock will initially be reserved for issuance under the 2018 ESPP. In addition, the number of shares available for issuance under the 2018 ESPP will be annually increased on January 1 of each calendar year beginning in 2020 and ending in and including 2028, by an amount equal to the lesser of (A) 1% of the shares outstanding on the final day of the immediately preceding calendar year and (B) such smaller number of shares as is determined by our board of directors, provided that no more than 4,535,425 shares of our common stock may be issued under the 2018 ESPP. The foregoing numbers are subject to adjustment in certain events, as described below. Our board of directors or a committee of our board of directors will have authority to interpret the terms of the 2018 ESPP and determine eligibility of participants. We expect that the compensation committee will be the initial administrator of the 2018 ESPP.

Eligibility

Our employees are eligible to participate in the 2018 ESPP if they are customarily employed by us or a participating subsidiary for more than twenty hours per week and more than five months in any calendar year. However, an employee may not be granted rights to purchase stock under our 2018 ESPP if the employee, immediately after the grant, would own (directly or through attribution) stock possessing 5% or more of the total combined voting power or value of all classes of our stock.

Grant of Rights

The 2018 ESPP is intended to qualify under Section 423 of the Code and stock will be offered under the 2018 ESPP during offering periods. The length of the offering periods under the 2018 ESPP will be determined by the plan administrator and may be up to twenty-seven months long. Employee payroll deductions will be used to purchase shares on each purchase date during an offering period. The purchase dates for each offering period will be the final trading day in the offering period. Offering periods under the 2018 ESPP will commence when determined by the plan administrator. The plan administrator may, in its discretion, modify the terms of future offering periods.

The 2018 ESPP permits participants to purchase common stock through payroll deductions of up to a specified percentage of their eligible compensation, which includes a participant's gross base compensation for services to us, including overtime payments and excluding sales commissions, incentive compensation, bonuses, expense reimbursements, fringe benefits and other special payments. The plan administrator will establish a maximum number of shares that may be purchased by a participant during any offering period. In addition, no employee will be permitted to accrue the right to purchase stock under the 2018 ESPP at a rate in excess of $25,000 worth of shares during any calendar year during which such a purchase right is outstanding (based on the fair market value per share of our common stock as of the first day of the offering period).

On the first trading day of each offering period, each participant will automatically be granted an option to purchase shares of our common stock. The option will expire at the end of the applicable offering period and will be exercised at that time to the extent of the payroll deductions accumulated during the offering period. The purchase price of the shares will be determined by the administrator but will not be less than 85% of the lower of the fair market value of our common stock on the first trading day of the offering period or on the purchase date. Participants may voluntarily end their participation in the 2018 ESPP at any time at least one week prior to the end of the applicable offering period, and will be paid their accrued payroll deductions that have not yet been used to purchase shares of common stock. Participation ends automatically upon a participant's termination of employment.

A participant may not transfer rights granted under the 2018 ESPP other than by will or the laws of descent and distribution.

Certain Transactions

In the event of certain non-reciprocal transactions or events affecting our common stock known as "equity restructurings," the plan administrator will make equitable adjustments to the 2018 ESPP and outstanding rights. In the event of certain unusual or non-recurring events or transactions, including a change in control, the plan administrator may provide for (1) either the replacement of outstanding rights with other rights or property or termination of outstanding rights in exchange for cash, (2) the assumption or substitution of outstanding rights by the successor or survivor corporation or parent or subsidiary thereof, if any, (3) the adjustment in the number and type of shares of stock subject to outstanding rights, (4) the use of participants' accumulated payroll deductions to purchase stock on a new purchase date prior to the next scheduled purchase date and termination of any rights under ongoing offering periods or (5) the termination of all outstanding rights.

Plan Amendment

The plan administrator may amend, suspend or terminate the 2018 ESPP at any time. However, stockholder approval will be obtained for any amendment that increases the aggregate number or changes the type of shares that may be sold pursuant to rights under the 2018 ESPP, changes the corporations or classes of corporations whose employees are eligible to participate in the 2018 ESPP or changes the 2018 ESPP in any manner that would cause the 2018 ESPP to no longer be an employee stock purchase plan within the meaning of Section 423(b) of the Code.

CERTAIN RELATIONSHIPS AND RELATED PERSON TRANSACTIONS

The following is a summary of each transaction or series of transactions since January 1, 2015, or any currently proposed transaction, to which we have been a party or are a party in which the amount involved exceeded or will exceed $120,000, and in which any of our directors, executive officers or, to our knowledge, beneficial owners of more than 5% of our capital stock or any member of the immediate family of any of the foregoing persons had or will have a direct or indirect material interest, other than equity and other compensation, termination, change in control and other arrangements, which are described under "Executive and Director Compensation." We also describe below certain other transactions with our directors, executive officers and stockholders.

Preferred Stock Financings and Convertible Note Financing

Convertible Note. On February 19, 2015, we issued a convertible promissory note to Flagship Ventures Fund V, L.P. in the principal amount of $1.0 million.

Series A Preferred Stock Financing. From June 29, 2015 to January 29, 2016, we issued and sold to investors in private placements an aggregate of 13,370,279 shares of our Series A preferred stock at a purchase price of $0.60 per share, for aggregate consideration of approximately $8.0 million, consisting of $7.0 million in cash proceeds plus the conversion of our promissory note in the principal amount of $1.0 million plus $22,167 in accrued interest.

Series A-1 Preferred Stock Financing. On June 16, 2016, in connection with our acquisition of Epiva, we issued and sold to investors in a private placement an aggregate of 10,102,055 shares of our Series A-1 preferred stock at a purchase price of $0.60 per share, for aggregate consideration of approximately $6.1 million.

Series A-2 Preferred Stock Financing. From June 13, 2016 to December 8, 2016, we issued and sold to investors in private placements an aggregate of 5,833,334 shares of our Series A-2 preferred stock at a purchase price of $1.20 per share, for aggregate consideration of approximately $7.0 million.

Series A-3 Preferred Stock Financing. On June 16, 2016, in connection with our acquisition of Epiva, we issued and sold to investors in a private placement an aggregate of 8,749,650 shares of our Series A-3 preferred stock at a purchase price of $1.20 per share, for aggregate consideration of approximately $10.5 million.

Series B Preferred Stock Financing. From January 5, 2017 to January 30, 2018, we issued and sold to investors in private placements an aggregate of 28,027,778 shares of our Series B preferred stock at a purchase price of $1.80 per share, for aggregate consideration of approximately $50.7 million.

Series C Preferred Stock Financing. From February 9, 2018 to March 9, 2018, we issued and sold to investors in private placements an aggregate of 25,232,199 shares of our Series C preferred stock at a purchase price of $3.23 per share, for aggregate consideration of approximately $81.5 million.

The following table sets forth the aggregate number of shares of our capital stock acquired by beneficial owners of more than 5% of our capital stock in the financing transactions described above. Each share of each of our Series A preferred stock, Series A-1 preferred stock, Series A-2 preferred stock, Series A-3 preferred stock, Series B preferred stock and Series C preferred stock identified in the following table will convert into shares of common stock in connection with the closing of this offering.

Participants	Series A Preferred Stock	Series A-1 Preferred Stock	Series A-2 Preferred Stock	Series A-3 Preferred Stock	Series B Preferred Stock	Series C Preferred Stock
5% or Greater Stockholders(1)						
Entities affiliated with Flagship Pioneering	12,536,945	10,102,055	5,416,667	8,333,000	18,611,110	4,643,963
Entities affiliated with FMR	—	—	—	—	—	7,739,938

(1) Additional details regarding these stockholders and their equity holdings are provided in this prospectus under the caption “Principal Stockholders.”

One of our directors is associated with our principal stockholders as indicated in the table below:

Director	Principal Stockholder
Noubar B. Afeyan, Ph.D.	Entities affiliated with Flagship Pioneering

Investors’ Rights Agreement

We entered into a fourth amended and restated investors’ rights agreement in February 2018 as amended in April 2018, with the holders of our preferred stock, including entities with which certain of our directors are affiliated. The agreement provides for certain rights relating to the registration of such holders’ common stock, including shares issuable upon conversion of preferred stock, and a right of first refusal to purchase future securities sold by us. See “Description of Capital Stock—Registration Rights” for additional information. Certain provisions of our investors rights agreement will terminate upon the closing of this offering.

Voting Agreement

We entered into a fourth amended and restated voting agreement in February 2018, as amended on April 11, 2018, by and among us and certain of our stockholders, pursuant to which certain directors were elected to serve as members on our board of directors and, as of the date of this prospectus, the directors so serving are: Noubar B. Afeyan, Ph.D., M.D., Ph.D., Professor the Lord Ara Darzi, David R. Epstein, Balkrishan (Simba) Gill, Ph.D., Theodose Melas-Kyriazi, David P. Perry and Nancy A. Simonian, M.D. Pursuant to the voting agreement, Dr. Gill was initially selected to serve on our board of directors in his capacity as our Chief Executive Officer. Dr. Afeyan was initially selected to serve on our board of directors as a representative of holders of our preferred stock, as designated by entities affiliated with Flagship Pioneering. Lord Darzi, Messrs. Epstein, Melas-Kyriazi and Perry and Dr. Simonian were selected to serve on our board of directors as independent directors, as designated by the holders of a majority of the voting power of the outstanding shares of preferred stock, voting together as a single class.

The above provision of the voting agreement will terminate upon the closing of this offering, and members previously elected to our board of directors pursuant to this agreement will continue to serve as directors until they resign, are removed or their successors are duly elected by the holders of our common stock. The composition of our board of directors after this offering is described in more detail under “Management—Board Composition and Election of Directors.”

Employment Agreements

We plan to enter into employment agreements with our named executive officers. For more information regarding the agreements with our named executive officers, see “Executive and Director Compensation— Executive Officer Employment Agreements.”

Indemnification Agreements

We intend to enter into indemnification agreements with each of our directors and executive officers. These agreements, among other things, may require us to indemnify each director (and in certain cases their related venture capital funds) and executive officer to the fullest extent permitted by Delaware law, including indemnification of expenses such as attorneys’ fees, judgments, fines and settlement amounts incurred by the director or executive officer in any action or proceeding, including any action or proceeding by or in right of us, arising out of the person’s services as a director or executive officer. For further information, see “Executive and Director Compensation—Limitations of Liability and Indemnification.”

Stock Option Grants to Executive Officers and Directors

We have granted stock options to our executive officers and certain of our directors as more fully described in the section entitled “Executive and Director Compensation.”

Flagship Services Agreement

In May 2014, we entered into a services agreement with Flagship Ventures Management, Inc., an affiliate of certain beneficial owners of more than 5% of our capital stock, to provide general and administrative services, including employee health and dental benefit plan administration and consulting services. We made payments under the agreement of $7,946, $208,575 and $549,664 during the years ended December 31, 2017, 2016 and 2015, respectively.

Epiva Acquisition

On June 16, 2016, we acquired Epiva, a privately held research company, resulting in the exchange of all shares of Epiva stock for shares of our stock at an exchange rate of 1-for-0.8333 for Epiva preferred stock and 1-for-0.2043 for Epiva common stock. In connection with the acquisition, we issued shares of our stock to certain beneficial owners of more than 5% of our capital stock, including entities affiliated with certain of our directors. For further information, see “Management’s Discussion and Analysis of Financial Condition and Results of Operations.”

Weatherden, Ltd. Agreement

In January 2017, we entered into a supply of services agreement with Weatherden, Ltd. for clinical advisory services, or the Weatherden agreement. In July 2017, we entered into an amendment to the Weatherden agreement to provide for additional initial clinical operations support. Weatherden, Ltd. is an affiliate of Dr. Duncan McHale, one of our executive officers. We made payments under the agreement of $304,863 during the year ended December 31, 2017. As of December 31, 2017, the amount due to Weatherden, Ltd. under the agreement was $160,650.

Participation in This Offering

Certain of our existing stockholders, including entities affiliated with certain of our directors, have indicated an interest in purchasing an aggregate of approximately $40.0 million in shares of our common stock in this offering at the initial public offering price. However, because indications of interest are not binding agreements or commitments to purchase, the underwriters may determine to sell more, fewer or no shares in this offering to any or all of these stockholders, or any or all of these stockholders may determine to purchase more, fewer or no shares in this offering. The underwriters will receive the same underwriting discount on any shares purchased by these stockholders as they will on any other shares sold to the public in this offering.

Policies and Procedures for Related Person Transactions

Our board of directors has adopted a written related person transaction policy, to be effective upon the closing of this offering, setting forth the policies and procedures for the review and approval or ratification of related person transactions. This policy will cover, with certain exceptions set forth in Item 404 of Regulation S-K under the Securities Act, any transaction, arrangement or relationship, or any series of similar transactions, arrangements or relationships, in which we were or are to be a participant, where the amount involved exceeds $120,000 in any fiscal year and a related person had, has or will have a direct or indirect material interest, including without limitation, purchases of goods or services by or from the related person or entities in which the related person has a material interest, including indebtedness, guarantees of indebtedness and employment by us of a related person. In reviewing and approving any such transactions, our audit committee is tasked to consider

all relevant facts and circumstances, including, but not limited to, whether the transaction is on terms comparable to those that could be obtained in an arm's length transaction and the extent of the related person's interest in the transaction. All of the transactions described in this section occurred prior to the adoption of this policy.

PRINCIPAL STOCKHOLDERS

The following table sets forth information with respect to the beneficial ownership of our common stock, as of April 18, 2018, and as adjusted to reflect the sale of shares of common stock in this offering, for:

- each person or group of affiliated persons known by us to beneficially own more than 5% of our common stock;
- each of our named executive officers;
- each of our directors; and
- all of our executive officers and directors as a group.

The number of shares beneficially owned by each stockholder is determined under rules issued by the SEC. Under these rules, beneficial ownership includes any shares as to which the individual or entity has sole or shared voting power or investment power. Applicable percentage ownership is based on 26,558,354 shares of common stock outstanding as of April 18, 2018, assuming the conversion of all outstanding shares of preferred stock into common stock. In computing the number of shares beneficially owned by an individual or entity and the percentage ownership of that person, shares of common stock subject to options, warrants or other rights held by such person that are currently exercisable or will become exercisable within 60 days of April 18, 2018 are considered outstanding, although these shares are not considered outstanding for purposes of computing the percentage ownership of any other person. Unless noted otherwise, the address of all listed stockholders is 620 Memorial Drive, Suite 200, Cambridge, MA 02139. Each of the stockholders listed has sole voting and investment power with respect to the shares beneficially owned by the stockholder unless noted otherwise, subject to community property laws where applicable.

Certain of our existing stockholders, including entities affiliated with certain of our directors, have indicated an interest in purchasing an aggregate of approximately $40.0 million in shares of our common stock in this offering at the initial public offering price. However, because indications of interest are not binding agreements or commitments to purchase, the underwriters may determine to sell more, fewer or no shares in this offering to any or all of these stockholders, or any or all of these stockholders may determine to purchase more, fewer or no shares in this offering. The underwriters will receive the same underwriting discount on any shares purchased by these stockholders as they will on any other shares sold to the public in this offering. The following table does not reflect any such potential purchases by these existing stockholders or their affiliated entities. If any shares are purchased by these stockholders, the number of shares of common stock beneficially owned after this offering and the percentage of common stock beneficially owned after this offering would increase from that set forth in the table below.

Name of Beneficial Owner	Number of Shares Beneficially Owned Prior to Offering	Percentage of Shares Beneficially Owned Prior to Offering	Percentage of Shares Beneficially Owned After Offering
5% or Greater Stockholders			
Entities affiliated with Flagship Pioneering(1)	17,952,153	67.6%	56.3%
Entities affiliated with FMR(2)	1,897,507	7.1%	6.0%
Named Executive Officers and Directors			
Balkrishan (Simba) Gill, Ph.D.(3)	545,634	2.0%	1.7%
Mark Bodmer, Ph.D.(4)	291,967	1.1%	*
Duncan McHale, M.D., Ph.D.(5)	12,768	*	*
Noubar B. Afeyan, Ph.D.(1)	17,952,153	67.5%	56.3%
Professor the Lord Ara Darzi	—	—	—
David R. Epstein(6)	30,643	*	*
Theodose Melas-Kyriazi(7)	17,620	*	*
David P. Perry(8)	20,109	*	*
Nancy A. Simonian, M.D.	—	—	—
All executive officers and directors as a group (10 persons)(9)	18,870,894	69.3%	58.0%

* Less than 1%.

(1) Consists of (a) 684,372 shares of common stock held by Flagship VentureLabs IV LLC (“Flagship VentureLabs IV”), (b) 2,645,637 shares of common stock held by Flagship VentureLabs V LLC (“Flagship VentureLabs V”), (c) 1,836,836 shares of common stock held by Flagship Ventures Fund IV, L.P. (“Flagship Fund IV”), (d) 448,910 shares of common stock held by Flagship Ventures Fund IV-Rx, L.P. (“Flagship Fund IV-Rx”), (e) 4,201,281 shares of common stock held by Flagship Ventures Fund V, L.P. (“Flagship Fund V”), (f) 1,609,870 shares of common stock held by Flagship V VentureLabs Rx Fund, L.P. (“Flagship VentureLabs V-Rx”), (g) 3,492,705 shares of common stock held by Nutritional Health Disruptive Innovation Fund, L.P. (“Flagship Nutritional Health Disruptive Innovation Fund”), (h) 760,794 shares of common stock held by Nutritional Health Side Fund, L.P. (“Flagship Nutritional Health Side Fund”) and (i) 2,271,738 shares of common stock held by Flagship Ventures Opportunities Fund I, L.P. (Flagship Opportunities Fund I) (Flagship VentureLabs IV, Flagship Fund IV, Flagship Fund IV-Rx, the “Flagship Fund IV Funds,” Flagship VentureLabs V, Flagship Fund V, Flagship VentureLabs V-Rx, Flagship Nutritional Health Side Fund, and Flagship Nutritional Health Disruptive Innovation Fund, the “Flagship Fund V Funds,” and together with Flagship Fund IV Funds, and the Flagship Opportunities Fund I, the “Flagship Funds”). Flagship Fund IV is a member of Flagship VentureLabs IV and also serves as its manager. Flagship Fund V is a member of Flagship VentureLabs V and also serves as its manager. The general partner of each of Flagship Fund IV and Flagship Fund IV-Rx is Flagship Ventures Fund IV General Partner LLC (“Flagship Fund IV GP”), the general partner of Flagship Fund V, Flagship VentureLabs V-Rx, Flagship Nutritional Health Disruptive Innovation Fund and Flagship Nutritional Health Side Fund is Flagship Ventures Fund V General Partner LLC (“Flagship Fund V GP”), and the general partner of Flagship Opportunities Fund I is Flagship Ventures Opportunities Fund I General Partner LLC (“Flagship Opportunities GP,” and together with Flagship Fund IV GP and Flagship Fund V GP, the “Flagship General Partners”). Noubar B. Afeyan, Ph.D. serves on our board of directors and is a member of the Flagship General Partners. In addition, Dr. Afeyan and Edwin M. Kania, Jr. are the managers of Flagship Fund IV GP and each of these individuals may be deemed to share voting and investment power with respect to all shares held by Flagship Fund IV Funds. Dr. Afeyan serves as the managing member of the Flagship Fund V GP and Flagship Opportunities Fund GP and may be deemed to possess sole voting and investment control over the shares held by the Flagship Fund V Funds and Flagship Opportunities Fund I. None of the Flagship General Partners directly own any of the shares held by the Flagship Funds, and each of Flagship General Partners, Dr. Afeyan and Mr. Kania disclaims beneficial ownership of such shares

except to the extent of its or his pecuniary interest therein. The mailing address of the Flagship Funds is 55 Cambridge Parkway, Suite 800E, Cambridge, MA 02142.

(2) Consists of (a) 909,286 shares of common stock held by Fidelity Mt. Vernon Street Trust: Fidelity Growth Company Fund, whose address is 525 William Penn Place Run Rm 040, Pittsburgh, PA 15259, ("Fidelity Growth Fund"), (b) 757,485 shares of common stock held by Fidelity Growth Company Commingled Pool, whose address is c/o Brown Brothers Harriman & Co., 140 Broadway, New York, NY 10005, ("Fidelity Commingled Fund") and (c) 230,736 shares of common stock held by Fidelity Mt. Vernon Street Trust: Fidelity Series Growth Company Fund, whose address is PO Box 5756, Boston, MA 02206 (together with Fidelity Growth Fund and Fidelity Commingled Fund, the "Fidelity Growth Funds"). The Fidelity Growth Funds are managed by direct and indirect subsidiaries of FMR LLC and are advised by Fidelity Management & Research Company ("FMR Co"), a wholly owned subsidiary of FMR LLC. Abigail P. Johnson is a director and the Vice Chairman, Chief Executive Officer and President of FMR LLC. Members of the family of Abigail P. Johnson (the "Johnson Family") are the predominant owners, directly or through trusts, of Series B voting common shares of FMR LLC, representing 49% of the voting power of FMR LLC. The Johnson Family and all other Series B shareholders have entered into a shareholders' voting agreement under which all Series B voting common shares will be voted in accordance with the majority vote of Series B voting common shares. Accordingly, through their ownership of voting common shares and the execution of the shareholders' voting agreement, the Johnson Family may be deemed, under the Investment Company Act of 1940, to form a controlling group with respect to FMR LLC. Neither FMR LLC nor Abigail P. Johnson has the sole power to vote or direct the voting of the shares owned directly by these entities which power resides with the Fidelity Funds' Boards of Trustees. FMR Co carries out the voting of the shares under written guidelines established by the Fidelity Funds' Boards of Trustees. The address of the Fidelity Growth Funds and FMR LLC is 200 Seaport Blvd, V12E, Boston, MA 02210.

(3) Includes 507,222 shares of common stock underlying outstanding stock options that are or will be immediately exercisable within 60 days of April 18, 2018.

(4) Includes 71,328 shares of common stock underlying outstanding stock options that are or will be immediately exercisable within 60 days of April 18, 2018.

(5) Consists of 12,768 shares of common stock underlying outstanding stock options that are or will be immediately exercisable within 60 days of April 18, 2018.

(6) Consists of 30,643 shares of common stock underlying outstanding stock options that are or will be immediately exercisable within 60 days of April 18, 2018.

(7) Consists of 17,620 shares of common stock underlying outstanding stock options that are or will be immediately exercisable within 60 days of April 18, 2018.

(8) Consists of 20,109 shares of common stock underlying outstanding stock options that are or will be immediately exercisable within 60 days of April 18, 2018.

(9) Includes 659,487 shares of common stock underlying outstanding stock options that are or will be immediately exercisable within 60 days of April 18, 2018.

DESCRIPTION OF CAPITAL STOCK

General

The following description summarizes some of the terms of our restated certificate of incorporation and amended and restated bylaws that will become effective in connection with the closing of this offering, our outstanding warrants, the investors' rights agreement and of the General Corporation Law of the State of Delaware. Because it is only a summary, it does not contain all the information that may be important to you. For a complete description, you should refer to our amended and restated certificate of incorporation, amended and restated bylaws, warrants and investors' rights agreement, copies of which have been or will be filed as exhibits to the registration statement of which this prospectus is a part, as well as the relevant provisions of the General Corporation Law of the State of Delaware. The description of our common stock and preferred stock reflects changes to our capital structure that will occur immediately prior the closing of this offering.

Following the closing of this offering, our authorized capital stock will consist of 200,000,000 shares of common stock, par value $0.001 per share, and 10,000,000 shares of preferred stock, par value $0.001 per share.

As of April 18, 2018, there were 4,171,677 shares of our common stock outstanding, including 226,319 shares of unvested restricted common stock subject to repurchase by us, and 22,386,677 shares of our common stock issuable upon the automatic conversion of all outstanding shares of our preferred stock in connection with this offering, held of record by 67 stockholders.

Common Stock

Holders of our common stock are entitled to one vote for each share held on all matters submitted to a vote of stockholders and do not have cumulative voting rights. An election of directors by our stockholders shall be determined by a plurality of the votes cast by the stockholders entitled to vote on the election. Subject to the supermajority votes for some matters, other matters shall be decided by the affirmative vote of our stockholders having a majority in voting power of the votes cast by the stockholders present or represented and voting on such matter. Our restated certificate of incorporation and amended and restated bylaws also provide that our directors may be removed only for cause and only by the affirmative vote of the holders of at least two-thirds in voting power of the outstanding shares of capital stock entitled to vote thereon. In addition, the affirmative vote of the holders of at least two-thirds in voting power of the outstanding shares of capital stock entitled to vote thereon is required to amend or repeal, or to adopt any provision inconsistent with, several of the provisions of our amended and restated certificate of incorporation. See below under "—Anti-Takeover Effects of Delaware Law and Our Certificate of Incorporation and Bylaws—Amendment of Charter Provisions." Holders of common stock are entitled to receive proportionately any dividends as may be declared by our board of directors, subject to any preferential dividend rights of any series of preferred stock that we may designate and issue in the future.

In the event of our liquidation or dissolution, the holders of common stock are entitled to receive proportionately our net assets available for distribution to stockholders after the payment of all debts and other liabilities and subject to the prior rights of any outstanding preferred stock. Holders of common stock have no preemptive, subscription, redemption or conversion rights. Our outstanding shares of common stock are, and the shares offered by us in this offering will be, when issued and paid for, validly issued, fully paid and nonassessable. The rights, preferences and privileges of holders of common stock are subject to and may be adversely affected by the rights of the holders of shares of any series of preferred stock that we may designate and issue in the future.

Preferred Stock

Under the terms of our restated certificate of incorporation that will become effective in connection with the closing of this offering, our board of directors is authorized to direct us to issue shares of preferred stock in one

or more series without stockholder approval. Our board of directors has the discretion to determine the rights, preferences, privileges and restrictions, including voting rights, dividend rights, conversion rights, redemption privileges and liquidation preferences, of each series of preferred stock.

The purpose of authorizing our board of directors to issue preferred stock and determine its rights and preferences is to eliminate delays associated with a stockholder vote on specific issuances. The issuance of preferred stock, while providing flexibility in connection with possible acquisitions, future financings and other corporate purposes, could have the effect of making it more difficult for a third party to acquire, or could discourage a third party from seeking to acquire, a majority of our outstanding voting stock. Upon the closing of this offering, there will be no shares of preferred stock outstanding, and we have no present plans to issue any shares of preferred stock.

Warrants

Mayo Warrant

On June 10, 2016, we issued a warrant, or the Mayo warrant, to the Mayo Foundation for Medical Education and Research, or Mayo Foundation, in connection with our research and license agreement with Mayo Foundation. On April 9, 2018, we issued to Mayo Foundation 134 shares of our common stock upon the exercise in full of the Mayo warrant.

Bank Warrants

In connection with entering into our prior loan and security agreement, in November 2015, we issued Comerica Bank a warrant to purchase 100,000 shares of our Series A preferred stock at an exercise price of $0.60 per share. If unexercised, the warrant will expire on November 13, 2025. In connection with entering into our loan and security agreement, in August 2016, we issued Pacific Western Bank a warrant to purchase 62,497 shares of Series A-1 preferred stock at an exercise price of $0.60 per share and a warrant to purchase 31,248 shares of Series A-3 preferred stock at an exercise price of $1.20 per share. If unexercised, these warrants will expire on January 28, 2026 and August 15, 2026, respectively. In connection with the execution of the third amendment to the loan and security agreement, in February 2018, we issued Pacific Western Bank a warrant to purchase 34,722 shares of Series B preferred stock at an exercise price of $1.80 per share. If unexercised, the warrant will expire on February 7, 2028. Collectively, we refer to these warrants as the Bank warrants.

Options

As of April 18, 2018, options to purchase 4,451,244 shares of our common stock were outstanding under our 2015 Stock Incentive Plan, 909,720 of which were exercisable and of which 770,787 were vested as of that date.

Registration Rights

Upon the closing of this offering, holders of 25,989,390 shares of our common stock, including an aggregate of 56,006 shares issuable upon the exercise of the Bank warrants, will be entitled to the following rights with respect to the registration of such shares for public resale under the Securities Act, pursuant to an amended and restated investors' rights agreement by and among us and certain of our stockholders, until such shares can otherwise be sold without restriction under Rule 144, or until the rights otherwise terminate pursuant to the terms of the investors' rights agreement. The registration of shares of common stock as a result of the following rights being exercised would enable holders to trade these shares without restriction under the Securities Act when the applicable registration statement is declared effective.

If at any time beginning 180 days after the effective date of this offering the holders of a majority of the registrable securities request in writing that we effect a registration with respect to all or part of such registrable

securities then outstanding, we may be required to register their shares. We are obligated to effect at most two registrations in response to these demand registration rights. If the holders requesting registration intend to distribute their shares by means of an underwriting, the managing underwriter of such offering will have the right to limit the numbers of shares to be underwritten for reasons related to the marketing of the shares.

Piggyback Registration Rights

If at any time after this offering we propose to register any shares of our common stock under the Securities Act, subject to certain exceptions, the holders of registrable securities will be entitled to notice of the registration and to include their shares of registrable securities in the registration. If our proposed registration involves an underwriting, the managing underwriter of such offering will have the right to limit the number of shares to be underwritten for reasons related to the marketing of the shares.

Form S-3 Registration Rights

If, at any time after we become entitled under the Securities Act to register our shares on a registration statement on Form S-3, the holders of at least 30% of the registrable securities then outstanding request in writing that we effect a registration with respect to registrable securities at an aggregate price to the public in the offering of at least $5,000,000, we will be required to effect such registration; provided, however, that we will not be required to effect such a registration if, within the twelve month period preceding such request, we have already effected two registrations on Form S-3 for the holders of registrable securities.

Expenses

Ordinarily, other than underwriting discounts and commissions, we will be required to pay all expenses incurred by us related to any registration effected pursuant to the exercise of these registration rights. These expenses may include all registration and filing fees, printing expenses, fees and disbursements of our counsel, reasonable fees and disbursements of a counsel for the selling security holders and blue sky fees and expenses.

Termination of Registration Rights

The registration rights terminate upon the earlier of seven years after the effective date of the registration statement of which this prospectus is a part, the closing of a deemed liquidation event, as defined in the investors' rights agreement, or, with respect to the registration rights of an individual holder, when the holder can sell all of such holder's registrable securities in a three-month period without restriction under Rule 144 under the Securities Act.

Anti-Takeover Effects of Delaware Law and Our Certificate of Incorporation and Bylaws

Some provisions of Delaware law, our restated certificate of incorporation and our amended and restated bylaws could make the following transactions more difficult: an acquisition of us by means of a tender offer; an acquisition of us by means of a proxy contest or otherwise; or the removal of our incumbent officers and directors. It is possible that these provisions could make it more difficult to accomplish or could deter transactions that stockholders may otherwise consider to be in their best interest or in our best interests, including transactions which provide for payment of a premium over the market price for our shares.

These provisions, summarized below, are intended to discourage coercive takeover practices and inadequate takeover bids. These provisions are also designed to encourage persons seeking to acquire control of us to first negotiate with our board of directors. We believe that the benefits of the increased protection of our potential ability to negotiate with the proponent of an unfriendly or unsolicited proposal to acquire or restructure us outweigh the disadvantages of discouraging these proposals because negotiation of these proposals could result in an improvement of their terms.

Undesignated Preferred Stock

The ability of our board of directors, without action by the stockholders, to issue up to 10,000,000 shares of undesignated preferred stock, which may include voting or other rights, dividend rights and preferences, rights to convert to common stock or other securities, and liquidation rights and preferences. The existence of authorized but unissued shares of preferred stock may enable our board of directors to render it more difficult or to discourage an attempt to obtain control of us by means of a merger, tender offer, proxy contest or otherwise.

Special Meeting of Stockholders

Our amended and restated bylaws provide that a special meeting of stockholders may be called only by our chairman of the board, chief executive officer or president (in the absence of a chief executive officer), or by a resolution adopted by a majority of our board of directors.

Requirements for Advance Notification of Stockholder Nominations and Proposals

Our amended and restated bylaws establish advance notice procedures with respect to stockholder proposals to be brought before a stockholder meeting and the nomination of candidates for election as directors, other than nominations made by or at the direction of the board of directors or a committee of the board of directors. The notice must contain certain information specified in our amended and restated bylaws. These procedures may have the effect of precluding the conduct of certain business at a meeting or the nomination of candidates for election as directors by stockholders if the proper procedures are not followed.

Elimination of Stockholder Action by Written Consent

Our restated certificate of incorporation eliminates the right of stockholders to act by written consent without a meeting.

Staggered Board

Our board of directors is divided into three classes. The directors in each class will serve for a three-year term, one class being elected each year by our stockholders. For more information on the classified board, see “Management—Board Composition and Election of Directors.” This system of electing and removing directors may tend to discourage a third-party from making a tender offer or otherwise attempting to obtain control of us, because it generally makes it more difficult for stockholders to replace a majority of the directors.

Removal of Directors and Vacancies

Our restated certificate of incorporation provides that no member of our board of directors may be removed from office by our stockholders except for cause and, in addition to any other vote required by law, upon the approval of the holders of at least two-thirds in voting power of the outstanding shares of stock entitled to vote in the election of directors. Our amended and restated bylaws give our board of directors the exclusive right to elect a director to fill a vacancy created by the expansion of the board of directors or the resignation, death or removal of a director, which prevents stockholders from filling vacancies on our board of directors.

Stockholders Not Entitled to Cumulative Voting

Our restated certificate of incorporation does not permit stockholders to cumulate their votes in the election of directors. Accordingly, the holders of a majority of the outstanding shares of our common stock entitled to vote in any election of directors can elect all of the directors standing for election, if they choose, other than any directors that holders of our preferred stock may be entitled to elect.

Delaware Anti-Takeover Statute

We are subject to Section 203 of the General Corporation Law of the State of Delaware, which prohibits persons deemed to be "interested stockholders" from engaging in a "business combination" with a publicly held Delaware corporation for three years following the date these persons become interested stockholders unless the business combination is, or the transaction in which the person became an interested stockholder was, approved in a prescribed manner or another prescribed exception applies. Generally, an "interested stockholder" is a person who, together with affiliates and associates, owns, or within three years prior to the determination of interested stockholder status did own, 15% or more of a corporation's voting stock. Generally, a "business combination" includes a merger, asset or stock sale, or other transaction resulting in a financial benefit to the interested stockholder. The existence of this provision may have an anti-takeover effect with respect to transactions not approved in advance by the board of directors.

Choice of Forum

Our restated certificate of incorporation provides that, unless we consent in writing to the selection of an alternative form, the Court of Chancery of the State of Delaware will be the sole and exclusive forum for: (1) any derivative action or proceeding brought on our behalf; (2) any action asserting a claim of breach of a fiduciary duty or other wrongdoing by any of our directors, officers, employees or agents to us or our stockholders; (3) any action asserting a claim against us arising pursuant to any provision of the General Corporation Law of the State of Delaware or our certificate of incorporation or bylaws; (4) any action to interpret, apply, enforce or determine the validity of our certificate of incorporation or bylaws; or (5) any action asserting a claim governed by the internal affairs doctrine. Our restated certificate of incorporation also provides that any person or entity purchasing or otherwise acquiring any interest in shares of our capital stock will be deemed to have notice of and to have consented to this choice of forum provision. It is possible that a court of law could rule that the choice of forum provision contained in our restated certificate of incorporation is inapplicable or unenforceable if it is challenged in a proceeding or otherwise.

Amendment of Charter Provisions

The amendment of any of the above provisions, except for the provision making it possible for our board of directors to issue preferred stock and the provision prohibiting cumulative voting, would require approval by holders of at least two-thirds in voting power of the outstanding shares of stock entitled to vote thereon.

The provisions of Delaware law, our restated certificate of incorporation and our amended and restated bylaws could have the effect of discouraging others from attempting hostile takeovers and, as a consequence, they may also inhibit temporary fluctuations in the market price of our common stock that often result from actual or rumored hostile takeover attempts. These provisions may also have the effect of preventing changes in the composition of our board and management. It is possible that these provisions could make it more difficult to accomplish transactions that stockholders may otherwise deem to be in their best interests

Transfer Agent and Registrar

The transfer agent and registrar for our common stock will be American Stock Transfer & Trust Company, LLC.

Stock Exchange Listing

We have been approved to have our common stock listed on The Nasdaq Global Select Market under the symbol "EVLO."

SHARES ELIGIBLE FOR FUTURE SALE

Immediately prior to this offering, there was no public market for our common stock. Future sales of substantial amounts of common stock in the public market, or the perception that such sales may occur, could adversely affect the market price of our common stock.

Upon the closing of this offering, we will have outstanding an aggregate of 31,870,854 shares of common stock, assuming the issuance of 5,312,500 shares of common stock offered by us in this offering, the automatic conversion of all outstanding shares of our preferred stock into 22,386,677 shares of our common stock and no exercise of options or warrants after April 18, 2018. Of these shares, all shares sold in this offering will be freely tradable without restriction or further registration under the Securities Act, except for any shares purchased by our "affiliates," as that term is defined in Rule 144 under the Securities Act, whose sales would be subject to the Rule 144 resale restrictions described below, other than the holding period requirement.

The remaining 26,558,354 shares of common stock will be "restricted securities," as that term is defined in Rule 144 under the Securities Act. These restricted securities are eligible for public sale only if they are registered under the Securities Act or if they qualify for an exemption from registration under Rules 144 or 701 under the Securities Act, which are summarized below. We expect that substantially all of these shares will be subject to the 180-day lock-up period under the lock-up agreements described below. Upon expiration of the lock-up period, we estimate that approximately 26,558,354 shares will be available for sale in the public market, subject in some cases to applicable volume limitations under Rule 144.

In addition, of the 4,451,244 shares of our common stock that were subject to stock options outstanding as of April 18, 2018, options to purchase 770,787 shares of common stock were vested as of April 18, 2018 and, upon exercise, these shares will be eligible for sale subject to the lock–up agreements described below and Rules 144 and 701 under the Securities Act.

Lock-Up Agreements

We and each of our directors and executive officers and holders of substantially all of our outstanding capital stock, have agreed that, without the prior written consent of Morgan Stanley & Co. LLC and Cowen and Company, LLC on behalf of the underwriters, we and they will not, subject to certain exceptions, during the period ending 180 days after the date of this prospectus:

- offer, pledge, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase, lend, or otherwise transfer or dispose of, directly or indirectly, any shares of our common stock or any securities convertible into or exercisable or exchangeable for common stock; or
- enter into any swap or other arrangement that transfers to another, in whole or in part, any of the economic consequences of ownership of our common stock,

whether any transaction described above is to be settled by delivery of our common stock or such other securities, in cash or otherwise.

Upon the expiration of the applicable lock-up periods, substantially all of the shares subject to such lock-up restrictions will become eligible for sale, subject to the limitations discussed above. For a further description of these lock-up agreements, please see "Underwriting."

Rule 144

Affiliate Resales of Restricted Securities

In general, beginning 90 days after the effective date of the registration statement of which this prospectus is a part, a person who is an affiliate of ours, or who was an affiliate at any time during the 90 days before a sale,

who has beneficially owned shares of our common stock for at least six months would be entitled to sell in "broker's transactions" or certain "riskless principal transactions" or to market makers, a number of shares within any three-month period that does not exceed the greater of:

- 1% of the number of shares of our common stock then outstanding, which will equal 318,708 shares immediately after this offering; or
- the average weekly trading volume in our common stock on The Nasdaq Global Select Market during the four calendar weeks preceding the filing of a notice on Form 144 with respect to such sale.

Affiliate resales under Rule 144 are also subject to the availability of current public information about us. In addition, if the number of shares being sold under Rule 144 by an affiliate during any three-month period exceeds 5,000 shares or has an aggregate sale price in excess of $50,000, the seller must file a notice on Form 144 with the SEC and Nasdaq concurrently with either the placing of a sale order with the broker or the execution directly with a market maker.

Non-Affiliate Resales of Restricted Securities

In general, beginning 90 days after the effective date of the registration statement of which this prospectus is a part, a person who is not an affiliate of ours at the time of sale, and has not been an affiliate at any time during the three months preceding a sale, and who has beneficially owned shares of our common stock for at least six months but less than a year, is entitled to sell such shares subject only to the availability of current public information about us. If such person has held our shares for at least one year, such person can resell under Rule 144(b)(1) without regard to any Rule 144 restrictions, including the 90-day public company requirement and the current public information requirement.

Non-affiliate resales are not subject to the manner of sale, volume limitation or notice filing provisions of Rule 144.

Rule 701

In general, under Rule 701, any of an issuer's employees, directors, officers, consultants or advisors who purchases shares from the issuer in connection with a compensatory stock or option plan or other written agreement before the effective date of a registration statement under the Securities Act is entitled to sell such shares 90 days after such effective date in reliance on Rule 144. An affiliate of the issuer can resell shares in reliance on Rule 144 without having to comply with the holding period requirement, and non-affiliates of the issuer can resell shares in reliance on Rule 144 without having to comply with the current public information and holding period requirements.

The SEC has indicated that Rule 701 will apply to typical stock options granted by an issuer before it becomes subject to the reporting requirements of the Exchange Act, along with the shares acquired upon exercise of such options, including exercises after an issuer becomes subject to the reporting requirements of the Exchange Act.

Equity Plans

We intend to file one or more registration statements on Form S-8 under the Securities Act to register all shares of common stock subject to outstanding stock options and common stock issued or issuable under our stock plans. We expect to file the registration statement covering shares offered pursuant to our stock plans shortly after the date of this prospectus, permitting the resale of such shares by non-affiliates in the public market without restriction under the Securities Act and the sale by affiliates in the public market, subject to compliance with the resale provisions of Rule 144.

Registration Rights

Upon the closing of this offering, the holders of 25,989,390 shares of common stock, which includes all of the shares of common stock issuable upon the automatic conversion of our preferred stock upon the closing of this offering and all of the shares issuable upon exercise of outstanding warrants, or their transferees will be entitled to various rights with respect to the registration of these shares under the Securities Act. Registration of these shares under the Securities Act would result in these shares becoming fully tradable without restriction under the Securities Act immediately upon the effectiveness of the registration, except for shares purchased by affiliates. See “Description of Capital Stock—Registration Rights” for additional information. Shares covered by a registration statement will be eligible for sale in the public market upon the expiration or release from the terms of the lock-up agreement.

MATERIAL U.S. FEDERAL INCOME TAX CONSEQUENCES TO NON-U.S. HOLDERS

The following discussion is a summary of the material U.S. federal income tax consequences to non-U.S. holders (as defined below) of the purchase, ownership and disposition of the shares of common stock issued pursuant to this offering, but does not purport to be a complete analysis of all potential tax effects. The effects of other U.S. federal tax laws, such as estate and gift tax laws, and any applicable state, local or foreign tax laws are not discussed. This discussion is based on the Internal Revenue Code of 1986, as amended, or the Code, Treasury Regulations promulgated thereunder, judicial decisions, and published rulings and administrative pronouncements of the U.S. Internal Revenue Service, or IRS, in effect as of the date of this offering. These authorities may change or be subject to differing interpretations. Any such change or differing interpretation may be applied retroactively in a manner that could adversely affect a non-U.S. holder of our common stock. We have not sought and will not seek any rulings from the IRS regarding the matters discussed below. There can be no assurance the IRS or a court will not take a contrary position regarding the tax consequences of the purchase, ownership and disposition of our common stock.

This discussion is limited to non-U.S. holders that hold our common stock as a "capital asset" within the meaning of Section 1221 of the Code (property held for investment). This discussion does not address all U.S. federal income tax consequences relevant to a non-U.S. holder's particular circumstances, including the impact of the alternative minimum tax, the rules regarding "qualified small business stock" within the meaning of Section 1202 of the Code, or the unearned income Medicare contribution tax. In addition, it does not address consequences relevant to holders subject to particular rules, including, without limitation:

- U.S. expatriates and certain former citizens or long-term residents of the United States;
- persons holding our common stock as part of a hedge, straddle or other risk reduction strategy or as part of a conversion transaction or other integrated investment;
- banks, insurance companies, and other financial institutions;
- brokers, dealers or traders in securities or currencies;
- controlled foreign corporations," "passive foreign investment companies," and corporations that accumulate earnings to avoid U.S. federal income tax;
- partnerships or other entities or arrangements treated as partnerships for U.S. federal income tax purposes (and investors therein);
- tax-exempt organizations or governmental organizations;
- persons deemed to sell our common stock under the constructive sale provisions of the Code;
- persons subject to special tax accounting rules as a result of any item of gross income with respect to the stock being taken into account in an applicable financial statement;
- persons who hold or receive our common stock pursuant to the exercise of any employee stock option or otherwise as compensation; and
- tax-qualified retirement plans.

If a partnership (or other entity treated as a partnership for U.S. federal income tax purposes) holds our common stock, the tax treatment of a partner in the partnership will depend on the status of the partner, the activities of the partnership and certain determinations made at the partner level. Accordingly, partnerships holding our common stock and the partners in such partnerships should consult their tax advisors regarding the U.S. federal income tax consequences to them.

THIS DISCUSSION IS FOR INFORMATION PURPOSES ONLY AND IS NOT INTENDED AS LEGAL OR TAX ADVICE. INVESTORS SHOULD CONSULT THEIR TAX ADVISORS WITH

RESPECT TO THE APPLICATION OF THE U.S. FEDERAL INCOME TAX LAWS TO THEIR PARTICULAR SITUATIONS AS WELL AS ANY TAX CONSEQUENCES OF THE PURCHASE, OWNERSHIP AND DISPOSITION OF OUR COMMON STOCK ARISING UNDER THE U.S. FEDERAL ESTATE OR GIFT TAX LAWS OR UNDER THE LAWS OF ANY STATE, LOCAL OR NON-U.S. TAXING JURISDICTION OR UNDER ANY APPLICABLE INCOME TAX TREATY.

Definition of a Non-U.S. Holder

For purposes of this discussion, a "non-U.S. holder" is any beneficial owner of our common stock that is not a "U.S. person," a partnership or an entity disregarded as separate from its owner, each for United States federal income tax purposes. A U.S. person is any person that, for U.S. federal income tax purposes, is:

- an individual who is a citizen or resident of the United States;
- a corporation (or other entity treated as a corporation for U.S. federal income tax purposes) created or organized under the laws of the United States, any state thereof, or the District of Columbia;
- an estate, the income of which is subject to U.S. federal income tax regardless of its source; or
- a trust that (1) is subject to the primary supervision of a U.S. court and the control of one or more United States persons (within the meaning of Section 7701(a)(30) of the Code), or (2) has made a valid election under applicable Treasury Regulations to continue to be treated as a United States person.

Distributions

As described in the section entitled "Dividend Policy," we do not anticipate declaring or paying dividends to holders of our common stock in the foreseeable future. However, if we do make distributions on our common stock, such distributions of cash or property on our common stock will constitute dividends for U.S. federal income tax purposes to the extent paid from our current or accumulated earnings and profits, as determined under U.S. federal income tax principles. Amounts not treated as dividends for U.S. federal income tax purposes will constitute a return of capital and first be applied against and reduce a non-U.S. holder's adjusted tax basis in its common stock, but not below zero. Any excess will be treated as capital gain and will be treated as described below in the section relating to the sale or disposition of our common stock. Because we may not know the extent to which a distribution is a dividend for U.S. federal income tax purposes at the time it is made, for purposes of the withholding rules discussed below we or the applicable withholding agent may treat the entire distribution as a dividend.

Subject to the discussion below on backup withholding and foreign accounts, dividends paid to a non-U.S. holder of our common stock that are not effectively connected with the non-U.S. holder's conduct of a trade or business within the United States will be subject to U.S. federal withholding tax at a rate of 30% of the gross amount of the dividends (or such lower rate specified by an applicable income tax treaty).

Non-U.S. holders will be entitled to a reduction in or an exemption from withholding on dividends as a result of either (a) an applicable income tax treaty or (b) the non-U.S. holder holding our common stock in connection with the conduct of a trade or business within the United States and dividends being effectively connected with that trade or business. To claim such a reduction in or exemption from withholding, the non-U.S. holder must provide the applicable withholding agent with a properly executed (a) IRS Form W-8BEN or W-8BEN-E (or other applicable documentation) claiming an exemption from or reduction of the withholding tax under the benefit of an income tax treaty between the United States and the country in which the non-U.S. holder resides or is established, or (b) IRS Form W-8ECI stating that the dividends are not subject to withholding tax because they are effectively connected with the conduct by the non-U.S. holder of a trade or business within the United States, as may be applicable. These certifications must be provided to the applicable withholding agent prior to the payment of dividends and must be updated periodically. Non-U.S. holders that do not timely provide the applicable withholding agent with the required certification, but that qualify for a reduced rate under an applicable income tax treaty, may obtain a refund of any excess amounts withheld by timely filing an appropriate claim for refund with the IRS.

If dividends paid to a non-U.S. holder are effectively connected with the non-U.S. holder's conduct of a trade or business within the United States (and, if required by an applicable income tax treaty, the non-U.S. holder maintains a permanent establishment in the United States to which such dividends are attributable), then, although exempt from U.S. federal withholding tax (provided the non-U.S. holder provides appropriate certification, as described above), the non-U.S. holder will be subject to U.S. federal income tax on such dividends on a net income basis at the regular graduated U.S. federal income tax rates. In addition, a non-U.S. holder that is a corporation may be subject to a branch profits tax at a rate of 30% (or such lower rate specified by an applicable income tax treaty) on its effectively connected earnings and profits for the taxable year that are attributable to such dividends, as adjusted for certain items. Non-U.S. holders should consult their tax advisors regarding their entitlement to benefits under any applicable income tax treaty.

Sale or Other Disposition of Common Stock

Subject to the discussions below on backup withholding and foreign accounts, a non-U.S. holder will not be subject to U.S. federal income tax on any gain realized upon the sale or other disposition of our common stock unless:

- the gain is effectively connected with the non-U.S. holder's conduct of a trade or business within the United States (and, if required by an applicable income tax treaty, the non-U.S. holder maintains a permanent establishment in the United States to which such gain is attributable);
- the non-U.S. holder is a nonresident alien individual present in the United States for 183 days or more during the taxable year of the disposition and certain other requirements are met; or
- our common stock constitutes U.S. real property interests, or USRPIs, by reason of our status as a U.S. real property holding corporation, or USRPHC, for U.S. federal income tax purposes.

Gain described in the first bullet point above will generally be subject to U.S. federal income tax on a net income basis at the regular graduated U.S. federal income tax rates. A non-U.S. holder that is a foreign corporation also may be subject to a branch profits tax at a rate of 30% (or such lower rate specified by an applicable income tax treaty) on such effectively connected gain, as adjusted for certain items.

A non-U.S. holder described in the second bullet point above will be subject to U.S. federal income tax at a rate of 30% (or such lower rate specified by an applicable income tax treaty) on any gain derived from the disposition, which may be offset by certain U.S. source capital losses of the non-U.S. holder (even though the individual is not considered a resident of the United States) provided the non-U.S. holder has timely filed U.S. federal income tax returns with respect to such losses.

With respect to the third bullet point above, we believe we are not currently and do not anticipate becoming a USRPHC. Because the determination of whether we are a USRPHC depends on the fair market value of our USRPIs relative to the fair market value of our other business assets and our non-U.S. real property interests, however, there can be no assurance we are not a USRPHC or will not become one in the future. Even if we are or were to become a USRPHC, gain arising from the sale or other taxable disposition by a non-U.S. holder of our common stock will not be subject to U.S. federal income tax if our common stock is "regularly traded," as defined by applicable Treasury Regulations, on an established securities market, and such non-U.S. holder owned, actually and constructively, 5% or less of our common stock throughout the shorter of the five-year period ending on the date of the sale or other taxable disposition or the non-U.S. holder's holding period. If we are a USRPHC and either our common stock is not regularly traded on an established securities market or a non-U.S. holder holds more than 5% of our outstanding common stock, directly or indirectly, during the applicable testing period, such non-U.S. holder's gain on the disposition of shares of our common stock generally will be taxed in the same manner as gain that is effectively connected with the conduct of a U.S. trade or business, except that the branch profits tax generally will not apply. If we are a USRPHC and our common stock is not regularly traded on an established securities market, a non-U.S. holder's proceeds received on the

disposition of shares will also generally be subject to withholding at a rate of 15%. Prospective investors are encouraged to consult their tax advisors regarding the possible consequences to them if we are, or were to become, a USRPHC.

Non-U.S. holders should consult their tax advisors regarding potentially applicable income tax treaties that may provide for different rules.

Information Reporting and Backup Withholding

Subject to the discussion below on foreign accounts, a non-U.S. holder will not be subject to backup withholding with respect to distributions on our common stock we make to the non-U.S. holder, provided the applicable withholding agent does not have actual knowledge or reason to know such holder is a United States person and the holder certifies its non-U.S. status, such as by providing a valid IRS Form W-8BEN, W-8BEN-E or W-8ECI, or other applicable certification. However, information returns generally will be filed with the IRS in connection with any distributions (including deemed distributions) made on our common stock to the non-U.S. holder, regardless of whether any tax was actually withheld. Copies of these information returns may also be made available under the provisions of a specific treaty or agreement to the tax authorities of the country in which the non-U.S. holder resides or is established.

Information reporting and backup withholding may apply to the proceeds of a sale or other taxable disposition of our common stock within the United States, and information reporting may (although backup withholding generally will not) apply to the proceeds of a sale or other taxable disposition of our common stock outside the United States conducted through certain U.S.-related financial intermediaries, in each case, unless the beneficial owner certifies under penalty of perjury that it is a non-U.S. holder on IRS Form W-8BEN or W-8BEN-E, or other applicable form (and the payor does not have actual knowledge or reason to know that the beneficial owner is a U.S. person) or such owner otherwise establishes an exemption. Proceeds of a disposition of our common stock conducted through a non-U.S. office of a non-U.S. broker generally will not be subject to backup withholding or information reporting.

Backup withholding is not an additional tax. Any amounts withheld under the backup withholding rules may be allowed as a refund or a credit against a non-U.S. holder's U.S. federal income tax liability, provided the required information is timely furnished to the IRS.

Additional Withholding Tax on Payments Made to Foreign Accounts

Withholding taxes may be imposed under the Foreign Account Tax Compliance Act, or FATCA, on certain types of payments made to non-U.S. financial institutions and certain other non-U.S. entities. Specifically, a 30% withholding tax may be imposed on dividends (including deemed dividends) paid on our common stock, or gross proceeds from the sale or other disposition of our common stock paid to a "foreign financial institution" or a "non-financial foreign entity" (each as defined in the Code), unless (1) the foreign financial institution undertakes certain diligence and reporting obligations, (2) the non-financial foreign entity either certifies it does not have any "substantial United States owners" (as defined in the Code) or furnishes identifying information regarding each substantial United States owner, or (3) the foreign financial institution or non-financial foreign entity otherwise qualifies for an exemption from these rules. If the payee is a foreign financial institution and is subject to the diligence and reporting requirements in (1) above, it must enter into an agreement with the U.S. Department of the Treasury requiring, among other things, that it undertake to identify accounts held by certain "specified United States persons" or "United States-owned foreign entities" (each as defined in the Code), annually report certain information about such accounts, and withhold 30% on certain payments to non-compliant foreign financial institutions and certain other account holders. Foreign financial institutions located in jurisdictions that have an intergovernmental agreement with the United States governing FATCA may be subject to different rules.

Under the applicable Treasury Regulations and administrative guidance, withholding under FATCA generally applies to payments of dividends (including deemed dividends) paid on our common stock, and will apply to payments of gross proceeds from the sale or other disposition of common stock on or after January 1, 2019. Because we may not know the extent to which a distribution is a dividend for U.S. federal income tax purposes at the time it is made, for purposes of these withholding rules we or the applicable withholding agent may treat the entire distribution as a dividend. Prospective investors should consult their tax advisors regarding the potential application of these withholding provisions.

UNDERWRITING

Under the terms and subject to the conditions in an underwriting agreement dated the date of this prospectus, the underwriters named below, for whom Morgan Stanley & Co. LLC and Cowen and Company, LLC are acting as representatives, have severally agreed to purchase, and we have agreed to sell to them, severally, the number of shares indicated below:

Name	Number of Shares
Morgan Stanley & Co. LLC	2,390,625
Cowen and Company, LLC	1,593,750
BMO Capital Markets Corp.	903,125
JMP Securities LLC	425,000
Total:	5,312,500

The underwriters and the representatives are collectively referred to as the "underwriters" and the "representatives," respectively. The underwriters are offering the shares of common stock subject to their acceptance of the shares from us and subject to prior sale. The underwriting agreement provides that the obligations of the several underwriters to pay for and accept delivery of the shares of common stock offered by this prospectus are subject to the approval of certain legal matters by their counsel and to certain other conditions. The underwriters are obligated to take and pay for all of the shares of common stock offered by this prospectus if any such shares are taken. However, the underwriters are not required to take or pay for the shares covered by the underwriters' over-allotment option described below.

The underwriters initially propose to offer part of the shares of common stock directly to the public at the offering price listed on the cover page of this prospectus and part to certain dealers at a price that represents a concession not in excess of $0.67 per share under the public offering price. After the initial offering of the shares of common stock, the offering price and other selling terms may from time to time be varied by the representatives.

We have granted to the underwriters an option, exercisable for 30 days from the date of this prospectus, to purchase up to 796,875 additional shares of common stock at the public offering price listed on the cover page of this prospectus, less underwriting discounts and commissions. The underwriters may exercise this option solely for the purpose of covering over-allotments, if any, made in connection with the offering of the shares of common stock offered by this prospectus. To the extent the option is exercised, each underwriter will become obligated, subject to certain conditions, to purchase about the same percentage of the additional shares of common stock as the number listed next to the underwriter's name in the preceding table bears to the total number of shares of common stock listed next to the names of all underwriters in the preceding table.

The following table shows the per share and total public offering price, underwriting discounts and commissions, and proceeds before expenses to us. These amounts are shown assuming both no exercise and full exercise of the underwriters' option to purchase up to an additional 796,875 shares of common stock.

		Total	
	Per Share	No Exercise	Full Exercise
Public offering price	$16.00	$85,000,000	$97,750,000
Underwriting discounts and commissions to be paid by us	$ 1.12	$ 5,950,000	$ 6,842,500
Proceeds, before expenses, to us	$14.88	$79,050,000	$90,907,500

The estimated offering expenses payable by us, exclusive of the underwriting discounts and commissions, are approximately $3,200,000. We have agreed to reimburse the underwriters for expense relating to clearance of this offering with the Financial Industry Regulatory Authority up to $30,000.

The underwriters have informed us that they do not intend sales to discretionary accounts to exceed 5% of the total number of shares of common stock offered by them.

We have been approved to have our common stock listed on The Nasdaq Global Select Market under the symbol “EVLO.”

We and all directors and officers and the holders of substantially all of our outstanding stock and stock options have agreed that, subject to certain exceptions, without the prior written consent of Morgan Stanley & Co. LLC and Cowen and Company, LLC, on behalf of the underwriters, we and they will not, during the period ending 180 days after the date of this prospectus (the “restricted period”):

- offer, pledge, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase, lend or otherwise transfer or dispose of, directly or indirectly, any shares of common stock or any securities convertible into or exercisable or exchangeable for shares of common stock;
- file any registration statement with the SEC relating to the offering of any shares of common stock or any securities convertible into or exercisable or exchangeable for common stock; or
- enter into any swap or other arrangement that transfers to another, in whole or in part, any of the economic consequences of ownership of the common stock,

whether any such transaction described above is to be settled by delivery of common stock or such other securities, in cash or otherwise. In addition, we and each such person agrees that, without the prior written consent of Morgan Stanley & Co. LLC and Cowen and Company, LLC, on behalf of the underwriters, we or such other person will not, during the restricted period, make any demand for, or exercise any right with respect to, the registration of any shares of common stock or any security convertible into or exercisable or exchangeable for common stock.

Morgan Stanley & Co. LLC and Cowen and Company, LLC, in their sole discretion, may release the common stock and other securities subject to the lock-up agreements described above in whole or in part at any time.

In order to facilitate the offering of the common stock, the underwriters may engage in transactions that stabilize, maintain or otherwise affect the price of the common stock. Specifically, the underwriters may sell more shares than they are obligated to purchase under the underwriting agreement, creating a short position. A short sale is covered if the short position is no greater than the number of shares available for purchase by the underwriters under the over-allotment option. The underwriters can close out a covered short sale by exercising the over-allotment option or purchasing shares in the open market. In determining the source of shares to close out a covered short sale, the underwriters will consider, among other things, the open market price of shares compared to the price available under the over-allotment option. The underwriters may also sell shares in excess of the over-allotment option, creating a naked short position. The underwriters must close out any naked short position by purchasing shares in the open market. A naked short position is more likely to be created if the underwriters are concerned that there may be downward pressure on the price of the common stock in the open market after pricing that could adversely affect investors who purchase in this offering. As an additional means of facilitating this offering, the underwriters may bid for, and purchase, shares of common stock in the open market to stabilize the price of the common stock. These activities may raise or maintain the market price of the common stock above independent market levels or prevent or retard a decline in the market price of the common stock. The underwriters are not required to engage in these activities and may end any of these activities at any time.

We and the underwriters have agreed to indemnify each other against certain liabilities, including liabilities under the Securities Act.

A prospectus in electronic format may be made available on websites maintained by one or more underwriters, or selling group members, if any, participating in this offering. The representatives may agree to allocate a number of shares of common stock to underwriters for sale to their online brokerage account holders. Internet distributions will be allocated by the representatives to underwriters that may make Internet distributions on the same basis as other allocations.

The underwriters and their respective affiliates are full service financial institutions engaged in various activities, which may include securities trading, commercial and investment banking, financial advisory, investment management, investment research, principal investment, hedging, financing and brokerage activities. Certain of the underwriters and their respective affiliates have, from time to time, performed, and may in the future perform, various financial advisory and investment banking services for us, for which they received or will receive customary fees and expenses.

In addition, in the ordinary course of their various business activities, the underwriters and their respective affiliates may make or hold a broad array of investments and actively trade debt and equity securities (or related derivative securities) and financial instruments (including bank loans) for their own account and for the accounts of their customers and may at any time hold long and short positions in such securities and instruments. Such investment and securities activities may involve our securities and instruments. The underwriters and their respective affiliates may also make investment recommendations or publish or express independent research views in respect of such securities or instruments and may at any time hold, or recommend to clients that they acquire, long or short positions in such securities and instruments.

Pricing of the Offering

Prior to this offering, there has been no public market for our common stock. The initial public offering price was determined by negotiations between us and the representatives. Among the factors considered in determining the initial public offering price were our future prospects and those of our industry in general, our sales, earnings and certain other financial and operating information in recent periods, and the price-earnings ratios, price-sales ratios, market prices of securities, and certain financial and operating information of companies engaged in activities similar to ours.

Selling Restrictions

European Economic Area

In relation to each Member State of the European Economic Area which has implemented the Prospectus Directive (each, a "Relevant Member State") an offer to the public of any shares of our common stock may not be made in that Relevant Member State, except that an offer to the public in that Relevant Member State of any shares of our common stock may be made at any time under the following exemptions under the Prospectus Directive, if they have been implemented in that Relevant Member State:

(a) to any legal entity which is a qualified investor as defined in the Prospectus Directive;

(b) to fewer than 150 natural or legal persons (other than qualified investors as defined in the Prospectus Directive), subject to obtaining the prior consent of the representatives for any such offer; or

(c) in any other circumstances falling within Article 3(2) of the Prospectus Directive, provided that no such offer of shares of our common stock shall result in a requirement for the publication by us or any underwriter of a prospectus pursuant to Article 3 of the Prospectus Directive.

For the purposes of this provision, the expression an "offer to the public" in relation to any shares of our common stock in any Relevant Member State means the communication in any form and by any means of sufficient information on the terms of the offer and any shares of our common stock to be offered so as to enable an investor to decide to purchase any shares of our common stock, as the same may be varied in that Member State by any measure implementing the Prospectus Directive in that Member State, the expression "Prospectus Directive" means Directive 2003/71/EC (and amendments thereto, including the 2010 PD Amending Directive, to the extent implemented in the Relevant Member State), and includes any relevant implementing measure in the Relevant Member State, and the expression "2010 PD Amending Directive" means Directive 2010/73/EU.

United Kingdom

In the United Kingdom, this prospectus is only addressed to and directed as qualified investors who are (i) investment professionals falling within Article 19(5) of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005 (the Order); or (ii) high net worth entities and other persons to whom it may lawfully be communicated, falling within Article 49(2)(a) to (d) of the Order (all such persons together being referred to as "relevant persons"). Any investment or investment activity to which this prospectus relates is available only to relevant persons and will only be engaged with relevant persons. Any person who is not a relevant person should not act or relay on this prospectus or any of its contents.

Canada

The common stock may be sold in Canada only to purchasers purchasing, or deemed to be purchasing, as principal that are accredited investors, as defined in National Instrument 45-106 Prospectus Exemptions or subsection 73.3(1) of the Securities Act (Ontario), and are permitted clients, as defined in National Instrument 31-103 Registration Requirements, Exemptions, and Ongoing Registrant Obligations. Any resale of the common stock must be made in accordance with an exemption form, or in a transaction not subject to, the prospectus requirements of applicable securities laws.

Securities legislation in certain provinces or territories of Canada may provide a purchaser with remedies for rescission or damages if this prospectus (including any amendment thereto) contains a misrepresentation, provided that the remedies for rescission or damages are exercised by the purchaser within the time limit prescribed by the securities legislation of the purchaser's province or territory. The purchaser should refer to any applicable provisions of the securities legislation of the purchaser's province or territory of these rights or consult with a legal advisor.

Pursuant to section 3A.3 of National Instrument 33-105 Underwriting Conflicts (NI 33-105), the underwriters are not required to comply with the disclosure requirements of NI 33-105 regarding underwriter conflicts of interest in connection with this offering.

Hong Kong

The common stock may not be offered or sold in Hong Kong by means of any document other than (i) in circumstances which do not constitute an offer to the public within the meaning of the Companies (Winding Up and Miscellaneous Provisions) Ordinance (Cap. 32 of the Laws of Hong Kong), or Companies (Winding Up and Miscellaneous Provisions) Ordinance, or which do not constitute an invitation to the public within the meaning of the Securities and Futures Ordinance (Cap. 571 of the Laws of Hong Kong), or Securities and Futures Ordinance, or (ii) to "professional investors" as defined in the Securities and Futures Ordinance and any rules made thereunder, or (iii) in other circumstances which do not result in the document being a "prospectus" as defined in the Companies (Winding Up and Miscellaneous Provisions) Ordinance, and no advertisement, invitation or document relating to the shares may be issued or may be in the possession of any person for the purpose of issue (in each case whether in Hong Kong or elsewhere), which is directed at, or the contents of which are likely to be accessed or read by, the public in Hong Kong (except if permitted to do so under the securities laws of Hong Kong) other than with respect to shares of common stock which are or are intended to be disposed of only to persons outside Hong Kong or only to "professional investors" in Hong Kong as defined in the Securities and Futures Ordinance and any rules made thereunder.

Singapore

This prospectus has not been registered as a prospectus with the Monetary Authority of Singapore. Accordingly, this prospectus and any other document or material in connection with the offer or sale, or invitation for subscription or purchase, of the common stock may not be circulated or distributed, nor may the

common stock be offered or sold, or be made the subject of an invitation for subscription or purchase, whether directly or indirectly, to persons in Singapore other than (i) to an institutional investor (as defined under Section 4A of the Securities and Futures Act, Chapter 289 of Singapore, or the SFA, under Section 274 of the SFA, (ii) to a relevant person (as defined in Section 275(2) of the SFA) pursuant to Section 275(1) of the SFA, or any person pursuant to Section 275(1A) of the SFA, and in accordance with the conditions specified in Section 275 of the SFA or (iii) otherwise pursuant to, and in accordance with the conditions of, any other applicable provision of the SFA, in each case subject to conditions set forth in the SFA.

Where the shares of common stock are subscribed or purchased under Section 275 of the SFA by a relevant person which is a corporation (which is not an accredited investor (as defined in Section 4A of the SFA)) the sole business of which is to hold investments and the entire share capital of which is owned by one or more individuals, each of whom is an accredited investor, the securities (as defined in Section 239(1) of the SFA) of that corporation shall not be transferable for 6 months after that corporation has acquired the common stock under Section 275 of the SFA except: (1) to an institutional investor under Section 274 of the SFA or to a relevant person (as defined in Section 275(2) of the SFA), (2) where such transfer arises from an offer in that corporation's securities pursuant to Section 275(1A) of the SFA, (3) where no consideration is or will be given for the transfer, (4) where the transfer is by operation of law, (5) as specified in Section 276(7) of the SFA, or (6) as specified in Regulation 32 of the Securities and Futures (Offers of Investments) (Shares and Debentures) Regulations 2005 of Singapore, or Regulation 32.

Where the shares of common stock are subscribed or purchased under Section 275 of the SFA by a relevant person which is a trust (where the trustee is not an accredited investor (as defined in Section 4A of the SFA)) whose sole purpose is to hold investments and each beneficiary of the trust is an accredited investor, the beneficiaries' rights and interest (howsoever described) in that trust shall not be transferable for 6 months after that trust has acquired the common stock under Section 275 of the SFA except: (1) to an institutional investor under Section 274 of the SFA or to a relevant person (as defined in Section 275(2) of the SFA), (2) where such transfer arises from an offer that is made on terms that such rights or interest are acquired at a consideration of not less than $200,000 (or its equivalent in a foreign currency) for each transaction (whether such amount is to be paid for in cash or by exchange of securities or other assets), (3) where no consideration is or will be given for the transfer, (4) where the transfer is by operation of law, (5) as specified in Section 276(7) of the SFA, or (6) as specified in Regulation 32.

Japan

The common stock has not been and will not be registered under the Financial Instruments and Exchange Act of Japan (Act No. 25 of 1948, as amended), or the FIEA. The common stock may not be offered or sold, directly or indirectly, in Japan or to or for the benefit of any resident of Japan (including any person resident in Japan or any corporation or other entity organized under the laws of Japan) or to others for reoffering or resale, directly or indirectly, in Japan or to or for the benefit of any resident of Japan, except pursuant to an exemption from the registration requirements of the FIEA and otherwise in compliance with any relevant laws and regulations of Japan.

Notice to Prospective Investors in Switzerland

The shares may not be publicly offered in Switzerland and will not be listed on the SIX Swiss Exchange, or SIX, or on any other stock exchange or regulated trading facility in Switzerland. This document has been prepared without regard to the disclosure standards for issuance prospectuses under art. 652a or art. 1156 of the Swiss Code of Obligations or the disclosure standards for listing prospectuses under art. 27 ff. of the SIX Listing Rules or the listing rules of any other stock exchange or regulated trading facility in Switzerland. Neither this document nor any other offering or marketing material relating to the shares or the offering may be publicly distributed or otherwise made publicly available in Switzerland.

Neither this document nor any other offering or marketing material relating to the offering, the Company or the shares have been or will be filed with or approved by any Swiss regulatory authority. In particular, this document will not be filed with, and the offer of shares will not be supervised by, the Swiss Financial Market Supervisory Authority FINMA (FINMA), and the offer of shares has not been and will not be authorized under the Swiss Federal Act on Collective Investment Schemes, or CISA. The investor protection afforded to acquirers of interests in collective investment schemes under the CISA does not extend to acquirers of shares.

Notice to Prospective Investors in the Dubai International Financial Centre

This prospectus relates to an Exempt Offer in accordance with the Offered Securities Rules of the Dubai Financial Services Authority, or DFSA. This prospectus is intended for distribution only to persons of a type specified in the Offered Securities Rules of the DFSA. It must not be delivered to, or relied on by, any other person. The DFSA has no responsibility for reviewing or verifying any documents in connection with Exempt Offers. The DFSA has not approved this prospectus nor taken steps to verify the information set forth herein and has no responsibility for the prospectus. The shares to which this prospectus relates may be illiquid and/or subject to restrictions on their resale. Prospective purchasers of the shares offered should conduct their own due diligence on the shares. If you do not understand the contents of this prospectus you should consult an authorized financial advisor.

Notice to Prospective Investors in Australia

No placement document, prospectus, product disclosure statement or other disclosure document has been lodged with the Australian Securities and Investments Commission, in relation to the offering. This prospectus does not constitute a prospectus, product disclosure statement or other disclosure document under the Corporations Act 2001, or Corporations Act, and does not purport to include the information required for a prospectus, product disclosure statement or other disclosure document under the Corporations Act.

Any offer in Australia of the shares may only be made to persons, or Exempt Investors, who are “sophisticated investors” (within the meaning of section 708(8) of the Corporations Act), “professional investors” (within the meaning of section 708(11) of the Corporations Act) or otherwise pursuant to one or more exemptions contained in section 708 of the Corporations Act so that it is lawful to offer the shares without disclosure to investors under Chapter 6D of the Corporations Act.

The shares applied for by Exempt Investors in Australia must not be offered for sale in Australia in the period of 12 months after the date of allotment under the offering, except in circumstances where disclosure to investors under Chapter 6D of the Corporations Act would not be required pursuant to an exemption under section 708 of the Corporations Act or otherwise or where the offer is pursuant to a disclosure document which complies with Chapter 6D of the Corporations Act. Any person acquiring shares must observe such Australian on-sale restrictions.

This prospectus contains general information only and does not take account of the investment objectives, financial situation or particular needs of any particular person. It does not contain any securities recommendations or financial product advice. Before making an investment decision, investors need to consider whether the information in this prospectus is appropriate to their needs, objectives and circumstances, and, if necessary, seek expert advice on those matters.

LEGAL MATTERS

The validity of the shares of common stock offered hereby has been passed upon for us by Latham & Watkins LLP. Certain legal matters will be passed upon for the underwriters by Goodwin Procter LLP.

EXPERTS

The consolidated financial statements of Evelo Biosciences, Inc. at December 31, 2017 and 2016, and for each of the two-years in the period ended December 31, 2017, appearing in this Prospectus and Registration Statement have been audited by Ernst & Young LLP, independent registered public accounting firm, as set forth in their report thereon appearing elsewhere herein, and are included in reliance upon such report given on the authority of such firm as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

We have filed with the SEC a registration statement on Form S-1 under the Securities Act with respect to the shares of common stock offered hereby. This prospectus, which constitutes a part of the registration statement, does not contain all of the information set forth in the registration statement or the exhibits and schedules filed therewith. For further information about us and the common stock offered hereby, we refer you to the registration statement and the exhibits and schedules filed thereto. Statements contained in this prospectus regarding the contents of any contract or any other document that is filed as an exhibit to the registration statement are not necessarily complete, and each such statement is qualified in all respects by reference to the full text of such contract or other document filed as an exhibit to the registration statement. Upon completion of this offering, we will be required to file periodic reports, proxy statements, and other information with the SEC pursuant to the Securities Exchange Act of 1934. You may read and copy this information at the Public Reference Room of the SEC, 100 F Street, N.E., Room 1580, Washington, District of Columbia. 20549. You may obtain information on the operation of the public reference rooms by calling the SEC at 1-800-SEC-0330. The SEC also maintains an Internet website that contains reports, proxy statements and other information about registrants, like us, that file electronically with the SEC. The address of that site is *www.sec.gov*.

EVELO BIOSCIENCES, INC.

INDEX TO CONSOLIDATED FINANCIAL STATEMENTS

Report of Independent Registered Public Accounting Firm

To the Shareholders and the Board of Directors of Evelo Biosciences, Inc.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Evelo Biosciences, Inc. (the Company) as of December 31, 2017 and 2016, the related consolidated statements of operations, convertible preferred stock and stockholders' (deficit) equity, and cash flows for each of the two years in the period ended December 31, 2017, and the related notes (collectively referred to as the "consolidated financial statements"). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company at December 31, 2017 and 2016, and the results of its operations and its cash flows for each of the two years in the period ended December 31, 2017, in conformity with U.S. generally accepted accounting principles.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. As part of our audits we are required to obtain an understanding of internal control over financial reporting but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion.

Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ Ernst & Young LLP

We have served as the Company's auditor since 2017.
Boston, MA
March 5, 2018, except for Note 15a, as to which the date is April 13, 2018, and Note 15b, as to which the date is April 30, 2018.

Evelo Biosciences, Inc.
Consolidated Balance Sheets
(In thousands, except share and per share amounts)

	December 31, 2017	December 31, 2016	Pro Forma December 31, 2017 (Unaudited)
Assets			
Current assets:			
Cash and cash equivalents	$ 38,246	$ 15,536	$ 38,246
Prepaid expenses and other current assets	531	184	531
Total current assets	38,777	15,720	38,777
Property and equipment, net	3,496	2,504	3,496
Other assets	1,515	346	1,515
Total assets	$ 43,788	$ 18,570	$ 43,788
Liabilities, convertible preferred stock, and stockholders' (deficit) equity			
Current liabilities:			
Accounts payable	$ 1,411	$ 637	$ 1,411
Shareholder payable	—	1,000	—
Accrued expenses	2,199	441	2,199
Other current liabilities	229	170	229
Total current liabilities	3,839	2,248	3,839
Noncurrent liabilities:			
Long-term debt	9,966	9,931	9,966
Deferred rent	478	584	478
Other noncurrent liabilities	526	281	102
Total liabilities	14,809	13,044	14,385
Convertible preferred stock:			
Convertible preferred stock, $0.001 par value; 66,311,563 and 38,267,813 shares authorized as of December 31, 2017 and 2016, respectively; 65,833,096 and 38,055,318 shares issued and outstanding as of December 31, 2017 and 2016, respectively; aggregate liquidation preference of $89,975 and $33,899 as of December 31, 2017 and 2016, respectively; no shares issued and outstanding, pro forma (unaudited)	83,702	33,863	—
Stockholder's (deficit) equity:			
Common stock, $0.001 par value, 23,780,338 and 15,690,120 shares authorized at December 31, 2017 and 2016, respectively; 4,138,483 and 4,031,339 shares issued and 3,880,607 and 3,618,543 outstanding at December 31, 2017 and 2016, respectively; 20,278,001 issued and 20,020,125 outstanding, pro forma (unaudited)	4	4	20
Additional paid-in capital	1,684	—	85,794
Accumulated deficit	(56,411)	(28,341)	(56,411)
Total stockholders' (deficit) equity	(54,723)	(28,337)	29,403
Total liabilities, convertible preferred stock and stockholders' (deficit) equity	$ 43,788	$ 18,570	$ 43,788

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

Evelo Biosciences, Inc.
Consolidated Statements of Operations
(In thousands, except share and per share amounts)

	Year Ended December 31,	
	2017	2016
Operating expenses:		
Research and development	$ 19,957	$ 9,134
General and administrative	7,574	3,891
Total operating expenses	27,531	13,025
Loss from operations	(27,531)	(13,025)
Other (expense) income:		
Interest expense, net	(215)	(287)
Other expenses	(301)	(20)
Other income (expense), net	(516)	(307)
Net loss	$ (28,047)	$ (13,332)
Convertible preferred stock dividends	(6,085)	(1,645)
Net loss attributable to common stockholders	$ (34,132)	$ (14,977)
Net loss per share attributable to common stockholders, basic and diluted	$ (9.10)	$ (5.28)
Weighted average number of common shares outstanding, basic and diluted	3,750,790	2,834,733
Pro forma net loss per share attributable to common stockholders, basic and diluted (unaudited)	$ (1.48)	
Weighted-average number of shares used in computing pro forma net loss per share, basic and diluted (unaudited)	18,807,993	

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

Evelo Biosciences, Inc.
Consolidated Statement Convertible Preferred Stock and Stockholders' (Deficit) Equity
(In thousands, except share amounts)

	Convertible Preferred Stock		Common Stock		Additional Paid-in	Accumulated	
	Shares	Amount	Shares	Amount	Capital	Deficit	Total
Balance-December 31, 2015	12,536,945	$ 7,773	1,961,265	$ 2	$ —	$ (4,473)	$ (4,471)
Issuance of Series A-1 and A-3 Preferred Stocks and Common Stock as part of the acquisition of Epiva.	18,851,705	16,950	1,389,939	2	—	(9,409)	(9,407)
Issuance of Series A and A-2 Preferred Stocks for cash, net of issuance costs	6,666,668	7,495	—	—	—	—	—
Vesting of restricted common stock	—	—	216,146	—	67	—	67
Exercise of stock options	—	—	51,193	—	32	—	32
Stock-based compensation expense	—	—	—	—	419	—	419
Accretion of preferred stock to redemption value	—	1,645	—	—	(518)	(1,127)	(1,645)
Net loss	—	—	—	—	—	(13,332)	(13,332)
Balance-December 31, 2016	38,055,318	$ 33,863	3,618,543	$ 4	$ —	$ (28,341)	$(28,337)
Issuance of Series B Preferred Stock for cash, net of issuance costs	27,777,778	49,807	—	—	—	—	—
Vesting of restricted common stock	—	—	154,920	—	57	—	57
Exercise of stock options	—	—	106,654	—	79	—	79
Other issuances of common stock	—	—	490	—	15	—	15
Accretion of preferred stock to redemption value	—	32	—	—	(9)	(23)	(32)
Stock-based compensation expense	—	—	—	—	1,542	—	1,542
Net loss	—	—	—	—	—	(28,047)	(28,047)
Balance- December 31, 2017	65,833,096	$ 83,702	3,880,607	$ 4	$ 1,684	$ (56,411)	$(54,723)
Conversion of preferred stock into common stock (unaudited)	(65,833,096)	(83,702)	16,139,518	16	83,686	—	83,702
Reclassification of warrant to purchase preferred stock to stockholders' (deficit) equity (unaudited)	—	—	—	—	424	—	424
Balance- December 31, 2017 pro forma (unaudited)	—	$ —	20,020,125	$ 20	$ 85,794	$ (56,411)	$ 29,403

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

Evelo Biosciences, Inc.
Consolidated Statements of Cash Flows
(In thousands)

	Year Ended December 31, 2017	2016
Operating activities		
Net loss	$ (28,047)	$ (13,332)
Adjustments to reconcile net loss to net cash used in operating activities:		
Stock-based compensation expense	1,542	419
Depreciation expense	834	495
Change in fair value of warrant liability	301	20
Non-cash interest expense	35	28
Gain on sale of property and equipment	—	(2)
Changes in assets and liabilities excluding effect of assets and liabilities assumed in acquisition of Epiva (Note 4):		
Prepaid expenses and other current assets	(347)	(1)
Accounts payable	774	(43)
Accrued expenses and other current liabilities	1,733	273
Other liabilities including deferred rent	(90)	(171)
Net cash used in operating activities	(23,265)	(12,314)
Investing activities		
Cash acquired in the acquisition of Epiva	—	10,486
Purchases of property and equipment	(1,742)	(1,250)
Proceeds from the sale of property and equipment	—	27
Net cash (used in)/provided by investing activities	(1,742)	9,263
Financing activities		
Net proceeds from the issuance of convertible preferred stock	48,903	7,495
Deferred issuance costs	(15)	—
Proceeds from the issuance of long-term debt	—	11,000
Repayment of long-term debt	—	(4,000)
Proceeds from the exercise of stock options and restricted common stock	79	247
Change in stockholders' payable	—	1,000
Net cash provided by financing activities	48,967	15,742
Net increase in cash, cash equivalents and restricted cash	23,960	12,691
Cash, cash equivalents and restricted cash – beginning of year	15,786	3,095
Cash, cash equivalents and restricted cash – end of year	$ 39,746	$ 15,786
Supplemental disclosure of cash flow information		
Cash paid for interest	$ 437	$ 204
Noncash investing and financing activities		
Accretion of convertible preferred stock to redemption value	$ 32	$ 1,645
Issuance of warrants in connection with long-term debt facility	$ —	$ 76
Property and equipment additions in accounts payable and accrued expenses	$ 84	$ —
Long-term debt assumed in acquisition of Epiva, net of discount	$ —	$ 2,923
Net non-cash assets acquired in acquisition of Epiva	$ —	$ 57

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

Evelo Biosciences, Inc.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
(amounts in thousands, except share and per share amounts)

1. Organization and Basis of Presentation

Evelo Biosciences, Inc. ("the Company") is a biotechnology company which was incorporated in Delaware on May 6, 2014. The Company focuses on the development of monocolonal microbials, which are designed to act on the gut-body network for the treatment of many diseases, beginning with inflammatory diseases and cancer. The Company is headquartered in Cambridge, Massachusetts.

The Company is devoting substantially all of its efforts to research and development and raising capital. The Company has not generated any revenue related to its primary business purpose to date. The Company is subject to a number of risks similar to those of other development stage companies, including dependence on key individuals, the need to develop commercially viable products, competition from other companies, many of whom are larger and better capitalized, and the need to obtain adequate additional financing to fund the development of its products.

The Company has funded its operations from the issuance of convertible notes, convertible preferred stock, common stock and debt financing. At December 31, 2017, the Company had cash and cash equivalents of $38,246 and an accumulated deficit of $56,411. The Company has an additional $5,000 of borrowing capacity available under its current debt facility, which it drew down upon in February 2018. In addition, in February 2018, the Company raised $47,500 in Series C convertible preferred stock. Based on the Company's current operating plan, the Company has sufficient cash and cash equivalents to support operations for at least one year from the issuance date of these consolidated financial statements. Thereafter the Company will need to obtain additional funding. The Company intends to pursue a public offering of its common stock to fund future operations. If the Company is unable to complete a sufficient public offering in a timely manner, it would need to pursue other financing alternatives such as private financing of debt or equity or collaboration agreements. There can be no assurances, however, that the current operating plan will be achieved or that additional funding will be available on terms acceptable to the Company, or at all.

2. Significant Accounting Policies

The accompanying consolidated financial statements have been prepared in accordance with accounting principles generally accepted in the United States of America ("U.S. GAAP"). Any reference in these notes to applicable guidance is meant to refer to the authoritative United States generally accepted accounting principles as found in the Accounting Standard Codification ("ASC") and Accounting Standards Updates ("ASU") of the Financial Accounting Standards Board ("FASB").

Principles of Consolidation

The consolidated financial statements include the accounts of the Company and its wholly owned, controlled subsidiary, Evelo Biosciences Security Corporation. All intercompany transactions and balances of the subsidiary have been eliminated in consolidation.

Unaudited Pro Forma Financial Information

The accompanying unaudited pro forma consolidated balance sheet as of December 31, 2017 has been prepared to give effect to the automatic conversion of all outstanding shares of convertible preferred stock into shares of common stock, based on a conversion ratio currently in effect, which is 1:1, and the reclassification of the warrant liability into additional paid in capital. The shares of common stock issuable and the proceeds expected to be received in the initial public offering are excluded from such pro forma financial information.

In the accompanying consolidated statements of operations, the unaudited pro forma net loss attributable to common stockholders used in the calculation of unaudited basic and diluted pro forma net loss per share attributable to common stockholders does not include the effects of the remeasurement of the warrant to purchase convertible preferred stock because it assumes that the conversion of convertible preferred stock warrants into common stock warrants occurred on the later of the beginning of the reporting period or the issuance date of the convertible preferred stock warrant.

The unaudited pro forma basic and diluted weighted average common shares outstanding used in the calculation of unaudited pro forma basic and diluted net loss per share attributable to common stockholders for the year ended December 31, 2017 give effect to the automatic conversion of all outstanding shares of convertible preferred stock into shares of common stock as if the conversion had occurred on the later of January 1, 2017 or the issuance date of the convertible preferred stock for the year ended December 31, 2017. Excluded from pro forma weighted average common shares outstanding is the automatic conversion of warrants into 134 common shares as the automatic conversion is impacted by the offering price which is not known.

Use of Estimates

The preparation of consolidated financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the amounts reported in the consolidated financial statements and accompanying notes. Actual results could differ from those estimates.

Concentrations of Credit Risk and Off-Balance Sheet Risk

Financial instruments that potentially expose the Company to concentrations of credit risk primarily consist of cash and cash equivalents. The Company places its cash and cash equivalents in a custodian account in accredited financial institutions. Accordingly, such funds are subject to minimal credit risk. Such deposits have and will continue to exceed federally insured limits. The Company has not experienced any losses on its cash deposits.

As of December 31, 2017 and 2016, the Company has no off-balance sheet risk such as foreign exchange contracts, option contracts, or other foreign hedging arrangements.

The Company is subject to a number of risks similar to other early-stage biopharmaceutical companies, including, but not limited to, the need to obtain adequate additional funding, possible failure of current or future preclinical testing or clinical trials, its reliance on third parties to conduct its clinical trials, the need to obtain regulatory and marketing approvals for its product candidates, competitors developing new technological innovations, the need to successfully commercialize and gain market acceptance of the Company's product candidates, its right to develop and commercialize its product candidates pursuant to the terms and conditions of the licenses granted to the Company, protection of proprietary technology, the ability to make milestone, royalty or other payments due under any license or collaboration agreements, and the need to secure and maintain adequate manufacturing arrangements with third parties. If the Company does not successfully commercialize or partner any of its product candidates, it will be unable to generate product revenue or achieve profitability.

Comprehensive Loss

Comprehensive loss includes net loss and certain changes in stockholders' (deficit) equity that are excluded from net loss. For the years ended December 31, 2017 and 2016, comprehensive loss was equal to net loss.

Cash, Cash Equivalents and Restricted Cash

Cash equivalents are comprised of highly liquid investments that are readily convertible into cash with original maturities of three months or less. Cash and cash equivalents include cash held in banks and amounts held in money market funds. Cash equivalents are stated at cost, which approximates market value. The

Company's restricted cash consists of restricted cash in connection with building leases for the Company's office and laboratory premises. Restricted cash as of December 31, 2017 and 2016 was $1,500 and $250, respectively, and is classified within the other assets on the accompanying consolidated balance sheet. The following reconciles cash, cash equivalents and restricted cash as of December 31, 2017 and 2016, as presented on our statements of cash flows to their related balance sheet accounts:

	December 31,	
	2017	2016
Cash and cash equivalents:		
Cash	$13,204	$ 697
Money Market Funds	25,042	14,839
Total cash and cash equivalents	38,246	15,536
Restricted cash	1,500	250
Cash, cash equivalents and restricted cash	$39,746	$15,786

Fair Value of Financial Instruments

ASC 820, Fair Value Measurement ("ASC 820"), establishes a fair value hierarchy for instruments measured at fair value that distinguishes between assumptions based on market data (observable inputs) and the Company's own assumptions (unobservable inputs). Observable inputs are inputs that market participants would use in pricing the asset or liability based on market data obtained from sources independent of the Company. Unobservable inputs are inputs that reflect the Company's assumptions about the inputs that market participants would use in pricing the asset or liability and are developed based on the best information available in the circumstances.

ASC 820 identifies fair value as the exchange price, or exit price, representing the amount that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants. As a basis for considering market participant assumptions in fair value measurements, ASC 820 establishes a three-tier fair value hierarchy that distinguishes between the following:

- Level 1 inputs are quoted prices (unadjusted) in active markets for identical assets or liabilities;
- Level 2 inputs are inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly or indirectly; and
- Level 3 inputs are unobservable inputs that reflect the Company's own assumptions about the assumptions market participants would use in pricing the asset or liability.

To the extent that the valuation is based on models or inputs that are less observable or unobservable in the market, the determination of fair value requires more judgment. Accordingly, the degree of judgment exercised by the Company in determining fair value is greatest for instruments categorized in Level 3. A financial instrument's level within the fair value hierarchy is based on the lowest level of any input that is significant to the fair value measurement.

An entity may choose to measure many financial instruments and certain other items at fair value at specified election dates. Subsequent unrealized gains and losses on items for which the fair value option has been elected will be reported in earnings. The Company did not elect to measure any additional financial instruments or other items at fair value.

Warrants to Purchase Convertible Preferred Stock

The Company accounts for warrant instruments that either conditionally or unconditionally obligate the issuer to transfer assets as liabilities regardless of the timing of the redemption feature or price, even though the underlying shares may be classified as equity. These warrants are subject to revaluation at each balance sheet

date, and any changes in fair value are recorded as a component of other income/(expense), until the earlier of their exercise or expiration or the completion of a liquidation event, at which time the warrant liability may be reclassified to stockholders' equity if the criteria for recording the warrant as an equity instrument are met. Per the terms of the warrants, upon completion of a qualified public offering, any unexercised warrants are converted into warrants to purchase common shares.

Property and Equipment

Property and equipment consists of computer hardware and software, furniture and fixtures, office equipment, research and lab equipment, and leasehold improvement recorded at cost. Lab equipment used in research and development activities is only capitalized when it has an alternative future use. These amounts are depreciated using the straight-line method over the estimated useful lives of the assets. Purchased assets that are not yet in service are recorded to construction-in-process and no depreciation expense is recorded. Once they are placed in service they are reclassified to the appropriate asset class.

A summary of the estimated useful lives is as follows:

Classification	Estimated Useful Life
Computer hardware	3 - 5 Years
Computer software	3 Years
Furniture and fixtures	7 Years
Research and lab equipment (new/used)	5 years / 3 years
Leasehold improvements	Lesser of asset life or remaining life of lease

Repairs and maintenance costs are expensed as incurred.

Impairment of Long-Lived Assets

The Company periodically evaluates property and equipment for impairment whenever events or changes in circumstances indicate that a potential impairment may have occurred. If such events or changes in circumstances arise, the Company compares the carrying amount of the long-lived assets to the estimated future undiscounted cash flows expected to be generated by the long-lived assets. If the estimated aggregate undiscounted cash flows are less than the carrying amount of the long-lived assets, an impairment charge, calculated as the amount by which the carrying amount of the assets exceeds the fair value of the assets, is recorded. The fair value of the long-lived assets is determined based on the estimated discounted cash flows expected to be generated from the long-lived assets. The Company has not recorded any such impairment charges during the years presented.

Deferred Rent

Certain of the Company's operating lease agreements include scheduled rent escalations over the lease term, as well as lease incentives. Rent expense is charged ratably over the life of the lease. Deferred rent consists of the difference between cash payments and the recognition of rent expense on a straight-line basis for the buildings the Company occupies. Lease incentives are recorded as a deferred rent liability and are amortized on a straight-line basis over the term of the lease as a reduction to rent expense.

Research and Development Costs

Research and development costs are expensed in the period incurred. Research and development expenses consist of both internal and external costs such as payroll, consulting, and manufacturing costs associated with the development of the Company's product candidates.

Nonrefundable advance payments for goods or services to be received in the future for use in research and development activities are deferred and capitalized. The capitalized amounts are expensed as the related goods are delivered or the services are performed.

The Company has and may continue to acquire the rights to develop and commercialize new product candidates from third parties. The upfront payments to acquire license, product or rights, as well as any future milestone payments, are immediately recognized as research and development expense provided that there is no alternative future use of the rights in other research and development projects. Any milestone payments made for Intellectual Property after regulatory approval, or that have alternative future use, are capitalized and amortized.

Income Taxes

The Company records deferred tax assets and liabilities for the expected future tax consequences of temporary differences between the Company's financial statement carrying amounts and the tax bases of assets and liabilities and for loss and credit carryforwards using enacted tax rates expected to be in effect in the years in which the differences reverse. A valuation allowance is provided to reduce the net deferred tax assets to the amount that will more likely than not be realized. The Company determines whether it is more likely than not that a tax position will be sustained upon examination. If it is not more likely than not that a position will be sustained, none of the benefit attributable to the position is recognized. The tax benefit to be recognized for any tax position that meets the more-likely-than-not recognition threshold is calculated as the largest amount that is more than 50% likely of being realized upon resolution of the contingency. The Company accounts for interest and penalties related to uncertain tax positions as part of its provision for income taxes.

Stock-Based Compensation

The Company records stock-based compensation for options granted to employees and directors based on the grant date fair value of awards issued. The expense is recorded over the requisite service period, which is the vesting period, on a straight-line basis. The Company uses the Black-Scholes option-pricing model to determine the fair value of stock options. The determination of the fair value of stock options on the date of grant using an option-pricing model is affected by the Company's common stock price, as well as a number of other assumptions. The Company recognizes stock-based compensation, net of estimated forfeitures, over the vesting period of the grant.

The Company accounts for stock-based compensation arrangements with non-employees based upon the fair value of the consideration received or the equity instruments issued, whichever is more reliably measurable. The measurement date for non-employee awards is generally the date performance of services required from the non-employee is complete. Stock-based compensation costs for non-employee awards are recognized as services are provided, which is generally the vesting period, on a straight-line basis. The unvested portion of the stock options is subject to re-measurement over the vesting period.

Segments

The Company has one operating segment. The Company's chief operating decision maker, its Chief Executive Officer, manages the Company's operations on a consolidated basis for the purpose of allocating resources.

Net Loss per Share Attributable to Common Stockholders

Basic net loss per share is calculated by dividing the net loss attributable to common stockholders by the weighted-average number of shares of common stock outstanding during the period, without consideration for common stock equivalents. Net loss applicable to common stockholders is calculated by adjusting the net loss of the Company for cumulative preferred stock dividends. Diluted net loss per share applicable to common stockholders is calculated by adjusting weighted average shares outstanding for the dilutive effect of common stock equivalents outstanding for the period. For purposes of the dilutive net loss per share applicable to common stockholders calculation, convertible preferred stock, warrants, stock options, and unvested restricted stock are considered to be common stock equivalents but are excluded from the calculation of diluted net loss per share applicable to common stockholders, as their effect would be anti-dilutive; therefore, basic and diluted net loss per share applicable to common stockholders were the same for all periods presented.

Unaudited Pro Forma Net Loss per Share

Pro forma basic and diluted net loss per share has been computed to give effect to the conversion of all outstanding convertible preferred stock into shares of common stock. The unaudited pro forma net loss per share does not include the shares expected to be sold and related proceeds to be received from the initial public offering. The unaudited pro forma net loss per share for the twelve months ended December 31, 2017 was computed using the weighted-average number of shares of common stock outstanding, including the pro forma effect of the conversion of all outstanding shares of convertible preferred stock into shares of common stock, as if such conversion had occurred at the beginning of the period, or their issuance dates if later.

Recently Adopted Accounting Pronouncements

In November 2015, the FASB issued ASU 2015-17, *Balance Sheet Classification of Deferred Taxes* ("ASU 2015-17"). The guidance requires that all deferred tax assets and liabilities, along with any related valuation allowance, be classified as noncurrent on the balance sheet. This guidance was effective in the first annual period ending after December 15, 2016, and interim periods thereafter, on December 31, 2016 for public entities. For all entities other than public business entities, the guidance becomes effective for financial statements issued for annual periods beginning after December 15, 2017, and interim periods within annual periods beginning after December 15, 2018. Early adoption is permitted for all entities as of the beginning of an interim or annual reporting period. The Company has adopted ASU 2015-17 as of January 1, 2015. The adoption of ASU 2015-17 had no material impact on the Company's consolidated financial statements and related disclosures.

In November 2016, the FASB issued ASU 2016-18, *Statement of Cash Flows (Topic 230), Restricted Cash* ("ASU 2016-18"). The amendments of ASU 2016-18 were issued to address the diversity in classification and presentation of changes in restricted cash and restricted cash equivalents on the statement of cash flows which is currently not addressed under Topic 230. ASU 2016-18 would require an entity to include amounts generally described as restricted cash and restricted cash equivalents with cash and cash equivalents when reconciling the beginning of period and end of period total amounts on the statement of cash flows. This guidance is effective for annual reporting periods, and interim periods within those years, beginning after December 15, 2017, for public entities and no later than for annual reporting periods beginning after December 15, 2018, for non-public entities. Early adoption is permitted and the standard must be applied retrospectively. The Company adopted this standard as of January 1, 2017 retrospectively for all periods presented.

In January 2017, the FASB issued ASU 2017-01, *Business Combinations (Topic 805): Clarifying the Definition of a Business* ("ASU 2017-01"). This new standard clarifies the definition of a business and provides a screen to determine when an integrated set of assets and activities is not a business. The screen requires that when substantially all of the fair value of the gross assets acquired (or disposed of) is concentrated in a single identifiable asset or a group of similar identifiable assets, the set is not a business. Early adoption is permitted. The Company adopted the requirements of ASU 2017-01 as of January 1, 2016 and applied the screen when evaluating the nature of the assets received in connection with the acquisition of Epiva in 2016. As a result of applying this screen the Company concluded that Epiva was not a business.

Accounting Pronouncements Issued and Not Adopted as of December 31, 2017

In May 2014, the FASB issued ASU No. 2014-09, *Revenue from Contracts with Customers* (Topic 606) ("ASU 2014-09"), and further updated through ASU 2016-12 ("ASU 2016-12"), which amends the existing accounting standards for revenue recognition. ASU 2014-09 is based on principles that govern the recognition of revenue at an amount to which an entity expects to be entitled when products are transferred to customers. This guidance is effective for annual reporting periods, and interim periods within those years, beginning after December 15, 2017, for public entities and no later than for annual reporting periods beginning after December 15, 2018, for non-public entities. The new revenue standard may be applied retrospectively to each prior period presented or retrospectively with the cumulative effect recognized as of the date of adoption. While the Company continues to assess all potential impacts under ASU 2014-09, it does not believe adopting the new revenue recognition standard will have a material impact on its consolidated financial statements as the Company is not yet generating revenues.

In February 2016, the FASB issued ASU 2016-02, *Leases (Topic 842)* ("ASU 2016-02"), which supersedes the guidance in former ASC 840, *Leases*. The new standard requires lessees to apply a dual approach, classifying leases as either finance or operating leases based on the principle of whether or not the lease is effectively a financed purchase by the lessee. This classification will determine whether lease expense is recognized based on an effective interest method or on a straight-line basis over the term of the lease. A lessee is also required to record a right-of-use asset and a lease liability for all leases with a term of greater than 12 months regardless of their classification. Leases with a term of 12 months or less will be accounted for similar to existing guidance for operating leases today. This guidance is effective for annual reporting periods, and interim periods within those years, beginning after December 15, 2018, for public entities and no later than for annual reporting periods beginning after December 15, 2019, and interim periods within fiscal years beginning after December 15, 2020 for non-public entities. Early adoption is permitted for all entities. ASU 2016-02 is expected to impact the Company's consolidated financial statements as the Company has certain operating lease arrangements for which the Company is the lessee. Management is currently evaluating the impact the adoption of ASU 2016-02 will have on its consolidated financial statements and related disclosures.

In March 2016, the FASB issued ASU 2016-09, *Improvements to Employee Share-based Payment Accounting* ("ASU 2016-09"). ASU 2016-09 simplifies several aspects of the accounting for share-based payment transactions, including the income tax consequences, classification of awards as either equity or liabilities, and classification on the statement of cash flows. Some of the areas of simplification apply only to non-public companies. This guidance was effective on December 31, 2016 for public entities. For entities other than public business entities, the amendments are effective for annual periods beginning after December 15, 2017, and interim periods within annual periods beginning after December 15, 2018. Early adoption is permitted for an entity in any interim or annual period for which financial statements have not been issued or made available for issuance. An entity that elects early adoption must adopt all amendments in the same period. The Company has not early adopted ASU 2016-09. The Company is currently evaluating the impact the adoption of ASU 2016-09 will have on its consolidated financial statements and related disclosures.

In May 2017, the FASB issued ASU 2017-09, *Compensation - Stock Compensation (Topic 718): Scope of Modification Accounting* ("ASU 2017-09"), which clarifies when to account for a change to the terms or conditions of a share-based payment award as a modification. Under the new guidance, modification accounting is required only if the fair value, the vesting conditions, or the classification of the award (as equity or liability) changes as a result of the change in terms or conditions. This guidance is effective for annual reporting periods, and interim periods within those years, beginning after December 15, 2017, for both public entities and non-public entities. Early adoption is permitted. The Company is currently evaluating the impact of adopting this standard on the consolidated financial statements and related disclosures, but does not expect it to have a significant impact.

3. Fair Value Measurements

The following tables present information about the Company's financial assets and liabilities that have been measured at fair value as of December 31, 2017 and 2016:

Description	December 31, 2017	Active Markets (Level 1)	Observable Inputs (Level 2)	Unobservable Inputs (Level 3)
Assets:				
Money market funds	$ 25,042	$25,042	$ —	$ —
Total	$ 25,042	$25,042	$ —	$ —
Liabilities:				
Preferred Stock Warrant Liability	$ 424	$ —	$ —	$ 424
Total	$ 424	$ —	$ —	$ 424

Description	December 31, 2016	Active Markets (Level 1)	Observable Inputs (Level 2)	Unobservable Inputs (Level 3)
Assets:				
Money market funds	$ 14,839	$14,839	$ —	$ —
Total	$ 14,839	$14,839	$ —	$ —
Liabilities:				
Preferred Stock Warrant Liability	$ 123	$ —	$ —	$ 123
Total	$ 123	$ —	$ —	$ 123

The Preferred Stock Warrant Liabilities (the Warrants) relate to warrants to purchase convertible preferred stock issued by the Company in connection with entering into a debt facility transactions during 2015 and 2016 as well as assuming warrants to purchase convertible preferred stock in connection with the acquisition of Epiva. These Warrants are considered a Level 3 liability since their fair value measurements are based, in part, on significant inputs not observed in the market and reflect the Company's assumptions as to the fair value of the underlying convertible preferred stock and the expected volatility of the Company's convertible preferred stock, as well as estimates regarding the number of shares that the Warrants will be exercisable for.

The estimated fair value of the Warrants was determined using the Black-Scholes option-pricing model. A significant input to the fair value of the Warrants is the fair value of the Series A Preferred Stock, Series A-1 Preferred Stock and Series A-3 Preferred Stock. The fair value of the Warrants is remeasured at each reporting date using then-current assumptions with changes in fair value charged to other expense on the statements of operations. As of December 31, 2017 and 2016, the Warrants were valued at $424, and $123, respectively and included in other non-current liabilities on the consolidated balance sheet. The assumptions used represent the Company's best estimates at the time of valuation. Changes in these estimates could result in material changes to the carrying value of the Warrants. The following assumptions were used in valuing the material Warrants:

	December 31, 2017	2016
Risk-free interest rate	2.3 - 2.4%	2.4 - 2.5%
Expected dividend yield	0.0%	0.0%
Expected term (in years)	7.9 - 8.6	8.9 - 9.6
Expected volatility	81 - 82%	79%
Fair value of preferred stock	$2.41 - 2.56	$0.60 - 1.20

The following table provides a roll-forward of the fair value of the warrant liability measured at fair value on a recurring basis using Level 3 significant unobservable inputs (in thousands):

	Warrant Liability
Balance at December 31, 2015	$ 46
Issuance and assumption of warrant to purchase convertible preferred stock	57
Change in fair value of warrant liability	20
Balance at December 31, 2016	$ 123
Change in fair value of warrant liability	301
Balance at December 31, 2017	$ 424

The estimated fair value of long-term debt approximates its carrying value as the effective interest rate approximates market rates. The fair value of long-term debt, which may differ from its carrying value, is determined by market interest rates from debt arrangements which are observed in market trading which are similar to the Company's arrangement and are considered a Level 2 input.

4. Acquisition with Epiva Biosciences, Inc. (Epiva)

On June 16, 2016, the Company acquired Epiva, a privately held research company, focused on microbes for inflammatory diseases in order to create synergies and expand the depth of the Company's research platform. Epiva held intellectual property rights related to microbes affecting the inflammatory diseases. The acquisition resulted in the exchange of all shares of Epiva stock for shares of the Company's stock at an exchange rate of 1-for-0.8333 for Epiva Series A and A-2 preferred stock and 1-for-0.2043 for Epiva common stock. The holders of Epiva common stock and common stock options received shares of the Company's common stock or options. The holders of Epiva Series A and A-2 Preferred Stock received shares of the Company's Series A-1 and A-3 Preferred Stock, respectively.

Both the Company and Epiva received funding from various investment funds that are managed by the same entity. The Company assessed the ownership structure of the two companies as well as the investment funds and determined, based on the ownership structure and other rights provided through other relevant arrangements, such as voting rights agreements, limited partnership agreements and general partnership agreements, that the ultimate controlling parent of each of the Company and Epiva was the same entity both immediately before and immediately after the acquisition. As a result, the Company and Epiva were considered to be under common control and the transaction was considered to be a related party transaction.

The net assets received by the Company as a result of the acquisition were determined to represent an asset and not a business. This conclusion was primarily based on the fact that substantially all of the fair value of the gross assets received, excluding cash acquired, related to Epiva's intellectual property rights. This conclusion considered the nature of Epiva's operations immediately prior to the acquisition as well as Epiva's limited operating history.

As the acquisition was considered to represent an asset acquisition under common control, the assets and liabilities received were initially recorded by the Company at Epiva's carrying value on the date of acquisition. The operations associated with the assets received from Epiva are presented within the statements of operations on a prospective basis from the date of the acquisition.

Assets and liabilities received from Epiva as of June 16, 2016 (at the historical carrying value of Epiva) are as follows:

Assets:	
Cash and cash equivalents	$10,411
Prepaid expenses and other current assets	156
Property and equipment, net	406
Other assets	71
Total assets	$11,044
Liabilities:	
Accounts payable	$ 438
Accrued expenses	74
Long-term debt, net of debt discount	2,923
Other noncurrent liabilities	64
Total liabilities	$ 3,499

5. Property and Equipment, Net

Property and equipment consists of the following:

	December 31, 2017	2016
Property and equipment:		
Lab equipment	$ 3,189	$1,562
Leasehold improvements	1,334	1,306
Furniture and fixtures	217	127
Computers and software	77	68
Office equipment	9	9
Construction-in-process	99	27
Property and equipment	4,925	3,099
Less: accumulated depreciation	(1,429)	(595)
Property and equipment, net	$ 3,496	$2,504

The Company recognized $834 and $495 of depreciation expense for the years ended December 31, 2017 and 2016.

6. Accrued Expenses

Accrued expenses consists of the following:

	December 31, 2017	2016
Accrued external research and development expenses	$ 715	$164
Accrued payroll and related expenses	256	130
Accrued professional fees	1,081	132
Accrued other	147	15
Total accrued expenses	$2,199	$441

7. Loan and Security Agreement

In November 2015, the Company entered into a loan and security agreement with a financial institution. The arrangement allowed the Company to borrow up to $4,000 and, if certain criteria were met, to borrow up to an additional $1,500. The Company drew $4,000 under the facility in the first half of 2016 and repaid these amounts in 2016. In connection with this arrangement, the Company issued a warrant that was originally exercisable into 100,000 shares of Series A Preferred Stock. The warrant was initially recorded at fair value and subsequently marked-to-market through the statements of operations. The issuance costs were expensed in 2016 upon the repayment of the loan.

In connection with the acquisition of Epiva, the Company assumed Epiva's credit facility (the Credit Facility) and the related $3,000 of outstanding debt. Subsequent to the acquisition, the Company amended the Credit Facility to allow the Company to borrow up to $15,000, including the $3,000 that was outstanding on the modification date and extending the maturity to August 15, 2020. During 2016, the Company borrowed an additional $7,000, bringing the total amounts outstanding as of December 31, 2016 and 2017 to $10,000. Under the terms of the Credit Facility the Company is required to make interest only payments through August 15, 2018. Upon the expiration of the interest only period, amounts borrowed will be repaid over 24 equal monthly payments of principal plus interest accrued through August 15, 2020. The amounts outstanding under the facility have an interest rate of the higher of (i) prime plus 0.25% or (ii) 3.75% per annum. The loan is secured by a lien on all Company assets, excluding intellectual property.

The Company has the following minimum aggregate future loan payments at December 31, 2017 as adjusted for the impact of the additional draw in February 2018 as discussed below:

2018	$ 475
2019	2,337
2020	5,271
2021	3,165
Total minimum payments	$ 11,248
Less amounts representing interest and discount	(1,282)
Less current portion	—
Long-term debt, net of current portion	$ 9,966

The Credit Facility contains negative covenants restricting the Company's activities, including limitations on cash deposits, dispositions, mergers or acquisitions, incurring indebtedness or liens, paying dividends or making investments and certain other business transactions. There are no financial covenants associated with the agreement. The obligations under the agreement are subject to acceleration upon the occurrence of specified events of default, including a material adverse change in the Company's business, operations or financial or other condition. The Company has determined that the risk of subjective acceleration under the material adverse events clause is remote and therefore has classified the outstanding principal in non-current liabilities based on scheduled principal payments.

Interest expense for the year ending December 31, 2017 and 2016 was $474 and $316, respectively.

In February 2018, the Company drew the additional $5,000 available under the Credit Facility. This resulted in an increase to the interest rate to the higher of (i) prime plus 0.25% or (ii) 4.50% per annum. The interest only payment period was extended through to August 15, 2019. Upon the expiration of the interest only period, amounts borrowed will be repaid over 24 equal monthly payments of principal plus interest accrued through August 15, 2021. As such, the entire debt obligation has been classified as long-term on the Company's consolidated balance sheet. The Company may prepay the outstanding loan at its option with a prepayment fee of 2% of principal amount if prepayment is made before August 15, 2018 or 0.5% if the prepayment is made between August 15, 2018 and August 15, 2019.

In conjunction with the February 2018 drawdown, the Company issued a warrant to purchase up to 8,512 shares of the Company's Series B preferred stock at an exercise price of $7.35 per share.

As part of this loan and security agreement, in the event of a liquidation event, including initial public offering, the Company will be required to pay a success fee of $250.

8. License Agreements

Mayo Foundation for Medical Education and Research

On June 10, 2016, the Company entered into a Research and License Agreement, (the "2016 Mayo License Agreement") with Mayo Foundation for Medical Education and Research ("Mayo"). Under the 2016 Mayo License Agreement, Mayo was entitled to certain participation rights in connection with the issuance and sale of Series B Preferred Stock. The 2016 Mayo License Agreement allowed Mayo to purchase shares at the same price paid as other investors and is considered to be a fair value contract. In 2017, Mayo purchased 1,666,667 shares of Series B Preferred Stock at $1.80 per share. Also pursuant to the 2016 Mayo License Agreement, Mayo received 490 shares of common stock upon the completion of certain project milestones as well as warrants to purchase common stock (the "Mayo Warrants") exercisable for 18 shares and 116 shares of common stock upon the completion of certain additional project milestones. The Mayo Warrants were fully vested and expensed in 2016.

On August 6, 2017, the Company and Mayo entered into a license agreement ("2017 Mayo License Agreement"). Under the 2017 Mayo License Agreement, Mayo granted the Company (i) an exclusive,

worldwide, sublicensable license under Mayo's rights to certain intellectual property and microbial strains (ii) a non-exclusive, worldwide, sublicensable license to certain related know-how, in each case, to develop and commercialize certain microbial strains and licensed products incorporating any such strains. As consideration, the Company paid a nonrefundable upfront fee of $225 and annual license maintenance fees. Nonrefundable upfront fees were expensed in full to research and development expense in 2016. Annual maintenance fees will be expensed as incurred over the term of the agreement. The Company may owe Mayo milestone payments upon the achievement of certain development, regulatory, and commercial milestones, up to a maximum of $55,960 in the aggregate, as well as royalties on net sales of licensed products low single-digit percentages. No amounts are currently due under this agreement.

University of Chicago

On March 10, 2016, the Company and the University of Chicago entered into a patent license agreement ("2016 University of Chicago Agreement"). Under the 2016 University of Chicago Agreement, the University of Chicago granted the Company (i) an exclusive, royalty-bearing and sublicensable license under the Licensed Patents and (ii) a non-exclusive, royalty-bearing, sublicensable license to access the technical information to diligently develop and commercialize Licensed Products. As consideration, the Company paid a nonrefundable upfront fee of less than $500 and annual license maintenance fees. Nonrefundable upfront fees were expended in full to research and development expense in 2016. Annual maintenance fees will be expensed as incurred over the term of the agreement. The Company may owe the University of Chicago milestone payments upon the achievement of certain development, regulatory, and commercial milestones, as well as royalties on net sales of licensed products ranging from low to high single-digit percentages. In addition, the Company also agreed to pay the University of Chicago a share of sublicense revenue. No amounts are currently due under this agreement.

9. Commitments and Contingencies

Lease Obligations

The Company leases office and laboratory space under two separate operating leases that expire in 2020 and 2021, respectively. The leases require a security deposit, which the Company has met with a letter of credit from a financial institution that is secured with cash on deposit. The agreement provided for lease incentives in the form of a tenant improvement allowances of $778 which is being amortized through February 2021, over the term of the leases. In December 2017, the Company extended one of the lease for additional two years to May 2020.

The Company recorded $983 and $493 of rent expense for the years ended December 31, 2017 and 2016, respectively.

The minimum aggregate future lease commitments at December 31, 2017, are as follows.

2018	$ 997
2019	1,057
2020	798
2021	100
	$2,952

In January 2018, the Company entered into an operating sublease arrangement to lease approximately 40,765 square feet for its office and research development space at 620 Memorial Drive, Cambridge, MA 02139 from February 2018 to September 2025, with annual rent payments ranging from approximately $2,700 to $3,200 over the term.

In January 2018, the Company also modified its existing operating lease to include a termination clause that will terminate one of the leases on June 30, 2018.

Compensation Commitment

The Company entered into a compensation arrangement with a consultant during May 2017 which provided for a future cash and a variable share payment in exchange for services. The services were completed in August 2017; however, the arrangement was not settled until after December 31, 2017. Subsequent to December 31, 2017, the Company settled the arrangement by making a cash payment and issuing 250,000 shares of Series B Preferred Stock. Accordingly, the Company recorded the liability related to this agreement at the fair value of the underlying shares at December 31, 2017, recognizing $683 in expense.

10. Stockholders' (Deficit) Equity and Convertible Preferred Stock

As of December 31, 2017, the Company's issued and outstanding capital stock of the Company consisted of the following:

Common Stock

The Company has reserved the following shares of common stock as of December 31, 2017:

	December 31, 2017
Series A Preferred Stock	3,277,830
Series A Preferred Stock warrants	24,513
Series A-1 Preferred Stock	2,476,599
Series A-1 Preferred Stock warrants	15,321
Series A-2 Preferred Stock	1,430,088
Series A-3 Preferred Stock	2,145,046
Series A-3 Preferred Stock Warrants	7,660
Series B Preferred Stock	6,879,740
Mayo Clinic Warrants	134
Common stock options	3,437,412
Shares reserved under compensation plan	107,262
Total shares reserved	19,801,605

Convertible Preferred Stock

In 2016 the Company issued 833,334 shares of Series A Preferred Stock at a purchase price of $0.60 per share for proceeds of $500 and 5,833,334 shares of Series A-2 Preferred Stock at a purchase price of $1.20 per share for proceeds of $7,000.

The obligation for the investors to purchase shares of Series A-2 Preferred Stock upon the occurrence of certain events was considered a freestanding instrument and was therefore, required to be accounted for at fair value. However, because the purchase price of the Series A-2 Preferred Stock, approximated the fair value of the shares on the date of the purchase, the value attributed to the feature was determined to be immaterial.

In June 2016, in connection with the acquisition of Epiva, the Company issued 10,102,055 shares of Series A-1 Preferred Stock and 8,749,650 shares of Series A-3 Preferred Stock. The Series A-1 and A-3 preferred stock were issued in exchange for the outstanding shares of Epiva Series A and A-1 preferred stock, respectively, at an exchange rate of 1-for-0.8333. The Series A-1 and A-3 Preferred stock contained rights and preferences that were consistent with the rights and preferences of the historic Epiva preferred stock.

The Company issued a total of 27,777,778 shares of Series B Preferred Stock at purchase price of $1.80 for gross proceeds $50,000 in four separate closings in the first half of 2017. The terms of the Series B Preferred

Stock modified certain terms of the existing Series A, A-1, A-2, and A-3 Preferred Stock. The amendments include removing certain redemption rights and allowing the Series B Preferred Stock to vote as part of the class of preferred stockholders. The amendments representing a modification of the Series A, A-1, A-2, and A-3 Preferred Stock. The Company concluded the modification did not result in incremental value to the shareholders and as such no incremental expense was recorded. Based on the removal of the redemption rights, the Company concluded that it was no longer probable that the Series A, A-1, A-2 and A-3 shares would become redeemable. As such, the Company ceased accreting these amounts to their redemption value each reporting period.

At December 31, 2017, convertible preferred stock consisted of the following:

	Shares Authorized	Shares Issued and Outstanding	Issuance Price per Share	Carrying Value	Liquidation Preference	Cumulative Convertible Preferred Stock Dividends
Series A Preferred	13,470,279	13,370,279	$ 0.60	$ 8,936	$ 9,681	$ 1,659
Series A-1 Preferred	10,164,552	10,102,055	0.60	6,712	7,218	1,157
Series A-2 Preferred	5,833,334	5,833,334	1.20	7,287	7,866	870
Series A-3 Preferred	8,780,898	8,749,650	1.20	10,960	11,831	1,337
Series B Preferred	28,062,500	27,777,778	1.80	49,807	53,379	3,379
	66,311,563	65,833,096		$83,702	$ 89,975	$ 8,402

At December 31, 2016, convertible preferred stock consisted of the following (in thousands, except share and per share amounts):

	Shares Authorized	Shares Issued and Outstanding	Issuance Price per Share	Carrying Value	Liquidation Preference	Cumulative Convertible Preferred Stock Dividends
Series A Preferred	13,470,279	13,370,279	$ 0.60	$ 8,904	$ 8,940	$ 919
Series A-1 Preferred	10,164,552	10,102,055	0.60	6,712	6,712	651
Series A-2 Preferred	5,852,084	5,833,334	1.20	7,287	7,287	287
Series A-3 Preferred	8,780,898	8,749,650	1.20	10,960	10,960	460
	38,267,813	38,055,318		$33,863	$ 33,899	$ 2,317

The Series A, Series A-1, Series A-2, Series A-3 and Series B Preferred Stock have the following rights and preferences:

Conversion

The preferred stock is convertible into common stock at any time at the option of the holder, initially on a 1-for-1 basis, and is subject to mandatory conversion upon either (a) the closing of a firm commitment underwritten public offering pursuant to an effective registration statement with the Securities Act of 1933, resulting in gross proceeds of at least $35,000 or (b) upon the vote of a majority of the preferred stockholders. The conversation ratio may be adjusted for the occurrence of certain dilutive events.

Voting

The holders of the preferred stock have voting rights equivalent to the number of shares of common stock into which the preferred stock is convertible into. In addition, a majority of the preferred stockholders must approve certain items, including the approval of any dissolution, liquidation, amendment to the articles of incorporation, creation of new senior securities, payment of dividends, election of certain directors and adjusting the total number of directors, as well as other related items.

Dividends

Holders of shares of Series A, Series A-1, Series A-2, Series A-3 and Series B Preferred Stock are entitled to receive a cumulative dividend of 8% per annum, which shall accrue and compound on an annual basis. No dividends have been declared since the Company's inception. Dividends shall be payable only when, as, and if declared by the Board of Directors. No dividends can be paid to common stockholders until the preferred stockholders receive the greater of the cumulative dividends or the amount that would have been received if the preferred stock had been converted into common.

Liquidation

In the event of any voluntary or involuntary liquidation, dissolution or winding up of the Company or a deemed liquidation event, the holders of shares of preferred stock then outstanding are entitled to be paid out of the assets of the Company available for distribution to its stockholders, before any payment can be made to the holders of common stock, an amount per share equal to the greater of (i) the original issue price for the Series of preferred stock held plus any dividends accrued but unpaid, whether or not declared; or (ii) such amount per share as would have been paid if all shares of preferred stock had been converted to common stock immediately prior to such liquidation, dissolution, winding up or deemed liquidation event. If assets of the Company available are insufficient to pay holders of preferred stock the full amount they are entitled to, the holders of preferred stock will share ratably in any distribution of the assets available for distribution in proportion to the amounts due such holders. After the payment of all preferential amounts required to be paid to the holders of shares of preferred stock, the remaining assets of the Company will be distributed among the holders of the shares of common stock, pro rata based on the number of shares held by each such holder.

Redemption

Prior to the issuance of Series B Convertible Preferred Stock, all series of preferred stock became redeemable at specific dates. As such, the Company was accreting dividends on their preferred stock. Upon issuance of Series B Convertible Preferred Stock, all date certain redemption features were removed and the Company concluded that it was no longer probable that the preferred stock would become redeemable. As such, the Company stopped accreting dividends on their preferred stock in 2017.

Upon certain change in control events that are outside of the Company's control, including liquidation, sale or transfer of control of the Company, holders of the convertible preferred stock can cause its redemption. Shares of preferred stock must be redeemed by the Company at the original issue price for each series of preferred stock plus any dividends accrued but unpaid, whether or not declared, on the fifth month anniversary of such event, upon a written request from the holders of a majority of the then outstanding shares of preferred stock. This request can be made at any time before fourth month anniversary of such event.

The Company classifies its convertible preferred stock outside of stockholders' deficit as certain change in control events are outside the Company's control.

11. Stock Incentive Plan

In 2015, the Company adopted the 2015 Stock Incentive Plan, as amended ("2015 Plan"), which provides for grant of incentive stock options, non-qualified stock options, restricted stock awards, or RSAs, and other stock-based awards to the Company's employees, officers, directors, consultants and advisors for the purchase up to 980,632 shares of the Company's common stock. As of December 31, 2017, there are 3,544,674 shares of common stock reserved for the grant of awards under the 2015 Plan.

The terms of stock awards agreements, including vesting requirements, are determined by the board of directors and are subject to the provisions of the 2015 Plan. The stock options granted to employees generally

vest over a four-year period but may be granted with different vesting terms. Certain awards contain performance-based vesting criteria and as of December 31, 2017 the Company has concluded the vesting of these awards is not probable. There are ten such awards to date. Certain options provide for accelerated vesting in the event of a change in control, as defined above. Awards granted to non-employee consultants generally vest monthly over a period of one to four years. Stock options may not be granted at less than the fair value of the Company's common stock on the date of grant, as determined in good faith by the Board of Directors at its sole discretion. Options granted under the Plan expire no more than 10 years from the date of grant.

As of December 31, 2017 and 2016, 107,262 and 100,989 shares, respectively, of common stock were available for future grant under the 2015 Plan.

Stock-Based Compensation Expense

Stock-based compensation expense included in the Company's statements of operations is as follows:

	Year Ended December 31,	
	2017	2016
Research and development	$ 849	$ 205
General and administrative	693	214
Total stock-based compensation expense	$ 1,542	$ 419

Stock Options

A summary of the stock option activity under the 2015 Plan is as follows:

	Shares	Weighted Average - Exercise Price	Weighted Average - Remaining Contractual Life	Aggregate Intrinsic Value(1) (in thousands)
Options outstanding at December 31, 2016	2,127,261	$ 0.94	9.44	$ 1,251
Granted	1,441,773	$ 3.02		
Exercised	(106,654)	$ 0.73		
Canceled	(282,844)	$ 0.82		
Options outstanding at December 31, 2017	3,179,536	$ 1.88	9.05	19,803
Exercisable as of December 31, 2017	525,092	$ 0.95	8.49	3,764
Vested and expected to vest as of December 31, 2017	2,699,111	$ 1.83	9.02	$ 16,964

(1) The aggregate intrinsic value of options is calculated as the difference between the exercise price of the stock options and the fair value of the Company's common stock for those stock options that had exercise prices lower than the fair value of the ordinary shares as of the end of the period.

The Company had 2,654,444 unvested stock options outstanding as of December 31, 2017. The weighted-average fair value per share of options granted during the years ended December 31, 2017 and 2016 was $4.89 and $1.06, respectively.

When utilizing the Black-Scholes option-pricing model to determine the grant date fair value of stock options granted to employees as well as the vesting or re-measurement date fair value for awards granted to non-employees, the Company used the following assumptions for options granted to employees and options granted to non-employees:

Employee option grants

	Year Ended December 31,	
	2017	2016
Risk-free interest rate	2.03%	1.33%
Expected life (in years)	6.18	5.66
Volatility	79.5%	87.2%
Expected dividend rate	0.00%	0.00%
Fair value of common stock	$2.49 - 8.12	$0.49 - 2.49

Expected Term: The expected term represents the period that the options granted are expected to be outstanding and is determined using the simplified method (based on the mid-point between the vesting date and the end of the contractual term). The expected life is applied to the stock option grant group as a whole as the Company does not expect substantially different exercise or post-vesting termination behavior among its employee population.

Expected Volatility: The Company used an average historical stock price volatility of comparable public companies within the biotechnology and pharmaceutical industry that were deemed to be representative of future stock price trends as the Company does not have any trading history for its common stock.

Risk-Free Interest Rate: The Company based the risk-free interest rate over the expected term of the options based on the constant maturity rate of U.S. Treasury securities with similar maturities as of the date of the grant.

Expected Dividend: The Company has not paid and does not anticipate paying any dividends in the near future. Therefore, the expected dividend yield was zero.

Fair Value of Underlying Common Stock: The Company determined the fair value of the underlying common stock based on input from management and approved by the Board of Directors, which utilized the valuation of the Company's enterprise value determined utilizing various methods including the back-solve method, the option-pricing method, or OPM, or a hybrid of the probability-weighted expected return method, or PWERM, and the OPM. The total enterprise value was then allocated to the various outstanding equity instruments, including the underlying common stock, utilizing the option-pricing model.

Non-employee option grants

	Year Ended December 31,	
	2017	2016
Risk-free interest rate	2.30%	2.35%
Expected life (in years)	9.43	9.51
Volatility	78.9%	89.0%
Expected dividend rate	0.00%	0.00%
Fair value of common stock	$2.49 - 8.12	$0.49 - 2.49

The Company estimates the expected life of options granted based on the remaining contractual term of the option for options granted to non-employees.

On January 30, 2018, the Company issued 250,000 Series B Preferred Stock to a non-employee consultant as part of the consideration for the service performed and completed in 2017. The Company has recognized $683 as general and administrative expense in the consolidated statement of operations.

As of December 31, 2017, total unrecognized stock-based compensation expense relating to unvested stock options was $7,314. This amount is subject to change as the unvested portion of the stock options granted to non-employees is subject to re-measurement over the vesting period. This amount is expected to be recognized over a weighted average period of 1.98 years.

Restricted Stock

The Company permitted the early exercise of certain stock options prior to vesting by certain directors and officers. This practice ceased in 2017. Any shares issued pursuant to unvested options are restricted and subject to repurchase by the Company until the conditions for vesting are met. Accordingly, the Company has recorded the proceeds from the issuance of restricted stock as a liability in the consolidated balance sheets included as a component of other current and noncurrent liabilities based on the scheduled vesting dates. The amounts paid for shares purchased under an early exercise of stock options and subject to repurchase by the Company are reported in stockholders' (deficit) equity once those shares vest. Upon termination of employment of an option holder, the Company has the right to repurchase, at the original purchase price, any unvested restricted shares.

In 2016, there were 640,268 options exercised prior to vesting for total proceeds of $238 to the Company. These exercises are not considered substantive for accounting purposes, and as such the related shares are treated as restricted share liabilities given the implicit repurchase feature. As of December 31, 2016, the Company has recognized restricted stock liability of $158 as other noncurrent liabilities.

In connection with the acquisition of Epiva in June 2016, the Company issued shares of restricted stock to holders of restricted stock of Epiva at an exchange rate of 1-for-0.2043 for a total of 29,621 shares of restricted stock, of which 4,596 were repurchased by the Company.

There was no issuance or repurchase of restricted stock occurred in 2017.

The Company reclassified $57 and $67 to stockholders' deficit upon vesting of restricted shares during the year ended December 31, 2017 and 2016, respectively. The remaining proceeds related to the unvested options of $102 as of December 31, 2017 will be reclassified to stockholders' deficit as the shares vest over a remaining weighted average vesting period of 1.55 years.

A summary of restricted stock activity is as follows:

	Shares	Weighted-Average Price
Outstanding at December 31, 2016	412,796	$ 0.39
Vested	(154,920)	$ 0.37
Outstanding at December 31, 2017	257,876	$ 0.40

As of December 31, 2017, the Company had $168 of unrecognized stock-based compensation expense related to its employee unvested restricted stock awards which is expected to be recognized over a remaining weighted average vesting period of 1.17 years.

12. Income Taxes

The Company has not recorded any net tax provision for the periods presented due to the losses incurred and the need for a full valuation allowance on net deferred tax assets. The difference between the income tax expense at the U.S. federal statutory rate and the recorded provision is primarily due to the valuation allowance provided on all deferred tax assets. The Company's loss before income tax for the periods presented was generated entirely in the United States:

	December 31,	
	2017	2016
U.S. federal tax statutory rate	34.0%	34.0%
State taxes, net of federal benefit	5.6%	5.7%
Non-deductible stock compensation	(1.0)%	(0.7)%
Other non-deductible expenses	(0.5)%	(0.3)%
Credits	0.8%	2.1%
Change in federal tax rate due to tax reform	(22.5)%	0.0%
Change in valuation allowance	(16.5)%	(40.6)%
Other	0.1%	(0.2)%
	0.00%	0.00%

	December 31,	
	2017	2016
Deferred tax assets:		
Net operating loss carryforwards	$ 13,183	$ 9,019
Research and development credits	1,175	701
Capitalized research and development, patent and start-up costs	241	331
Accrued expenses	267	351
Stock based compensation	217	56
Depreciation	(66)	(70)
Deferred tax assets before valuation allowance	15,017	10,388
Valuation allowance	(15,017)	(10,388)
Net deferred tax assets	$ —	$ —

On December 22, 2017, the Tax Cuts and Jobs Act (the Act) was enacted in the United States. The Act incorporates significant changes to U.S. corporate income tax laws including, among other things, a reduction in the statutory federal corporate income tax rate from 35% to 21%, an exemption for dividends received from certain foreign subsidiaries, a one-time repatriation tax on deemed repatriated earnings from foreign subsidiaries, eliminating the alternative minimum tax (AMT), immediate expensing of certain depreciable tangible assets, changing rules related to net operating loss carryforwards, and limitations on the deduction for net interest expense and certain executive compensation. In December 2017, the SEC issued SAB 118, which directs taxpayers to consider the impact of the U.S. legislation as "provisional" when it does not have the necessary information available, prepared or analyzed (including computations) in reasonable detail to complete its accounting for the change in tax law.

As of December 31, 2017, we have not completed our accounting for the tax effects of enactment of the Act. We remeasured certain deferred tax assets and liabilities based on the rates at which they are expected to reverse in the future, which is generally 21%. The Company has no foreign earnings and therefore is not subject to transition tax. However, we are still analyzing certain aspects of the Act and refining our calculations, which could potentially affect the measurement of these balances or potentially give rise to new deferred tax amounts. The provisional amount recorded related to the remeasurement of our deferred tax balance was a $6,300 provision that was offset by a valuation allowance.

As of December 31, 2017, the Company had approximately $50,171 and $41,878 in federal and state Net Operating Losses ("NOLs"), respectively, which expire at various dates through 2037. As of December 31, 2017, the Company had federal and state research credits of $764 and $520, respectively, which begin to expire in 2030.

Realization of future tax benefits is dependent on many factors, including the Company's ability to generate taxable income within the net operating loss carryforward period. Under the Internal Revenue Code provisions, certain substantial changes in the Company's ownership, including the sale of the Company or significant changes in ownership due to sales of equity, have limited and may limit in the future, the amount of net operating loss carryforwards which could be used annually to offset future taxable income. The Company has not yet completed an analysis of ownership changes. The Company may also experience ownership changes in the future as a result of subsequent shifts in our stock ownership, some of which may be outside the Company's control. As a result, the Company's ability to use our pre-change NOLs to offset U.S. federal taxable income may be subject to limitations, which could potentially result in increased future tax liability to the Company. In addition, at the state level, there may be periods during which the use of NOLs is suspended or otherwise limited, which could accelerate or permanently increase state taxes owed. All NOLs generated post tax reform will have an indefinite life, are not subject to carryback provisions and limited to 80% of income in any year.

The Company has evaluated the positive and negative evidence bearing upon its ability to realize the deferred tax assets. Management has considered the Company's history of cumulative net losses incurred since inception and its lack of commercialization of any products or generation of any revenue from product sales since inception and has concluded that it is more likely than not that the Company will not realize the benefits of the deferred tax assets. Accordingly, a full valuation allowance has been established against the net deferred tax assets as of December 31, 2017 and 2016, respectively. The valuation allowance increased by $4,628 in 2017, primarily due to increases in net operating losses and research and development credits offset by the impact of the Act. The valuation allowance increased by $8,577 in 2016, primarily due to increases in net operating losses and research and development credits and tax attributes acquired from Epiva. Management reevaluates the positive and negative evidence at each reporting period.

As of December 31, 2017 and 2016, the Company had no unrecognized tax benefits, respectively. Interest and penalty charges, if any, related to unrecognized tax benefits would be classified as income tax expense. The Company does not expect any significant change in its uncertain tax positions in the next twelve months.

13. Pro Forma Net Loss Per Share (unaudited)

The following table sets forth the computation of the Company's unaudited pro forma basic and diluted net loss per share:

	Year Ended December 31, 2017 (unaudited)
Numerator:	
Net loss	$ (28,047)
Remeasurement of warrant to purchase convertible preferred stock	301
Net loss attributable to common stockholders	$ (27,746)
Denominator:	
Weighted average common shares outstanding - basic and diluted	3,750,790
Pro forma adjusted to reflect automatic conversion of convertible preferred shares upon the closing of the proposed initial public offering	15,057,203
Pro forma weighted average common shares outstanding - basic and diluted	18,807,993
Pro forma net loss per share attributable to common stockholders - basic and diluted	$ (1.48)

In January 2018, the Company issued additional 250,000 Series B preferred shares to non-employees. In February 2018, the Company issued 14,705,884 Series C preferred shares through financing, as discussed in note 15 below, resulting in a total of 14,955,884 additional convertible preferred shares (as converted to common shares).

14. Related Party Transactions

In 2016 and 2017, the Company has entered into various research and in-license agreements with Mayo Foundation for Medical Education and Research, which is wholly owned by one of the Company's investors. The Company incurs research and development expenses under these arrangements. See Note 8, License Agreements, for details of the agreements.

The Company entered into an employment agreement with Duncan McHale, an executive officer of Weatherden Ltd ("Weatherden"), a United Kingdom based clinical development consulting firm, as of December 15, 2017. Pursuant to the terms of the agreement, the Company has agreed to pay Mr. McHale £225 per year to serve as the Company's Chief Medical Officer. Prior to the employment agreement, the Company received clinical advisory services from Mr. McHale through a supply of service agreement with Weatherden. During the years ended December 31, 2017 and 2016, the Company paid Weatherden $305 and $0, respectively. As of December 31, 2017, the amount due to Weatherden under the supply of service agreement was $161, which was fully paid subsequent to December 31, 2017.

In May 2014, the Company entered into a services agreement with Flagship Ventures Management, Inc., an affiliate of one of its stockholders, Flagship Venture Funds, to provide general and administrative services to the Company, including the employer portions of employee health and dental benefit plans for Evelo Biosciences employees and consulting services. The Company made payments under the agreement of $8 and $209 during the years ended December 31, 2017 and 2016 respectively. As of December 31, 2017, the amount due to Flagship Ventures Management, Inc. related to the services agreement was $2.

15. Subsequent Events

(a)

Series C Convertible Preferred Stock

In February 2018, the Company sold 14,705,884 shares of Series C convertible preferred stock at a price of $3.23 per share for gross proceeds of $47,500. In March 2018, the Company sold an additional 10,526,315 shares of Series C convertible preferred stock at a price of $3.23 per share for gross proceeds of $34,000, bringing total gross Series C proceeds to $81,500.

In connection with these financings, the Company amended and restated its certificate of incorporation to reflect that the holders of preferred stock are entitled to receive dividends, if and when declared by the Board of Directors, at the rate of 8.0% per share per annum, and to establish the Series C original issuance price at $3.23 per share, both subject to adjustment in the event of a stock split, combination, common stock dividend or distribution, reclassification, exchange, substitution, or reorganization. The amendments provided for rights, preferences and privileges for the Series C convertible preferred stock similar to those of convertible preferred stock described in Note 10, Stockholders' (Deficit) Equity and Convertible Preferred Stock.

Clinical Trial Agreement

On February 15, 2018, the Company and the University of Surrey entered into a Clinical Trial Agreement for an industry sponsored research (the "Surrey Agreement"), in which the University of Surrey agreed to conduct a proof of concept clinical trial of EDP1066 on healthy volunteer and patients with mild to moderate psoriasis and atopic dermatitis. In connection with the Surrey Agreement, as consideration, the Company agreed to a total of £1,052 with 10% due on the effective date of the agreement. The remaining total consideration will be due upon the completion of the milestones outlined in the agreement.

Exclusivity and Commitment Agreement with Biose Industrie

On February 15, 2018, the Company entered into an Exclusivity and Commitment Agreement with Biose Industrie ("Biose"), a French corporation, in which Biose agrees to exclusively manufacture certain microbial biotherapeutic products for the Company and reserve for the Company's agreed manufacturing resources to conduct manufacturing runs for such products. Under the terms of this agreement, the Company agreed to annual fees in the mid-six digits for exclusivity and a set minimum number manufacturing run per year. The Company has agreed to pay an exclusivity fee of $250 per year.

(b)

In connection with preparing for its initial public offering, on April 18, 2018 and April 27, 2018, the Company's board of directors and stockholders, respectively, approved an amendment to the Company's certificate of incorporation. Pursuant to this amendment:

- a 1-for-4.079 reverse stock split of the Company's common stock was effected and the conversion price for each series of preferred stock was adjusted on April 27, 2018; and

- the authorized number of shares of common stock was increased to 200,000,000, effective on April 27, 2018

All share and per share amounts in the consolidated financial statements and notes thereto have been retroactively adjusted for all periods presented to give effect to the reverse stock split, including reclassifying an amount equal to the reduction in par value of common stock to additional paid-in capital.

The Company's board of directors adopted, and the Company's stockholders approved, the 2018 Incentive Award Plan ("2018 Plan"), which will become effective the day prior to the first public trading date of the Company's common stock. The 2018 Plan provides for the grant of incentive stock options, non-statutory stock options, restricted stock awards, restricted stock units, stock appreciation rights and other stock-based awards. The Company's employees, directors and consultants are eligible to receive awards under the 2018 Plan.

The Company's board of directors adopted, and the Company's stockholders approved, the 2018 Employee Stock Purchase Plan, which will become effective the day prior to the first public trading date of the Company's common stock.

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