As filed with the Securities and Exchange Commission on October 1, 2018

Registration No. 333-

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

FORM S-3
REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933

KRYSTAL BIOTECH, INC.
(Exact name of registrant as specified in its charter)

Delaware	**82-1080209**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification No.)**

2100 Wharton Street, Suite 701
Pittsburgh, Pennsylvania 15203
(412) 586-5830
(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

Krish S. Krishnan
President and Chief Executive Officer
2100 Wharton Street, Suite 701
Pittsburgh, Pennsylvania 15203
(412) 586-5830
(Name, address, including zip code, and telephone number, including area code, of agent for service)

Copy to:

John W. Campbell III
Morrison & Foerster LLP
425 Market Street
San Francisco, California 94105
(415) 268-7000

Approximate date of commencement of proposed sale to the public: From time to time or at one time as determined by the registrant after the effective date of this registration statement.

If the only securities being registered on this Form are being offered pursuant to dividend or interest reinvestment plans, please check the following box. ☐

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, as amended, other than securities offered only in connection with dividend or interest reinvestment plans, check the following box. ☒

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

If this Form is a registration statement pursuant to General Instruction I.D. or a post-effective amendment thereto that shall become effective upon filing with the Commission pursuant to Rule 462(e) under the Securities Act, check the following box. ☐

If this Form is a post-effective amendment to a registration statement filed pursuant to General Instruction I.D. filed to register additional securities or additional classes of securities pursuant to Rule 413(b) under the Securities Act, check the following box. ☐

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

Large accelerated filer ☐	Accelerated filer ☐
Non-accelerated filer ☐ (Do not check if smaller reporting company)	Smaller reporting company ☒
	Emerging growth company ☒

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

CALCULATION OF REGISTRATION FEE

Title of Each Class of Securities to be Registered	Amount to be Registered(1)	Proposed Maximum Aggregate Offering Price per Security(2)	Proposed Maximum Aggregate Offering Price(3)	Amount of Registration Fee(4)(5)
Primary Offering:				
Common Stock, par value $0.00001 per share				
Preferred Stock, par value $0.00001 per share				
Debt Securities				
Warrants				
Rights				
Units				
Secondary Offering:				
Common Stock, par value $0.00001 per share	625,000.00	$17.37	$10,853,125.00	$1,315.40
TOTAL	$210,853,125.00		$210,853,125.00	$25,555.40

(1) In connection with the primary offering, this registration statement registers such indeterminate number of shares of common stock and preferred stock, such indeterminate principal amount of debt securities, such indeterminate number of warrants to purchase common stock or preferred stock of one or more series, such indeterminate number of rights to purchase common stock or preferred stock of one or more series and such indeterminate number of units representing an interest in one or more shares of common stock or preferred stock, debt securities, warrants or rights in any combination as shall have a maximum aggregate initial offering price not to exceed $200,000,000. Any securities registered hereunder may be sold separately or as units with other securities registered hereunder. In connection with the secondary offering, the amount to be registered represents a maximum of 625,000 shares of common stock, par value $0.00001, of the registrant to be offered and sold by the selling stockholder identified in this registration statement.

(2) The proposed maximum initial offering price per unit will be determined by the registrant, from time to time, in connection with the issuance by the registrant of the securities registered hereunder. The securities registered also include such indeterminate amounts and numbers of shares of common stock and preferred stock and debt securities as may be issued upon conversion of, or exchange for, preferred stock or debt securities that provide for conversion or exchange, upon exercise of warrants or rights or pursuant to the anti-dilution provisions of such securities. In addition, pursuant to Rule 416 under the Securities Act of 1933, as amended, the shares being registered hereunder include such indeterminate number of shares of common stock and preferred stock as may be issuable with respect to the shares being registered hereunder as a result of stock splits, stock dividends or similar transactions.

(3) The proposed maximum aggregate offering price per class of security will be determined from time to time by the registrant in connection with the issuance by the registrant of the securities registered hereunder and is not specified as to each class of security pursuant to General Instruction II.D. of Form S-3 under the Securities Act of 1933, as amended.

(4) With respect to the primary offerings, the registration fee has been calculated in accordance with Rule 457(o) under the Securities Act of 1933, as amended.

(5) With respect to the secondary offering, the registration fee has been estimated solely for the purpose of computing the amount of the registration fee for the shares of common stock in accordance with Rule 457(c) under the Securities Act of 1933, as amended, based upon $17.37, the average of the high and low prices for a share of the registrant's common stock as reported on The NASDAQ Capital Market on September 28, 2018, which date is a date within five business days of the filing of this registration statement.

The registrant hereby amends this registration statement on such date or dates as may be necessary to delay its effective date until the registrant shall file a further amendment which specifically states that this registration statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933, as amended, or until this registration statement shall become effective on such date as the Commission acting pursuant to said Section 8(a), may determine.

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The information in this prospectus is not complete and may be changed. Neither we nor the selling stockholder may sell these securities until the registration statement filed with the U.S. Securities and Exchange Commission is effective. This prospectus is not an offer to sell these securities and neither we nor the selling stockholder are soliciting offers to buy these securities in any jurisdiction where the offer or sale is not permitted.

SUBJECT TO COMPLETION, DATED OCTOBER 1, 2018

PROSPECTUS

$200,000,000

Krystal Biotech, Inc.

Common Stock
Preferred Stock
Debt Securities
Warrants
Rights
Units
and
625,000 Shares of Common Stock
Offered by the Selling Stockholder

This prospectus relates to a primary offering by the Company and a secondary offering by the selling stockholder.

In the primary offering, from time to time, we may offer or sell, together or separately, in one or more offerings:

- common stock;
- preferred stock;
- debt securities;
- warrants to purchase common stock or preferred stock;
- rights to purchase common stock or preferred stock; and
- units comprised of two or more of the foregoing securities.

We may sell any combination of these securities in one or more offerings, up to a maximum aggregate offering price of $200,000,000, in amounts, at prices and on terms to be determined at the time of each offering thereof. This prospectus provides you with a general description of the securities we may offer. Each time we offer securities using this prospectus, we will provide the specific terms of the securities and the offering in one or more supplements to this prospectus. We may also authorize one or more free writing prospectuses to be provided to you in connection with these offerings. The prospectus supplement and any related free writing prospectus may also add to, update or change the information contained in this prospectus and will also describe the specific manner in which we will offer the securities.

The securities may be sold directly by us to investors, through agents designated from time to time or to or through underwriters or dealers, on a continuous or delayed basis. For additional information on the methods of sale, you should refer to the section titled “Plan of Distribution” in this prospectus. If any agents, underwriters or dealers are involved in the sale of any securities with respect to which this prospectus is being delivered, the names of such agents, underwriters or dealers and any applicable fees, commissions, discounts and over-allotment options will be set forth in a prospectus supplement. The price to the public of such securities and the net proceeds that we expect to receive from such sale will also be set forth in a prospectus supplement.

This prospectus may not be used to sell any securities unless accompanied by a prospectus supplement. You should carefully read this prospectus, any accompanying prospectus supplement and any related free writing prospectus, as well as any documents incorporated by reference, prior to investing in any of our securities.

This prospectus also relates to the resale, from time to time, by the selling stockholder identified in this prospectus under the caption “Selling Stockholder,” of up to 625,000 shares of our common stock, par value $0.00001 per share, on the terms described in this prospectus or in an applicable prospectus supplement. We will not receive any proceeds from the sale of shares of common stock by the selling stockholder. The selling stockholder will bear all commissions and discounts, if any, attributable to the sale of the shares.

The selling stockholder may sell the shares of our common stock offered by this prospectus from time to time on terms to be determined at the time of sale through ordinary brokerage transactions or through any other means described in this prospectus under the caption “Plan of Distribution.” The shares of common stock may be sold at fixed prices, at market prices prevailing at the time of sale, at prices related to prevailing market price or at negotiated prices.

Investing in our securities involves a high degree of risk. You should review carefully the risks and uncertainties described under the heading “Risk Factors” beginning on page 11 of this prospectus, in any accompanying prospectus supplement and in any related free writing prospectus, and under similar headings in the documents incorporated by reference into this prospectus, any accompanying prospectus supplement and any related free writing prospectus.

Our common stock is traded on The NASDAQ Capital Market under the symbol “KRYS.” On September 28, 2018, the last reported sale price of our common stock on The NASDAQ Capital Market was $17.58 per share. We do not expect our preferred stock, debt securities, warrants, rights or units to be listed on any securities exchange or over-the-counter market unless otherwise described in the applicable prospectus supplement.

Neither the Securities and Exchange Commission nor any state securities commission has 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 date of this prospectus is , 2018

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ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement on Form S-3 that we filed with the U.S. Securities and Exchange Commission (the "SEC") utilizing a "shelf" registration process. Under this shelf registration process, we may, from time to time, offer shares of our common stock, shares of our preferred stock, debt securities, warrants, rights or units comprised of two or more of the foregoing securities, together or separately, in one or more offerings, for a maximum aggregate offering price not to exceed $200,000,000.

In addition, this prospectus relates to the resale, from time to time, by the selling stockholder identified in this prospectus under the caption "Selling Stockholder," of up to 625,000 shares of our common stock, par value $0.00001 per share. Throughout this prospectus, when we refer to the shares of our common stock being registered on behalf of the selling stockholder, we are referring to the shares of our common stock issued to the selling stockholder pursuant to the stock purchase agreement we entered into with the selling stockholders on August 16, 2018.

This prospectus provides you with a general description of the securities we may offer. Each time we sell any securities under this prospectus, we will provide a prospectus supplement that will contain more specific information about the terms of that specific offering, including the specific amounts, prices and terms of the securities offered. Any prospectus supplement may include a discussion of risks or other special considerations applicable to us or the offered securities. Any prospectus supplement may also add to, update or change information contained in this prospectus. To the extent there is a conflict between the information contained in this prospectus, on the one hand, and the information contained in any prospectus supplement, on the other hand, you should rely on the information in the prospectus supplement. If any statement in one of these documents is inconsistent with a statement in another document having a later date-for example, a document incorporated by reference in the accompanying prospectus-the statement in the document having the later date modifies or supersedes the earlier statement.

This prospectus and any applicable prospectus supplement contain and incorporate by reference market data, industry statistics and other data that have been obtained or compiled from information made available by third parties. These data, to the extent they contain estimates or projections, involve a number of assumptions and limitations, and you are cautioned not to give undue weight to such estimates or projections. Industry publications and other reports we have obtained from independent parties generally state that the data contained in these publications or other reports have been obtained in good faith or from sources considered to be reliable, but they do not guarantee the accuracy or completeness of such data.

We urge you to carefully read this prospectus, any applicable prospectus supplement and any related free writing prospectus, any documents that we incorporate by reference in this prospectus, any applicable prospectus supplement and any related free writing prospectus, and the additional information described below under "Where You Can Find More Information" and "Incorporation of Certain Documents by Reference" before making an investment decision. You should rely only on the information contained or incorporated by reference in this prospectus, any applicable prospectus supplement and any related free writing prospectus. We have not authorized anyone to provide you with different information. If anyone provides you with additional, different or inconsistent information, you should not rely on it. You should not assume that the information we have included in this prospectus, any applicable prospectus supplement, any related free writing prospectus or any documents incorporated by reference herein or therein is accurate as of any date other than the dates of those documents. Our business, financial condition, results of operations and prospects may have changed since those dates.

This document may only be used where it is legal to sell these securities. This prospectus is not an offer to sell these securities and it is not soliciting an offer to buy these securities in any jurisdiction whether the offer or sale is not permitted.

Unless the context indicates otherwise, as used in this prospectus, the terms "Krystal," the "Company," "we," "us" and "our" refer to Krystal Biotech, Inc., a Delaware corporation, and its wholly-owned subsidiary, Krystal Australia Pty Ltd, an Australian proprietary limited company.

WHERE YOU CAN FIND ADDITIONAL INFORMATION

We are subject to the information requirements of the Securities Exchange Act of 1934, as amended (the "Exchange Act"). In accordance with the Exchange Act, we file annual, quarterly and current reports, proxy statements and other information with the SEC. Such reports, proxy statements and other information filed by us are available to the public free of charge at www.sec.gov. You may also read and copy any document we file with the SEC at the public reference facilities maintained by the SEC at 100 F Street, N.E., Washington, D.C. 20549. You may obtain information on the operation of the public reference facilities by calling the SEC at 1-800-SEC-0330. Copies of certain information filed by us with the SEC are also available on our website at www.krystalbio.com. The information available on or through our website is not part of this prospectus or any accompanying prospectus supplement or related free writing prospectus and should not be relied upon.

This prospectus is part of a registration statement on Form S-3 that we filed with the SEC and does not contain all the information set forth or incorporated by reference in the registration statement. You should review the information and exhibits in the registration statement for further information about us and the securities being offered hereby. Statements in this prospectus concerning any document we filed as an exhibit to the registration statement or that we otherwise filed with the SEC are not intended to be comprehensive and are qualified by reference to the filings. You should review the complete document to evaluate these statements.

INFORMATION INCORPORATED BY REFERENCE

The SEC rules allow us to "incorporate by reference" into this prospectus information that we file with the SEC. Incorporation by reference allows us to disclose important information to you by referring you to those publicly available documents. The information that we incorporate by reference into this prospectus is considered to be part of this prospectus. These documents may include Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q and Current Reports on Form 8-K, as well as proxy statements. You should read the information incorporated by reference because it is an important part of this prospectus.

This prospectus and the registration statement of which this prospectus is a part incorporate by reference the information or documents listed below, other than those documents or the portions of those documents deemed to be furnished and not filed in accordance with the SEC rules:

- our Annual Report on Form 10-K for the fiscal year ended December 31, 2017 filed with the SEC on March 12, 2018;
- our Quarterly Reports on Form 10-Q for the fiscal quarter ended March 31, 2018 and June 30, 2018, filed with the SEC on May 7, 2018 and August 6, 2018, respectively;
- our Current Reports on Form 8-K filed with the SEC on May 9, 2018, June 1, 2018, and August 17, 2018;
- our Definitive Proxy Statement on Schedule 14A filed with the SEC on April 20, 2018; and
- the description of our common stock contained in our Registration Statement on Form 8-A filed with the SEC on September 19, 2017, pursuant to Section 12(b) of the Exchange Act, including any amendment or report filed for the purpose of updating such description.

Any statement contained in any document incorporated by reference herein shall be deemed to be modified or superseded for purposes of this prospectus to the extent that a statement contained in this prospectus or any prospectus supplement modifies or supersedes such statement. Any statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this prospectus.

We also incorporate by reference any future filings, other than current reports furnished under Item 2.02 or Item 7.01 of Form 8-K and exhibits filed on such form that are related to such items, made with the SEC pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act, in each case, other than those documents or the portions of those documents deemed to be furnished and not filed in accordance with SEC rules, until the offering of the securities under the registration statement of which this prospectus forms a part is terminated or completed. Information in such future filings updates and supplements the information provided in this prospectus. Any statements in any such future filings will be deemed to modify and supersede any information in any document we previously filed with the SEC that is incorporated or deemed to be incorporated herein by reference to the extent that statements in the later filed document modify or replace such earlier statements.

Because we are incorporating by reference future filings with the SEC, this prospectus is continually updated and later information filed with the SEC may update and supersede some of the information included or incorporated by reference in this prospectus. This means that you must look at all of the SEC filings that we incorporate by reference to determine if any of the statements in this prospectus or in any document previously incorporated by reference have been modified or superseded.

We will provide without charge to each person, including any beneficial owners, to whom this prospectus is delivered, upon his or her written or oral request, a copy of any or all documents referred to above which have been or may be incorporated by reference into this prospectus but not delivered with this prospectus, excluding

exhibits to those documents unless they are specifically incorporated by reference into those documents. You may request a copy of these documents by writing or telephoning us at the following address.

Krystal Biotech, Inc.
2100 Wharton Street, Suite 701
Pittsburgh, Pennsylvania 15203
(412) 586-5830
Attention: Antony A. Riley
Chief Financial Officer

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus and any accompanying prospectus supplement, as well as the documents incorporated by reference therein, contain forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995 and releases issued by the SEC and within the meaning of Section 27A of the Securities Act of 1933, as amended (the "Securities Act"), and Section 21E of the Exchange Act. Forward-looking statements include, among others, information concerning our strategy, future operations, future financial position, future revenue, projected expenses, business prospects, and plans and objectives of management. Forward-looking statements include all statements that are not historical facts and can be identified by terms such as "anticipate," "believe," "continue," "could," "estimate," "expect," "intend," "may," "plan," "potential," "predict, "project," "seek," "should," "target," "will," "would," or similar expressions and the negatives of those terms. These statements relate to future events or to our future operating or financial performance and involve known and unknown risks, uncertainties and other factors that may cause our actual results, performance or achievements to be materially different from any future results, performances or achievements expressed or implied by the forward-looking statements.

Forward-looking statements contained in this prospectus include, but are not limited to, statements about the following:

- the initiation, timing, progress and results of preclinical and clinical trials for KB103 and any other product candidates, including statements regarding the timing of initiation and completion of studies or trials and related preparatory work, the period during which the results of the trials will become available and our research and development programs;
- the timing, scope or results of regulatory filings and approvals, including timing of final U.S. Food and Drug Administration (the "FDA") marketing and other regulatory approval of KB103;
- our ability to achieve certain accelerated or orphan drug designations from the FDA;
- our estimates regarding the potential market opportunity for KB103 and any other product candidates;
- our research and development programs for our product candidates;
- our plans and ability to successfully develop and commercialize our product candidates, including KB103 and KB105;
- our ability to identify and develop new product candidates;
- our ability to identify, recruit and retain key personnel;
- our commercialization, marketing and manufacturing capabilities and strategy;
- the implementation of our business model, strategic plans for our business, product candidates and technology;
- the scalability and commercial viability of our proprietary manufacturing methods and processes;
- the rate and degree of market acceptance and clinical utility of our product candidates and gene therapy, in general;
- our competitive position;
- our intellectual property position and our ability to protect and enforce our intellectual property;
- our financial performance;
- developments and projections relating to our competitors and our industry;
- our ability to establish and maintain collaborations or obtain additional funding;
- our expectations related to the use of proceeds from this offering;

- our estimates regarding expenses, future revenue, capital requirements and needs for or ability to obtain additional financing;
- our ability to successfully resolve any intellectual property or other claims that may be brought against us;
- any statements regarding compliance with the listing standards of The NASDAQ Capital Market;
- the impact of laws and regulations;
- our expectations regarding the time during which we will be an emerging growth company under the JOBS Act; and
- any statements regarding future economic conditions or performance and any statement of assumptions underlying any of the foregoing.

Forward-looking statements are subject to a number of risks, uncertainties and assumptions, including those described in “Risk Factors” and elsewhere in this prospectus. Moreover, we operate in a very competitive and rapidly changing environment, and new risks emerge from time to time. It is not possible for our management to predict all risks, nor can we assess the impact of all factors on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements we may make. In light of these risks, uncertainties and assumptions, the forward-looking events and circumstances discussed in this prospectus may not occur and actual results could differ materially and adversely from those anticipated or implied in the forward-looking statements. Given these uncertainties, you should not place undue reliance on these forward-looking statements. Also, forward-looking statements represent our management’s beliefs and assumptions only as of the date of this prospectus. You should read this prospectus and the documents that we have filed as exhibits to the registration statement, of which this prospectus is a part, completely and with the understanding that our actual future results may be materially different from what we expect.

Except as required by law, we assume no obligation to update these forward-looking statements publicly, or to update the reasons actual results could differ materially from those anticipated in these forward-looking statements, even if new information becomes available in the future.

PROSPECTUS SUMMARY

The following summary highlights selected information contained elsewhere or incorporated by reference in this prospectus. This summary does not contain all of the information you should consider before investing in the securities. Before making an investment decision, you should carefully read the entire prospectus, the applicable prospectus supplement and any related free writing prospectus, including the risks of investing in our securities discussed under the heading "Risk Factors" in this prospectus, the applicable prospectus supplement and any related free writing prospectus, and under similar headings in the other documents that are incorporated by reference into this prospectus. You should also carefully read the information incorporated by reference into this prospectus, including our financial statements, and the exhibits to the registration statement of which this prospectus is a part.

In this prospectus, unless we indicate otherwise or the context requires, references to the "Company," "Krystal," "we," "our," "ours," and "us" refer to Krystal Biotech, Inc. and its consolidated subsidiary. The following summary is qualified in its entirety by the more detailed information and financial statements and notes thereto included elsewhere in this prospectus.

Krystal Biotech, Inc.

We are a gene therapy company dedicated to developing and commercializing novel treatments for patients suffering from skin diseases. We have developed a proprietary gene therapy platform, our STAR-D platform, that consists of an engineered, patented (issued and pending), viral vector based on modified herpes simplex virus 1, or HSV-1, and skin-optimized gene transfer technology, to develop off-the-shelf treatments for skin diseases for which we believe there are no known effective treatments. We are initially using our STAR-D platform to develop treatments for rare or orphan dermatological indications caused by the absence of or a mutation in a single gene, and plan to leverage our platform in the future to expand our pipeline to include other dermatological indications and skin conditions.

Our lead product candidate, KB103, seeks to use topical gene therapy to treat dystrophic epidermolysis bullosa ("DEB"), a rare and severe genetic disease, for which there is currently no approved treatment. In May 2018, the first two patients were enrolled in Phase 1/2 clinical study of KB103 at Stanford University, a first-in-class topical gene therapy for the treatment of DEB.

KB103 is the first-ever topical HSV-1 based gene therapy engineered to deliver a human collagen protein to patients suffering from DEB. DEB affects the skin and mucosal tissues, and is caused by one or more mutations in a gene called COL7A1, which is responsible for the formation of protein type VII collagen, or COL7, that forms anchoring fibrils that bind the dermis to the epidermis. In DEB patients, the genetic defect in COL7A1 results in loss or malfunctioning of these anchoring fibrils, leading to extremely fragile skin that blisters and tears from minor friction or trauma. Those who are born with DEB are sometimes called "butterfly children", because their skin is likened to be as fragile as the wings of a butterfly. DEB patients may suffer from open wounds, skin infections, fusion of fingers and toes, and gastrointestinal tract problems throughout their lifetime, and may eventually develop squamous cell carcinoma, a potentially fatal condition. Based on information from DEBRA International, a worldwide alliance of patient support groups for EB, of which DEB is a subset, we believe there may be as many as 125,000 patients worldwide who suffer from DEB. We estimate that there are 3,200 to 3,500 diagnosed DEB patients in the European Union (the "EU"), United States, Japan and Canada.

We commenced operations in April 2016. In March 2017, we converted from a California limited liability company to a Delaware C-corporation, and changed our name from Krystal Biotech, LLC to Krystal Biotech, Inc. On June 19, 2018, we incorporated Krystal Australia, a proprietary limited company, for the purposes of undertaking preclinical and clinical studies in Australia.

Description of Securities

We may offer shares of our common stock or preferred stock, various series of debt securities, warrants or other rights to purchase common stock or preferred stock, or units consisting of combinations of the foregoing, either individually or in combination with other securities, in each case from time to time under this prospectus, together with the applicable prospectus supplement or any related free writing prospectus, at prices and on terms to be determined by market conditions at the time of offering. This prospectus provides you with a general description of the securities we may offer. At the time we offer a type or series of securities, we will provide a prospectus supplement describing the specific amounts, prices and other important terms of the securities, including, to the extent applicable:

- designation or classification;
- aggregate principal amount or aggregate offering price;
- voting or other rights;
- rates and times of payment of interest, dividends or other payments;
- original issue discount;
- maturity;
- ranking;
- restrictive covenants;
- redemption, conversion, exercise, exchange, settlement or sinking fund terms, including prices or rates, and any provisions for changes to or adjustments in such prices or rates and in the securities or other property receivable upon conversion, exercise, exchange or settlement;
- any securities exchange or market listing arrangements; and
- important U.S. federal income tax considerations.

The applicable prospectus supplement and any related free writing prospectus that we may authorize to be provided to you may also add, update or change any of the information contained in this prospectus or in the documents incorporated by reference in this prospectus.

We may sell the securities directly to investors or to or through underwriters, dealers or agents. We and our underwriters, dealers or agents reserve the right to accept or reject all or part of any proposed purchase of securities. If we do offer securities to or through underwriters or agents, we will include in the applicable prospectus supplement (a) the names of the underwriters or agents and applicable fees, discounts and commissions to be paid to them, (b) details regarding over-allotment options, if any, and (c) net proceeds to us, if any.

Common Stock. We may issue shares of our common stock from time to time. Holders of our common stock are entitled to one vote for each share held on all matters submitted to a vote of stockholders. The holders of our common stock are entitled to receive dividends out of funds legally available if our board of directors, in its discretion, determines to issue dividends and then only at the times and in the amounts that our board of directors may determine. Upon our liquidation, dissolution or winding-up, the assets legally available for distribution to our stockholders would be distributable ratably among the holders of our common stock at that time, subject to prior satisfaction of all outstanding debt and liabilities. Our common stock is not entitled to preemptive rights, and is not subject to conversion, redemption or sinking fund provisions. In this prospectus, we have summarized certain general features of the common stock under the heading “Description of Capital Stock—Common Stock.” We urge you, however, to read the applicable prospectus supplement (and any related free writing prospectus that we may authorize to be provided to you) related to any common stock being offered.

Preferred Stock. We may issue shares of our preferred stock from time to time, in one or more series. Our board of directors will determine the designation, powers, preferences and rights of the shares of each series and any of their qualifications, limitations or restrictions, in each case without further vote or action by our stockholders.

If we sell any series of preferred stock under this prospectus, we will fix the designations, voting powers, preferences and rights of the preferred stock of each series we issue under this prospectus, as well as the qualifications, limitations or restrictions thereof, in the certificate of designation relating to that series. We will file as an exhibit to the registration statement of which this prospectus is a part, or will incorporate by reference from reports that we file with the SEC, the form of any certificate of designation that contains the terms of the series of preferred stock we are offering. In this prospectus, we have summarized certain general features of the preferred stock under "Description of Capital Stock—Preferred Stock." We urge you, however, to read the applicable prospectus supplement (and any related free writing prospectus that we may authorize to be provided to you) related to the series of preferred stock being offered, as well as the complete certificate of designation that contains the terms of the applicable series of preferred stock.

Debt Securities. We may issue debt securities from time to time, in one or more series, as senior, subordinated or junior subordinated, convertible or non-convertible and secured or unsecured debt. Any senior debt securities will rank equally with any unsubordinated debt. Subordinated debt securities will rank equally with any other subordinated debt of the same ranking we may issue. Convertible debt securities will be convertible into or exchangeable for our common stock or other securities at predetermined conversion rates, and conversion may be mandatory or at the holder's option.

Debt securities will be issued under one or more indentures-contracts between us and a national banking association or other eligible party acting as trustee. In this prospectus, we have summarized certain general features of the debt securities under the heading "Description of Debt Securities." You should read the prospectus supplements, any free writing prospectus we may authorize and the indentures, supplemental indentures and forms of debt securities relating to any series of debt securities we may offer. We have filed the form of indenture as an exhibit to the registration statement of which this prospectus is a part, and supplemental indentures and forms of debt securities containing the terms of the debt securities being offered will be filed as exhibits to the registration statement of which this prospectus is a part or will be incorporated by reference from reports that we file with the SEC.

Warrants, Other Rights and Units. We may, from time to time issue warrants or other rights (together, "Rights"), in one or more series, for the purchase of common stock or preferred stock. We may issue such Rights independently or together with such securities, and such Rights may be attached to or separate from them. We may issue securities in units ("Units"), each consisting of two or more types of securities. For example, we might issue Units consisting of a combination of common stock and warrants to purchase common stock. In this prospectus, we have summarized certain general features of the Rights and Units under the heading "Description of Warrants, Other Rights and Units." We urge you, however, to read the applicable prospectus supplement (and any related free writing prospectus that we may authorize to be provided to you) related to the particular series of Rights and/or Units being offered, as well as the form of Rights and/or Rights agreement and Rights certificate, as applicable, that contain the terms of the warrants. We will file as exhibits to the registration statement of which this prospectus is a part, or will incorporate by reference from reports that we file with the SEC, the form of Rights and/or Rights agreement and Rights certificate, as applicable, that contain the terms of the particular series of Rights we are offering, and any supplemental agreements, before the issuance of such Rights.

Rights may be issued under a Rights agreement that we enter into with a Rights agent. We will indicate the name and address of the Rights agent, if any, in the applicable prospectus supplement relating to a particular series of Rights.

NASDAQ Capital Market Listing

Our common stock is listed on The NASDAQ Capital Market under the symbol "KRYS." The applicable prospectus supplement will contain information, where applicable, as to other listings, if any, on The NASDAQ Capital Market or any other securities market or other exchange of the securities covered by the applicable prospectus supplement.

Implications of Being an Emerging Growth Company

We qualify as an "emerging growth company" as defined in the Jumpstart Our Business Startups Act of 2012, or the JOBS Act. An emerging growth company may take advantage of relief from certain reporting requirements and other burdens that are otherwise applicable generally to public companies. These provisions include:

- reduced obligations with respect to financial data, including presenting only two years of audited financial statements and only two years of selected financial data in our Annual Report on Form 10-K for the fiscal year ended December 31, 2017;
- an exception from compliance with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act of 2002, or the Sarbanes-Oxley Act;
- reduced disclosure about our executive compensation arrangements in our periodic reports, proxy statements and registration statements; and
- exemptions from the requirements of holding non-binding advisory votes on executive compensation or golden parachute arrangements.

We may take advantage of these provisions for up to five years or such earlier time that we no longer qualify as an emerging growth company. We would cease to be an emerging growth company if we have more than $1.07 billion in total annual gross revenues, have more than $700 million in market value of our capital stock held by non-affiliates or issue more than $1.0 billion of non-convertible debt over a three-year period. We may choose to take advantage of some but not all of these reduced reporting burdens. For example, we intend to take advantage of the reduced reporting requirements with respect to disclosure regarding our executive compensation arrangements, have presented 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 our Annual Report on Form 10-K for the fiscal year ended December 31, 2017, and have taken advantage of the exemption from auditor attestation on the effectiveness of our internal controls over financial reporting. To the extent that we take advantage of these reduced reporting burdens, the information that we provide stockholders may be different than you might obtain from other public companies in which you hold equity interests.

In addition, under the JOBS Act, emerging growth companies can delay adopting new or revised accounting standards until such time as those standards apply to private companies. We have irrevocably elected not to avail ourselves of this exemption from new or revised accounting standards and, therefore, we will be subject to the same new or revised accounting standards as other public companies that are not emerging growth companies.

RISK FACTORS

Risks Related to Our Financial Position and Need for Additional Capital

We have never generated revenue and may never be profitable.

Since inception, we have incurred recurring losses and negative cash flows from operations and, at June 30, 2018, we have an accumulated deficit of $13.5 million. Our ability to achieve profitability depends on our ability to successfully complete the development of, and obtain the regulatory approvals necessary to commercialize, KB103 and any additional product candidates that we may pursue in the future. We do not anticipate generating revenues from product sales for the next several years, if ever. We have devoted substantially all of our efforts to date to research and development of our first gene therapy product candidate, KB103, as well as to building out our infrastructure. We expect that it could be several years, if ever, before we have a commercialized product candidate. We expect to continue to incur significant expenses and increasing operating losses for the foreseeable future. The net losses we incur may fluctuate significantly from quarter to quarter. We anticipate that our expenses will increase substantially if, and as, we:

- continue our research and the clinical development of KB103, including our current clinical trials and planned future trials;
- initiate additional clinical trials and preclinical studies for any additional product candidates that we may pursue in the future;
- prepare our Biologics License Application, or BLA, and marketing authorization application for KB103;
- establish and validate a commercial-scale cGMP manufacturing facility;
- manufacture current good manufacturing practices, or cGMP, material for clinical trials or potential commercial sales;
- further develop our gene therapy product candidate portfolio;
- establish a sales, marketing and distribution infrastructure to commercialize any product candidate for which we may obtain marketing approval;
- develop, maintain, expand and protect our intellectual property portfolio;
- acquire or in-license other product candidates and technologies; and
- seek marketing approval for KB103 and additional product candidates in the EU and in other key geographies.

To become and remain profitable, we must develop and eventually commercialize one or more product candidates with significant market potential. This will require us to be successful in a range of challenging activities, including completing clinical trials of KB103, developing and validating commercial scale manufacturing processes, obtaining marketing approval for this product candidate, manufacturing, marketing and selling any future product candidates for which we may obtain marketing approval and satisfying any post-marketing requirements. In addition, if we were required to discontinue development of KB103, if KB103 does not receive regulatory approval, if we do not obtain our targeted indications for KB103 or if KB103 fails to achieve sufficient market acceptance for any indication, we could be delayed by many years in our ability to achieve profitability, if ever, and would materially adversely affect our business prospects and financial condition. Moreover, if we decide to leverage any success with our KB103 product candidate to develop other product opportunities, we may not be successful in such efforts. In any such event, our business will be materially adversely affected.

We currently only have two product candidates, KB103 and KB105, and we may never develop, acquire or in-license additional product candidates. We may never succeed in any or all of these activities and, even if we

do, we may never generate revenues that are significant or large enough to achieve profitability. If we do achieve profitability, we may not be able to sustain or increase profitability on a quarterly or annual basis. Our failure to become and remain profitable would decrease the value of our company and could impair our ability to raise capital, maintain our research and development efforts, expand our business or continue our operations. A decline in the value of our company also could cause you to lose all or part of your investment.

Because of the numerous risks and uncertainties associated with pharmaceutical product and biological 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 FDA, the European Medicines Agency (the "EMA"), or other regulatory authorities to perform studies in addition to those currently expected, or if there are any delays in completing our clinical trials or the development of KB103, our expenses could increase and revenue could be further delayed.

We will need to raise additional funding in order to receive approval for KB103 or any other product candidate. Such funding may not be available on acceptable terms, or at all. Failure to obtain this necessary capital when needed may force us to delay, limit or terminate certain of our product development efforts or other operations.

In order to complete the process of obtaining regulatory approval for KB103 and to build the sales, marketing and distribution infrastructure that we believe will be necessary to commercialize KB103, if approved, we will require substantial additional funding. In addition, if we obtain marketing approval for KB103, we expect to incur significant expenses related to product sales, medical affairs, marketing, manufacturing and distribution. Furthermore, we expect to incur additional costs associated with operating as a public company. We anticipate that we will need additional funding to complete the development of KB103 and any future product candidates and to commercialize any such approved products.

Our future capital requirements will depend on many factors, including:

- the progress and results of our current and planned clinical trials of KB103 and other product candidates;
- the scope, progress, results and costs of drug discovery, laboratory testing, manufacturing, preclinical development and clinical trials for any other product candidates that we may pursue in the future, if any;
- the costs, timing and outcome of regulatory review of KB103 and any other product candidates we may develop;
- the costs of establishing and maintaining our own commercial-scale cGMP manufacturing facility;
- the costs associated with the manufacturing process development and evaluation of third-party manufacturers;
- the costs of future activities, including product sales, medical affairs, marketing, manufacturing and distribution, in the event we receive marketing approval for KB103 or any other product candidates we may develop;
- the extent to which the costs of our product candidates, if approved, will be paid by health maintenance, managed care, pharmacy benefit and similar healthcare management organizations, or will be reimbursed by government authorities, private health coverage insurers and other third-party payors;
- revenue, if any, received from commercial sale of KB103 or other product candidates, should any of our product candidates receive marketing approval;
- the costs of preparing, filing and prosecuting patent applications, maintaining and enforcing our intellectual property rights and defending intellectual property-related claims;

- our current license agreements remaining in effect and our achievement of milestones under those agreements;
- our ability to establish and maintain collaborations and licenses on favorable terms, if at all; and
- the extent to which we acquire or in-license other product candidates and technologies.

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 product revenues, if any, will be derived from or based on sales of product candidates that may not be commercially available for many years, if at all. Accordingly, we will need to continue to rely on additional financing to achieve our business objectives. 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. 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 would result in increased fixed payment obligations and a portion of our operating cash flows, if any, being dedicated to the payment of principal and interest on such indebtedness, 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. Furthermore, existing stockholders may not agree with our financing plans or the terms of such financings. Adequate additional financing may not be available to us on acceptable terms, or at all.

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

We are a development-stage company that commenced operations in 2016. Our efforts to date, with respect to the development of KB103, have been limited to organizing and staffing our company, business planning, raising capital, developing our STAR-D platform and related technologies, identifying KB103 as a potential gene therapy product candidate and undertaking preclinical and clinical trials of KB103. While we have commenced our first clinical trial of KB103, we have not yet demonstrated the ability to complete clinical trials of KB103 or any other product candidate, obtain marketing approvals, manufacture a commercial-scale product or conduct sales and marketing activities necessary for successful commercialization. Consequently, any predictions you make about our future success or viability may not be as accurate as they could be if we had more experience developing gene therapy products.

We do not currently have the ability to perform the sales, marketing and manufacturing functions necessary for the production and sale of KB103 on a commercial scale. The successful commercialization of KB103 will require us to perform a variety of functions, including:

- further clinical development of KB103;
- obtaining required regulatory approvals;
- developing and operating a manufacturing facility or obtaining manufacturing services from third party manufacturers; and
- conducting sales and marketing activities.

We expect our financial condition and operating results to continue to fluctuate from quarter to quarter and year to year due to a variety of factors, many of which are beyond our control. We will need to transition at some point from a company with a research and development focus to a company capable of undertaking commercial

activities. We may encounter unforeseen expenses, difficulties, complications and delays and may not be successful in such a transition.

Risks Related to Our Business

We are early in our development efforts. If we are unable to advance KB103 through clinical trials, obtain regulatory approval and ultimately commercialize KB103, or if we experience significant delays in doing so, our business will be materially harmed.

We are early in our development efforts and KB103 entered its first clinical trial in May 2018. The development and commercialization of KB103 (or any other product candidate we may develop) is subject to many uncertainties, including the following:

- successful enrollment and completion of clinical trials;
- positive results from our current and planned future clinical trials;
- receipt of regulatory approvals from applicable regulatory authorities;
- maintenance of our existing arrangements with third-party manufacturers for clinical supply and successful development of our internal manufacturing processes on an ongoing basis;
- commercial launch of KB103, if and when approved, whether alone or in collaboration with others;
- acceptance of KB103, if and when approved, by patients, the medical community and third-party payors;
- enforcement and defense of intellectual property rights and claims; and
- maintenance of a continued acceptable safety profile of our product candidates following approval.

If we do not succeed in one or more of these factors in a timely manner or at all, we could experience significant delays or an inability to successfully commercialize KB103, which would materially harm our business. If we do not receive regulatory approvals for KB103, our business, financial condition, results of operations and prospects could be materially and adversely affected.

KB103 is in early stage development, and there is no guarantee that the results from preclinical studies will be indicative of our ability to complete or the results to be obtained in the current or future studies and clinical trials.

We initiated our first clinical trial for KB103 in May 2018; however, there is no guarantee that results of this or any potential future clinical trials will be positive or that we will be able to complete this or any potential future clinical trials on the anticipated timelines or at all. The positive results we have observed for KB103 in preclinical trials may not be predictive of outcomes in our current and future clinical trials, and the current and future clinical trial process may fail to demonstrate that KB103 is safe for humans and effective for indicated uses, which may cause us to abandon KB103, which is currently our lead product candidate. Furthermore, research and discoveries by us or others may identify serious adverse events, undesirable side effects or other unexpected properties of our current and future product candidates, including KB103, that could delay, prevent or cause the withdrawal of regulatory approval, limit the commercial potential, or result in significant negative consequences following marketing approval.

Many companies in the biotechnology industry have suffered significant setbacks in late-stage clinical trials after achieving positive results in early-stage development and there is a high failure rate for product candidates proceeding through clinical trials. Data obtained from preclinical and clinical activities are subject to varying interpretations, which may delay, limit or prevent regulatory approval. Regulatory delays or rejections may be encountered as a result of many factors, including changes in regulatory policy during the period of product

development, failure to perform in accordance with FDA good clinical practices or applicable regulatory guidelines in the EU and other countries, selection of clinical endpoints that require prolonged periods of clinical observation or analysis of the resulting data, or changes in regulatory requirements and guidance that require amending or submitting new clinical protocols. In addition, the design of a clinical trial can determine whether its results will support approval of a product, and flaws in the design of a clinical trial may not become apparent until the clinical trial is well advanced. We cannot be certain that we will not face these or similar setbacks.

We may find it difficult to enroll an adequate number of patients in our clinical trials, which could delay or prevent us from proceeding with clinical trials of KB103.

Identifying and qualifying patients to participate in clinical trials of KB103 is critical to our success. The timing of our clinical trials depends on our ability to recruit an adequate number of patients to participate as well as completion of required follow-up periods. If patients are unwilling to participate in our gene therapy studies because of competitive clinical trials for similar patient populations, negative publicity from adverse events related to the biotechnology or gene therapy fields or for other reasons, the timeline for recruiting patients, conducting studies and obtaining regulatory approval of KB103 may be delayed. These delays could result in increased costs, delays in advancing KB103, delays in testing the effectiveness of KB103 or termination of clinical trials altogether.

Even if we complete the necessary clinical trials, we cannot predict when, or if, we will obtain regulatory approval to commercialize KB103 and the approval may be for a more narrow indication than we seek.

We cannot commercialize a product candidate until the appropriate regulatory authorities have reviewed and approved the product candidate. Even if KB103 meets its safety and efficacy endpoints in clinical trials, the regulatory authorities may not complete their review processes in a timely manner, or we may not be able to obtain regulatory approval. Additional delays may result if an FDA Advisory Committee or other regulatory authority recommends non-approval or restrictions on approval. In addition, we may experience delays or rejections based upon additional government regulation from future legislation or administrative action, or changes in regulatory authority policy during the period of product development, clinical trials and the review process.

Regulatory authorities also may approve a product candidate for more limited indications than requested or they may impose significant limitations in the form of narrow indications, warnings or a Risk Evaluation and Mitigation Strategy, or REMS. These regulatory authorities may require precautions or contra-indications with respect to conditions of use or they may grant approval subject to the performance of costly post-marketing clinical trials. In addition, regulatory authorities may not approve the labeling claims that are necessary or desirable for the successful commercialization of KB103. Any of the foregoing scenarios could materially harm the commercial prospects for KB103 and materially and adversely affect our business, financial condition, results of operations and prospects.

KB103 is based on a novel technology, which makes it difficult to predict the time and cost of development and of subsequently obtaining regulatory approval.

The clinical trial requirements of the FDA, EMA and other regulatory authorities and the criteria these regulators use to determine the safety and efficacy of a product candidate vary substantially according to the type, complexity, novelty and intended use and market of such product candidates. The regulatory approval process for novel product candidates such as ours can be more expensive and take longer than for other, better known or more extensively studied product candidates. To date, only two gene therapy products, Novartis' Kymriah and Spark Therapeutics's Luxurna, have received marketing approval by the FDA, and only two gene therapy products, uniQure N.V.'s Glybera® and GlaxoSmithKline's Strimvelis™, have received marketing authorization from the European Commission. It is difficult to determine how long it will take or how much it will cost to obtain regulatory approvals for our product candidates in either the United States or the EU or how

long it will take to commercialize our product candidates. Approvals by the European Commission may not be indicative of what FDA may require for approval.

Regulatory requirements governing gene and cell therapy products have changed frequently and may continue to change in the future. The FDA has established the Office of Cellular, Tissue and Gene Therapies within its Center for Biologics Evaluation and Research, or CBER, to consolidate the review of gene therapy and related products, and has established the Cellular, Tissue and Gene Therapies Advisory Committee to advise CBER in its review. Gene therapy clinical trials conducted at institutions that receive funding for recombinant DNA research from the NIH, also are potentially subject to review by the NIH Office of Biotechnology Activities' RAC; however, the NIH recently announced that the RAC will only publicly review clinical trials if the trials cannot be evaluated by standard oversight bodies and pose unusual risks. Although the FDA decides whether individual gene therapy protocols may proceed, the RAC public review process, if undertaken, can delay the initiation of a clinical trial, even if the FDA has reviewed the trial design and details and approved its initiation. Conversely, the FDA can put an IND on a clinical hold even if the RAC has provided a favorable review or an exemption from in-depth, public review. If we were to engage an NIH-funded institution to conduct a clinical trial, that institution's IBC as well as its IRB, would need to review the proposed clinical trial to assess the safety of the trial. In addition, adverse developments in clinical trials of gene therapy products conducted by others may cause the FDA or other oversight bodies to change the requirements for approval of our product candidates. Similarly, the EMA may issue new guidelines concerning the development and marketing authorization for gene therapy medicinal products and require that we comply with these new guidelines.

These regulatory review committees and advisory groups and the new guidelines they promulgate may lengthen the regulatory review process, require us to perform additional studies, increase our development costs, lead to changes in regulatory positions and interpretations, delay or prevent approval and commercialization of KB103 or future product candidates or lead to significant post-approval limitations or restrictions. As we advance KB103, we will be required to consult with these regulatory and advisory groups, and comply with applicable guidelines. If we fail to do so, we may be required to delay or discontinue development of KB103. These additional processes may result in a review and approval process that is longer than we otherwise would have expected. Delay or failure to obtain, or unexpected costs in obtaining, the regulatory approval necessary to bring a potential product to market could decrease our ability to generate sufficient product revenue, and our business, financial condition, results of operations and prospects would be materially and adversely affected.

KB103 may cause undesirable side effects or have other properties that could delay or prevent its regulatory approval, limit the commercial potential or result in significant negative consequences following any potential marketing approval.

There have been several significant adverse side effects in gene therapy trials using other vectors in the past. Gene therapy is still a relatively new approach to disease treatment and additional adverse side effects could develop. There also is the potential risk of delayed adverse events following exposure to gene therapy products due to persistent biologic activity of the genetic material or other components of products used to carry the genetic material. Possible adverse side effects that could occur with treatment with gene therapy products include an immunologic reaction early after administration which, while not necessarily adverse to the patient's health, could substantially limit the effectiveness of the treatment. In previous clinical trials involving vectors derived from adeno-associated virus for gene therapy, some subjects experienced the development of a T-cell response, whereby after the vector is within the target cell, the cellular immune response system triggers the removal of transduced cells by activated T-cells. If our vectors demonstrate a similar effect we may decide or be required to halt or delay further clinical development of KB103.

In addition to side effects caused by the product candidate, the administration process or related procedures also can cause adverse side effects. If any such adverse events occur, our clinical trials could be suspended or terminated. If in the future we are unable to demonstrate that such adverse events were caused by the administration process or related procedures, the FDA, the European Commission, the EMA or other regulatory

authorities could order us to cease further development of, or deny approval of, KB103 for any or all targeted indications. Even if we are able to demonstrate that any serious adverse events are not product-related, such occurrences could affect patient recruitment or the ability of enrolled patients to complete the trial. Moreover, if we elect, or are required, to delay, suspend or terminate any clinical trial of KB103, the commercial prospects of such product candidate may be harmed and our ability to generate product revenues from this product candidate may be delayed or eliminated. Any of these occurrences may harm our ability to develop other product candidates, and may harm our business, financial condition and prospects significantly.

Additionally, if KB103 receives marketing approval, the FDA could require us to adopt a REMS to ensure that the benefits outweigh its risks, which may include, among other things, a medication guide outlining the risks of the product for distribution to patients and a communication plan to health care practitioners. Furthermore, if we or others later identify undesirable side effects caused by KB103, several potentially significant negative consequences could result, including:

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

Any of these events could prevent us from achieving or maintaining market acceptance of KB103 and could significantly harm our business, financial condition, results of operations and prospects.

We may encounter substantial delays in our clinical trials or we may fail to demonstrate safety and efficacy to the satisfaction of applicable regulatory authorities.

Before obtaining marketing approval from regulatory authorities for the sale of our drug candidates, we must conduct extensive clinical trials to demonstrate the safety and efficacy of the drug candidate for its intended indications. Clinical trials are expensive, time consuming and uncertain as to outcome. We cannot guarantee that any clinical trials will be conducted as planned or completed on schedule, if at all. A failure of one or more clinical trials can occur at any stage of testing. Events that may prevent successful or timely completion of clinical development include:

- delays in reaching a consensus with regulatory authorities on trial design;
- delays in opening sites and recruiting suitable patients to participate in our clinical trials;
- imposition of a clinical hold by regulatory authorities as a result of a serious adverse event or concerns with a class of drug candidates, or after an inspection of our clinical trial operations or trial sites;
- delays in having patients complete participation in a trial or return for post-treatment follow-up;
- occurrence of serious adverse events associated with the drug candidate that are viewed to outweigh its potential benefits; or
- changes in regulatory requirements and guidance that require amending or submitting new clinical protocols.

In addition, if we make manufacturing or formulation changes to KB103, we may need to conduct additional studies to bridge our modified product candidate to earlier versions. Clinical trial delays could also shorten any periods during which we may have the exclusive right to commercialize KB103 or allow our competitors to bring products to market before we do, which could limit our potential revenue or impair our

ability to successfully commercialize KB103 and may harm our business, financial condition, results of operations and prospects. Any delays, setbacks or failures in our clinical trials could materially and adversely affect our business, financial condition, results of operations and prospects.

Additionally, if the results of our clinical trials are inconclusive or if there are safety concerns or serious adverse events associated with our drug candidates, we may:

- be delayed in obtaining marketing approval, if at all;
- obtain approval for indications or patient populations that are not as broad as intended or desired;
- obtain approval with labeling that includes significant use or distribution restrictions or safety warnings;
- be subject to additional post-marketing testing requirements;
- be required to perform additional clinical trials to support approval or be subject to additional post-marketing testing requirements;
- have regulatory authorities withdraw, or suspend, their approval of the drug or impose restrictions on its distribution;
- be subject to the addition of labeling statements, such as warnings or contraindications;
- be sued; or
- experience damage to our reputation.

Our drug development costs will also increase if we experience delays in testing or obtaining marketing approvals. We do not know whether any of our preclinical studies or clinical trials will begin as planned, need to be restructured or be completed on schedule, if at all.

Further, we, the FDA or an IRB, may suspend our clinical trials at any time if it appears that we or our collaborators are failing to conduct a trial in accordance with regulatory requirements, including the FDA's current Good Clinical Practice, or GCP, regulations, that we are exposing participants to unacceptable health risks, or if the FDA finds deficiencies in our IND applications or the conduct of these trials. Therefore, we cannot predict with any certainty the schedule for commencement and completion of future clinical trials. If we experience delays in the commencement or completion of our clinical trials, or if we terminate a clinical trial prior to completion, the commercial prospects of our drug candidates could be negatively impacted, and our ability to generate revenues from our drug candidates may be delayed.

Negative public opinion and increased regulatory scrutiny of gene therapy may damage public perception of the safety of our gene therapy product candidates and adversely affect our ability to conduct our business or obtain regulatory approvals for our product candidates.

Gene therapy remains a novel technology, with only two gene therapy products approved to date in the United States and only two gene therapy products approved to date in the EU. Public perception may be influenced by claims that gene therapy is unsafe, and gene therapy may not gain the acceptance of the public or the medical community. In particular, our success will depend upon physicians who specialize in the treatment of genetic diseases targeted by our product candidates prescribing treatments that involve the use of our product candidates in lieu of, or in addition to, existing treatments with which they are familiar and for which greater clinical data may be available. More restrictive government regulations or negative public opinion would have an adverse effect on our business, financial condition, results of operations and prospects and may delay or impair the development and commercialization of our product candidates or demand for any products we may develop. For example, earlier gene therapy trials led to several well-publicized adverse events, including cases of leukemia and death seen in trials using other vectors. Serious adverse events in our clinical trials, or other clinical

trials involving gene therapy products or our competitors' products, even if not ultimately attributable to the relevant product candidates, and the resulting publicity, could result in increased government regulation, unfavorable public perception, potential regulatory delays in the testing or approval of our product candidates, stricter labeling requirements for those product candidates that are approved and a decrease in demand for any such product candidates.

In addition, our success will depend upon physicians who specialize in the treatment of DEB prescribing treatments that involve the use of KB103 in lieu of, or in addition to, other treatments with which they are more familiar and for which greater clinical data may be available. More restrictive government regulations or negative public opinion would have an adverse effect on our business, financial condition, results of operations and prospects and may delay or impair the development and commercialization of KB103 or demand for any product candidate we may develop. Serious adverse events in our clinical trials, or other clinical trials involving gene therapy products or our competitors' products, even if not ultimately attributable to the relevant product candidates, and the resulting publicity, could result in increased government regulation, unfavorable public perception, potential regulatory delays in the testing or approval of KB103, stricter labeling requirements for KB103 if approved and a decrease in demand for KB103.

If the market opportunities for KB103 or our future product candidates are smaller than we believe they are, our product revenues may be adversely affected and our business may suffer.

We are currently focusing our research and product development efforts on KB103 for DEB. Our understanding of both the number of people who have this disease, as well as the subset of people with this disease who have the potential to benefit from treatment with KB103, are based on estimates in published literature. These estimates may prove to be incorrect and new studies may reduce the estimated incidence or prevalence of this disease. The number of patients in the United States, the EU and elsewhere may turn out to be lower than expected or these patients may not be otherwise amenable to treatment with KB103 or may become increasingly difficult to identify and access, all of which would adversely affect our business, financial condition, results of operations and prospects.

Further, there are several factors that could contribute to making the actual number of patients who receive KB103 less than the potentially addressable market. These include the lack of widespread availability of, and limited reimbursement for, new therapies in many underdeveloped markets. Further, the severity of the progression of a disease up to the time of treatment will likely diminish the therapeutic benefit conferred by a gene therapy due to irreversible cell damage. Lastly, certain patients' immune systems might prohibit the successful delivery of certain gene therapy products to the target tissue, thereby limiting the treatment outcomes.

The commercial success of KB103 and any future product candidates will depend upon its degree of market acceptance by physicians, patients, third-party payors and others in the medical community.

Ethical, social and legal concerns about gene therapy could result in additional regulations restricting or prohibiting KB103. Even with the requisite approvals from the FDA in the United States, the EMA in the EU and other regulatory authorities internationally, the commercial success of KB103 will depend, in part, on the acceptance of physicians, patients and health care payors of gene therapy products in general, and KB103 in particular, as medically necessary, cost-effective and safe. Any product that we commercialize may not gain acceptance by physicians, patients, health care payors and others in the medical community. If these products do not achieve an adequate level of acceptance, we may not generate significant product revenue and may not become profitable. The degree of market acceptance of gene therapy products and, in particular, KB103, if approved for commercial sale, will depend on several factors, including:

- the efficacy and safety of KB103 as demonstrated in clinical trials;
- the efficacy, potential and perceived advantages of KB103 over alternative treatments;
- the cost of KB103 relative to alternative treatments;

- the clinical indications for which KB103 is approved by the FDA or the European Commission;
- patient awareness of, and willingness to seek, genotyping;
- the willingness of physicians to prescribe new therapies;
- the willingness of the target patient population to try new therapies;
- the prevalence and severity of any side effects;
- product labeling or product insert requirements of the FDA, the EMA or other regulatory authorities, including any limitations or warnings contained in a product's approved labeling;
- relative convenience and ease of administration;
- the strength of marketing and distribution support;
- the timing of market introduction of competitive products;
- the availability of products and their ability to meet market demand;
- publicity concerning our product candidates or competing products and treatments;
- any restrictions on the use of our products together with other medications; and
- favorable third-party payor coverage and adequate reimbursement.

Even if a potential product displays a favorable efficacy and safety profile in preclinical studies and clinical trials, market acceptance of the product will not be fully known until after it is launched.

Even if we obtain and maintain approval for our product candidates from the FDA, we may never obtain approval for them outside of the United States, which would limit our market opportunities and adversely affect our business.

Approval of a product candidate in the United States by the FDA does not ensure approval of such product candidate by regulatory authorities in other countries or jurisdictions, and approval by one foreign regulatory authority does not ensure approval by regulatory authorities in other foreign countries or by the FDA. Sales of KB103 or other future product candidates outside of the United States will be subject to foreign regulatory requirements governing clinical trials and marketing approval. Even if the FDA grants marketing approval for a product candidate, comparable regulatory authorities of foreign countries also must approve the manufacturing and marketing of the product candidate in those countries. Approval procedures vary among jurisdictions and can involve requirements and administrative review periods different from, and more onerous than, those in the United States, including additional preclinical studies or clinical trials. In many countries outside the United States, a product candidate must be approved for reimbursement before it can be approved for sale in that country. In some cases, the price that we intend to charge for our product candidates, if approved, is also subject to approval. We intend to submit a marketing authorization application to the EMA for approval of KB103 in the EU, but obtaining such approval from the European Commission following the opinion of the EMA is a lengthy and expensive process. Even if a product candidate is approved, the FDA or the European Commission, as the case may be, may limit the indications for which the product may be marketed, require extensive warnings on the product labeling or require expensive and time-consuming additional clinical trials or reporting as conditions of approval. Regulatory authorities in countries outside of the United States and the EU also have requirements for approval of product candidates with which we must comply prior to marketing in those countries. Obtaining foreign regulatory approvals and compliance with foreign regulatory requirements could result in significant delays, difficulties and costs for us and could delay or prevent the introduction of our product candidates in certain countries.

Further, clinical trials conducted in one country may not be accepted by regulatory authorities in other countries. Also, regulatory approval for any of our product candidates may be withdrawn. If we fail to comply

with the regulatory requirements, our target market will be reduced and our ability to realize the full market potential of KB103 or our future product candidates will be harmed and our business, financial condition, results of operations and prospects will be adversely affected.

We have a limited number of employees and limited corporate infrastructure, and may experience difficulties in managing growth.

We are a small company with a limited number of employees and corporate infrastructure. We have experienced a period of significant expansion in headcount and expect to experience significant expansion of our facilities, infrastructure and overhead as we develop our own manufacturing facility and increase our research and development efforts. Future growth will impose significant added capital requirements, as well as added responsibilities on members of management, including the need to identify, recruit, maintain and integrate new personnel. Our future financial performance and our ability to compete effectively will depend, in part, on our ability to manage any future growth effectively.

Even if we obtain regulatory approval for a product candidate, our product candidates will remain subject to regulatory oversight.

Even if we obtain any regulatory approval for KB103, our lead product candidate, it will be subject to ongoing regulatory requirements for manufacturing, labeling, packaging, storage, advertising, promotion, sampling, record-keeping and submission of safety and other post-market information. Any regulatory approvals that we receive for KB103 may also be subject to a REMS, limitations on the approved indicated uses for which the product may be marketed or to the conditions of approval, or contain requirements for potentially costly post-marketing testing, including Phase 4 clinical trials, and surveillance to monitor the quality, safety and efficacy of the product. For example, the holder of an approved BLA is obligated to monitor and report adverse events and any failure of a product to meet the specifications in the BLA. FDA guidance advises that patients treated with some types of gene therapy undergo follow-up observations for potential adverse events for as long as 15 years, and our current and each of our proposed clinical trials for KB103 includes a 15 year long-term follow-up phase, limited to confirmed data collection from annual visits with standard care physicians. The holder of an approved BLA also must submit new or supplemental applications and obtain FDA approval for certain changes to the approved product, product labeling or manufacturing process. Advertising and promotional materials must comply with FDA rules and are subject to FDA review, in addition to other potentially applicable federal and state laws.

In addition, product manufacturers and their facilities are subject to payment of user fees and continual review and periodic inspections by the FDA and other regulatory authorities for compliance with cGMP requirements and adherence to commitments made in the BLA or foreign marketing application. If we, or a regulatory authority, discover previously unknown problems with a product, such as adverse events of unanticipated severity or frequency, or problems with the facility where the product is manufactured or disagrees with the promotion, marketing or labeling of that product, a regulatory authority may impose restrictions relative to that product, the manufacturing facility or us, including requiring recall or withdrawal of the product from the market or suspension of manufacturing.

If we fail to comply with applicable regulatory requirements following approval of KB103 or any future product candidate, a regulatory authority may:

- issue a warning letter asserting that we are in violation of the law;
- seek an injunction or impose administrative, civil or criminal penalties or monetary fines;
- suspend or withdraw regulatory approval;
- suspend any ongoing clinical trials;

- refuse to approve a pending BLA or comparable foreign marketing application (or any supplements thereto) submitted by us or our strategic partners;
- restrict the marketing or manufacturing of the product;
- seize or detain the product or otherwise require the withdrawal of the product from the market;
- refuse to permit the import or export of product candidates; or
- refuse to allow us to enter into supply contracts, including government contracts.

Any government investigation of alleged violations of law could require us to expend significant time and resources in response and could generate negative publicity. The occurrence of any event or penalty described above may inhibit our ability to commercialize KB103 and adversely affect our business, financial condition, results of operations and prospects.

In addition, the FDA's policies, and those of equivalent foreign regulatory agencies, may change and additional government regulations may be enacted that could prevent, limit or delay regulatory approval of KB103. We cannot predict the likelihood, nature or extent of government regulation that may arise from future legislation or administrative action, either in the United States or abroad. If we are slow or unable to adapt to changes in existing requirements or the adoption of new requirements or policies, or if we are not able to maintain regulatory compliance, we may lose any marketing approval that we may have obtained and we may not achieve or sustain profitability, which would materially and adversely affect our business, financial condition, results of operations and prospects.

While we have obtained orphan drug designation for KB103 and KB105, it may not effectively protect us from competition and we may be unable to obtain orphan drug exclusivity for our future product candidates. If our competitors are able to obtain orphan drug exclusivity for products that constitute the same drug and treat the same indications as our product candidates before us, we may not be able to have competing products approved by the applicable regulatory authority for a significant period of time.

On November 2, 2017, the FDA granted orphan drug designation to our lead product candidate, KB103, for the treatment of DEB and we may seek orphan drug designation from the FDA for our future product candidates. On April 19, 2018, the EMA granted the Orphan Medicinal Product Designation, or OMPD, for KB103. On August 9, 2018, the FDA granted orphan drug designation to our second product candidate, KB105, currently in preclinical development for treatment of patients with transglutaminase 1 (TGM-1) deficient autosomal recessive congenital ichthyosis ("ARCI"). There are currently no treatments for ARCI, which affects approximately 20,000 patients worldwide. Regulatory authorities in some jurisdictions, including the United States and the EU, may designate drugs for relatively small patient populations as orphan drugs. Under the Orphan Drug Act of 1983, the FDA may designate a product candidate as an orphan drug if it is intended to treat a rare disease or condition, which is generally defined as having a patient population of fewer than 200,000 individuals in the United States, or a patient population greater than 200,000 in the United States where there is no reasonable expectation that the cost of developing the drug will be recovered from sales in the United States. In the EU, the EMA's Committee for Orphan Medicinal Products grants orphan drug designation to promote the development of products that are intended for the diagnosis, prevention or treatment of a life-threatening or chronically debilitating condition affecting not more than 5 in 10,000 persons in the EU. Additionally, orphan designation is granted for products intended for the diagnosis, prevention or treatment of a life-threatening, seriously debilitating or serious and chronic condition and when, without incentives, it is unlikely that sales of the drug in the EU would be sufficient to justify the necessary investment in developing the drug or biologic product.

Generally, if a product candidate with an orphan drug designation receives the first marketing approval for the indication for which it has such designation, the product is entitled to a period of marketing exclusivity, which precludes the FDA or the European Commission from approving another marketing application for a product that constitutes the same drug treating the same indication for that marketing exclusivity period, except

in limited circumstances. If another sponsor receives such approval before we do (regardless of our orphan drug designation), we will be precluded from receiving marketing approval for our product for the applicable exclusivity period. The applicable period is seven years in the United States and 10 years in the EU. The exclusivity period in the EU can be reduced to nine 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. Orphan drug exclusivity may be revoked if any regulatory agency determines that the request for designation was materially defective or if the manufacturer is unable to assure sufficient quantity of the product to meet the needs of patients with the rare disease or condition.

Even though we have obtained orphan drug exclusivity for KB103 and KB105, that exclusivity may not effectively protect the product candidate from competition because different drugs can be approved for the same condition. In the United States, even after an orphan drug is approved, the FDA may subsequently approve another drug for the same condition if the FDA concludes that the latter drug is not the same drug or is clinically superior in that it is shown to be safer, more effective or makes a major contribution to patient care. In the EU, marketing authorization may be granted to a similar medicinal product for the same orphan indication if:

- the second applicant can establish in its application that its medicinal product, although similar to the orphan medicinal product already authorized, is safer, more effective or otherwise clinically superior;
- the holder of the marketing authorization for the original orphan medicinal product consents to a second orphan medicinal product application; or
- the holder of the marketing authorization for the original orphan medicinal product cannot supply sufficient quantities of orphan medicinal product.

Breakthrough therapy designation, Regenerative Medicine Advanced Therapy designation, Fast Track designation or Rare Pediatric Disease designation by the FDA, even if granted for any of our product candidates, may not lead to a faster development, regulatory review or approval process, and it does not increase the likelihood that any of our product candidates will receive marketing approval in the United States.

On May 27, 2018, the FDA granted Fast Track designation in the United States for KB103. We have been granted rare pediatric disease designation for KB103. On August 23, 2018, the FDA granted rare pediatric disease designation for KB105. The receipt of any of these designations for a product candidate may not result in a faster development process, review or approval compared to products considered for approval under conventional FDA procedures and does not assure ultimate approval by the FDA.

A breakthrough therapy product candidate is defined as a product candidate that is intended, alone or in combination with one or more other drugs, to treat a serious or life-threatening disease or condition and preliminary clinical evidence indicates that such product candidate may demonstrate substantial improvement on one or more clinically significant endpoints over existing therapies. Drugs designated as breakthrough therapies by the FDA are eligible for accelerated approval and increased interaction and communication with the FDA designed to expedite the development and review process. If a drug, or biologic in our case, is intended for the treatment of a serious or life-threatening condition and the biologic demonstrates the potential to address unmet medical needs for this condition, the biologic sponsor may apply for FDA Fast Track designation. Even after having received Fast Track designation, we may not experience a faster development process, review or approval compared to conventional FDA procedures. In addition, the FDA may withdraw Fast Track designation if it believes that the designation is no longer supported by data from our clinical development program. Many biologics that have received Fast Track designation have failed to obtain approval. A sponsor who receives an approval for a drug or biologic for a “rare pediatric disease” may qualify for a voucher that can be redeemed to receive a priority review of a subsequent marketing application for a different product. We received the designation of “rare pediatric disease” for KB103 in December 2016 and for KB105 in August 2018 which could qualify us to receive a Rare Pediatric Priority Review Voucher. According to the FDA website, a Rare Pediatric

Priority Review Voucher can be redeemed to receive a priority review of a subsequent marketing application for a different product.

There is no assurance we will receive breakthrough therapy or Fast Track designations for any of our product candidates and the receipt of any of these designations for a product candidate may not result in a faster development process, review or approval and does not assure ultimate approval by the FDA. Further, even though we have received rare pediatric disease designation for KB103 or KB105, we may not experience a faster development process, review or approval for a subsequent marketing application.

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.

We have limited financial and managerial resources. As a result, we may forego or delay pursuit of opportunities with other product candidates or for other indications that later prove to have greater commercial potential. Our resource allocation decisions may cause us to fail to timely capitalize on viable commercial products or profitable market opportunities. Our spending on current and future research and development programs and product candidates for specific indications may not yield any commercially viable 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.

If we are not successful in discovering, developing and commercializing additional product candidates, our ability to expand our business and achieve our strategic objectives would be impaired.

Although a substantial amount of our efforts focuses on the potential approval of KB103 and KB105, a key component our strategy is to discover, develop and potentially commercialize a portfolio of product candidates to treat orphan diseases and ultimately, non-orphan diseases. Identifying new product candidates requires substantial technical, financial and human resources, whether or not any product candidates are ultimately identified. Even if we identify product candidates that initially show promise, we may fail to successfully develop and commercialize such product candidates for many reasons, including the following:

- the research methodology used may not be successful in identifying potential product candidates;
- competitors may develop alternatives that render our product candidates obsolete;
- product candidates we develop may nevertheless be covered by third parties' patents or other exclusive rights;
- a product candidate may, on further study, be shown to have harmful side effects or other characteristics that indicate it is unlikely to be effective or otherwise does not meet applicable regulatory criteria;
- a product candidate may not be capable of being produced in commercial quantities at an acceptable cost, or at all; and
- a product candidate may not be accepted as safe and effective by patients, the medical community or third-party payors.

If we are unsuccessful in identifying and developing additional product candidates, our potential for growth may be impaired.

We face significant competition in an environment of rapid technological change and the possibility that our competitors may achieve regulatory approval before us or develop therapies that are more advanced or effective than ours, which may adversely affect our financial condition and our ability to successfully market or commercialize KB103.

At this time, there are no known FDA or EMA approved treatments for DEB, or any approved gene therapy treatment for dermatological indications, generally. However, we are aware of several companies and institutions that are currently developing alternative autologous or palliative gene therapy approaches for DEB. Many of our potential competitors, alone or with their strategic partners, have substantially greater financial, technical and other resources, such as larger research and development, clinical, marketing and manufacturing organizations. Mergers and acquisitions in the biotechnology and pharmaceutical industries may result in even more resources being concentrated among a smaller number of competitors. Our commercial opportunity could be reduced or eliminated if competitors develop and commercialize products that are safer, more effective, have fewer or less severe side effects, are more convenient or are less expensive than any product candidate that we may develop. Competitors also may obtain FDA or other regulatory approval for their products more rapidly or earlier than we may obtain approval for ours, which could result in our competitors establishing a strong market position before we are able to enter the market. Additionally, technologies developed by our competitors may render KB103 uneconomical or obsolete, and we may not be successful in marketing KB103 against competitors.

In addition, as a result of the expiration or successful challenge of our patent rights, we could face more litigation with respect to the validity and/or scope of patents relating to our competitors' products. The availability of our competitors' products could limit the demand, and the price we are able to charge, for any product candidate that we may develop and commercialize.

Delays in obtaining regulatory approvals of the process and facilities needed to manufacture KB103 or disruptions in our manufacturing process may delay or disrupt our product development and commercialization efforts.

Before we can begin to commercially manufacture KB103, whether in a third-party facility or in our own facility, once established, we must obtain regulatory approval from FDA for our manufacturing process and facility. A manufacturing authorization must also be obtained from the appropriate EU regulatory authorities. The timeframe required for us to obtain such approvals is uncertain. In addition, we must pass a pre-approval inspection of our manufacturing facility by the FDA before KB103 can obtain marketing approval. In order to obtain approval, we will need to ensure that all of our processes, methods and equipment are compliant with cGMP, and perform extensive audits of vendors, contract laboratories and suppliers. If any of our vendors, contract laboratories or suppliers is found to be out of compliance with cGMP, we may experience delays or disruptions in manufacturing while we work with these third parties to remedy the violation or while we work to identify suitable replacement vendors. The cGMP requirements govern quality control of the manufacturing process and documentation policies and procedures. In complying with cGMP, we will be obligated to expend time, money and effort in production, record keeping and quality control to assure that the product meets applicable specifications and other requirements. If we fail to comply with these requirements, we would be subject to possible regulatory action and may not be permitted to sell any product candidate that we may develop.

In addition, the manufacturing process used to produce KB103 is complex, novel and has not been validated for commercial use. In order to produce sufficient quantities of KB103 for future clinical trials and initial U.S. commercial demand, we will need to increase the scale of our manufacturing process. The production of KB103 requires processing steps that are more complex than those required for most chemical pharmaceuticals. Moreover, unlike chemical pharmaceuticals, the physical and chemical properties of a biologic such as ours generally cannot be fully characterized. As a result, assays of the finished product may not be sufficient to ensure that the product will perform in the intended manner. Accordingly, we employ multiple steps to control our manufacturing process to assure that the process works and that KB103 is made strictly and consistently in compliance with the process. Problems with the manufacturing process, even minor deviations from the normal

process, could result in product defects or manufacturing failures that result in lot failures, product recalls, product liability claims or insufficient inventory. We may encounter problems achieving adequate quantities and quality of clinical-grade materials that meet FDA, EMA or other applicable standards or specifications with consistent and acceptable production yields and costs.

Although we intend to establish our own KB103 manufacturing facility, we expect to utilize third parties to conduct our product manufacturing for the near future. Therefore, we are subject to the risk that these third parties may not perform satisfactorily.

Until such time as we establish our manufacturing facility that has been properly validated to comply with FDA cGMP requirements, we will not be able to independently manufacture material for our planned preclinical and clinical programs. Even following our establishment of a validated cGMP manufacturing facility, we intend to maintain third-party manufacturing capabilities in order to provide multiple sources of supply. In the event that the establishment of our own manufacturing facility is delayed and if these third-party manufacturers do not successfully carry out their contractual duties, meet expected deadlines or manufacture KB103 in accordance with regulatory requirements or if there are disagreements between us and these third-party manufacturers, we will not be able to complete, or may be delayed in completing, the preclinical studies required to support future IND submissions and the clinical trials required for approval of KB103. In such instances, we may need to locate an appropriate replacement third-party relationship, which may not be readily available or on acceptable terms, which would cause additional delay or increased expense prior to the approval of KB103 and would thereby have a material adverse effect on our business, financial condition, results of operations and prospects.

Building our own manufacturing facility will require additional investment, will be time consuming and may be subject to delays, including because of shortage of labor or compliance with regulatory requirements. In addition, building a manufacturing facility may cost more than we currently anticipate. Delays or problems in the build out of our manufacturing facility may adversely impact our ability to obtain regulatory approval and provide supply for the development and commercialization of KB103 as well as our financial condition.

If we or our third-party manufacturer fails to comply with applicable cGMP regulations, the FDA and foreign regulatory authorities can impose regulatory sanctions including, among other things, refusal to approve a pending application for a new product candidate or suspension or revocation of a pre-existing approval. Such an occurrence may cause our business, financial condition, results of operations and prospects to be materially harmed.

Any contamination in our manufacturing process, shortages of raw materials or failure of any of our key suppliers to deliver necessary components could result in delays in our clinical development or marketing schedules.

Given the nature of biologics manufacturing, there is a risk of contamination. Any contamination could materially adversely affect our ability to produce KB103 on schedule and could, therefore, harm our results of operations and cause reputational damage.

Some of the raw materials required in our manufacturing process are derived from biologic sources. Such raw materials are difficult to procure and may be subject to contamination or recall. A material shortage, contamination, recall or restriction on the use of biologically derived substances in the manufacture of KB103 could adversely impact or disrupt the commercial manufacturing or the production of clinical material, which could materially and adversely affect our development timelines and our business, financial condition, results of operations and prospects.

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

We are highly dependent on members of our executive team, the loss of whose services may adversely impact the achievement of our objectives. Our employees and scientific advisors are at-will employees and

consultants, and the loss of one or more of them might impede the achievement of our research, development and commercialization objectives.

Recruiting and retaining other qualified employees and scientific advisors for our business, including scientific and technical personnel, also will be critical to our success. There currently is a shortage of skilled individuals with substantial gene therapy experience, which is likely to continue. As a result, competition for skilled personnel, including in gene therapy research and vector manufacturing, is intense and the turnover rate can be high. We may not be able to attract and retain personnel on acceptable terms given the competition among numerous pharmaceutical and biotechnology companies and academic institutions for individuals with similar skill sets. In addition, failure to succeed in preclinical or clinical trials or applications for marketing approval may make it more challenging to recruit and retain qualified personnel. The inability to recruit, or loss of services of certain executives, key employees or advisors, may impede the progress of our research, development and commercialization objectives and have a material adverse effect on our business, financial condition, results of operations and prospects.

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

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

In addition, principal investigators for our clinical trials may serve as scientific advisors or consultants to us from time to time and receive compensation in connection with such services. Under certain circumstances, we may be required to report some of these relationships to the FDA. The FDA may conclude that a financial relationship between us and a principal investigator has created a conflict of interest or otherwise affected interpretation of the trial. The FDA may therefore question the integrity of the data generated at the applicable clinical trial site and the utility of the clinical trial itself may be jeopardized. This could result in a delay in approval, or rejection, of our marketing applications by the FDA and may ultimately lead to the denial of marketing approval of our current and future drug candidates.

Healthcare legislative reform measures may have a material adverse effect on our business and results of operations.

In the United States and some foreign jurisdictions, there have been, and continue to be, several 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.

For example, in March 2010, the Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act, or the PPACA, was passed, which substantially changes the way healthcare is financed by both the government and private insurers, and significantly impacts the U.S. pharmaceutical industry. The PPACA, among other things: (i) addresses a new methodology by which rebates owed by manufacturers under the Medicaid Drug Rebate Program are calculated for drugs that are inhaled, infused, instilled, implanted or injected; (ii) increases the minimum Medicaid rebates owed by manufacturers under the Medicaid Drug Rebate Program and extends the rebate program to individuals enrolled in Medicaid managed care organizations; (iii) establishes annual fees and taxes on manufacturers of certain branded prescription drugs; (iv) expands the availability of lower pricing under the 340B drug pricing program by adding new entities to the program; and (v) establishes a new Medicare Part D coverage gap discount program, in which manufacturers must agree to offer 50% point-of-sale discounts off negotiated prices of applicable brand drugs to eligible beneficiaries during their coverage gap period, as a condition for the manufacturer's outpatient drugs to be covered under Medicare Part D.

Since its enactment, there have been judicial and Congressional challenges to certain aspects of the PPACA. As a result, there have been delays in the implementation of, and action taken to repeal or replace, certain aspects of the PPACA. In January 2017, President Trump signed an Executive Order directing federal agencies with authorities and responsibilities under the PPACA to waive, defer, grant exemptions from, or delay the implementation of any provision of the ACA that would impose a fiscal or regulatory burden on states, individuals, healthcare providers, health insurers, or manufacturers of pharmaceuticals or medical devices. Further, in January 2017, Congress adopted a budget resolution for fiscal year 2017, or the Budget Resolution, that authorizes the implementation of legislation that would repeal portions of the PPACA. Following the passage of the Budget Resolution, in March 2017, the U.S. House of Representatives introduced legislation known as the American Health Care Act, which, if enacted, would amend or repeal significant portions of the PPACA. Among other changes, the American Health Care Act would repeal the annual fee on certain brand prescription drugs and biologics imposed on manufacturers and importers, eliminate penalties on individuals and employers that fail to maintain or provide minimum essential coverage, and create refundable tax credits to assist individuals in buying health insurance. The American Health Care Act would also make significant changes to Medicaid by, among other things, making Medicaid expansion optional for states, repealing the requirement that state Medicaid plans provide the same essential health benefits that are required by plans available on the exchanges, modifying federal funding, including implementing a per capita cap on federal payments to states, and changing certain eligibility requirements. While it is uncertain when or if the provisions in the American Health Care Act will become law, or the extent to which any changes may impact our business, it is clear that concrete steps are being taken to repeal and replace certain aspects of the PPACA.

Additionally, in the United States, the Biologics Price Competition and Innovation Act of 2009 created an abbreviated approval pathway for biologic products that are demonstrated to be "highly similar" or "biosimilar or interchangeable" with an FDA-approved biologic product. This new pathway could allow competitors to reference data from biologic products already approved after 12 years from the time of approval. This could expose us to potential competition by lower-cost biosimilars even if we commercialize a product candidate faster than our competitors. Moreover, the creation of this abbreviated approval pathway does not preclude or delay a third party from pursuing approval of a competitive product candidate via the traditional approval pathway based on their own clinical trial data. Other legislative changes have been proposed and adopted in the United States since the PPACA was enacted. For example, 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 2012 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 up to 2% per fiscal year, which went into effect in April 2013 and will remain in effect through 2025 unless additional Congressional action is taken. In January 2013, the American Taxpayer Relief Act of 2012, among other things, further reduced Medicare payments to certain providers, and increased the statute of limitations period for the government to recover overpayments to providers from three to five years. Additionally, there have been several

recent U.S. Congressional inquiries and proposed bills designed to, among other things, bring more transparency to drug pricing, reduce the cost of prescription drugs under Medicare, review the relationship between pricing and manufacturer patient programs, and reform government program reimbursement methodologies for drugs.

Additional changes that may affect our business include those governing enrollment in federal healthcare programs, reimbursement changes, fraud and abuse enforcement, and expansion of new programs, such as Medicare payment for performance initiatives.

We expect that these initiatives, as well as other healthcare reform measures that may be adopted in the future, may result in more rigorous coverage criteria and in additional downward pressure on the price that we 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 could result in reduced demand for KB103 or additional pricing pressures, and may prevent us from being able to generate revenue, attain profitability, or commercialize our products.

We may be subject, directly or indirectly, to federal and state healthcare fraud and abuse laws, false claims laws and health information privacy and security laws. If we are unable to comply, or have not fully complied, with such laws, we could face substantial penalties.

If we obtain FDA approval for KB103 and begin commercializing it in the United States, our operations will be directly, or indirectly through our prescribers, customers and purchasers, subject to various federal and state fraud and abuse laws and regulations, including, without limitation, the federal Health Care Program Anti-Kickback Statute, the federal civil and criminal laws and Physician Payments Sunshine Act and regulations. These laws will impact, among other things, our proposed sales, marketing and educational programs. In addition, we may be subject to patient privacy laws by both the federal government and the states in which we conduct our business. The laws that will affect our operations include, but are not limited to:

- the federal Health Care Program Anti-Kickback Statute, which prohibits, among other things, persons or entities from knowingly and willfully soliciting, receiving, offering or paying any remuneration (including any kickback, bribe or rebate), directly or indirectly, overtly or covertly, in cash or in kind, in return for the purchase, recommendation, leasing or furnishing of an item or service reimbursable under a federal healthcare program, such as the Medicare and Medicaid programs. This statute has been interpreted to apply to arrangements between pharmaceutical manufacturers on the one hand, and prescribers, purchasers and formulary managers on the other. The PPACA amended the intent requirement of the federal Anti-Kickback Statute. A person or entity no longer needs to have actual knowledge of this statute or specific intent to violate it;
- federal civil and criminal false claims laws and civil monetary penalty laws which prohibit, among other things, individuals or entities from knowingly presenting, or causing to be presented, claims for payment or approval from Medicare, Medicaid or other government payors that are false or fraudulent. The PPACA provides and recent government cases against pharmaceutical and medical device manufacturers support the view that Federal Anti-Kickback Statute violations and certain marketing practices, including off-label promotion, may implicate the False Claims Act;
- the federal Health Insurance Portability and Accountability Act of 1996, or HIPAA, which created new federal criminal statutes that prohibit a person from knowingly and willfully executing a scheme or from making false or fraudulent statements to defraud any healthcare benefit program, regardless of the payor (e.g., public or private);
- HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act, or HITECH, and its implementing regulations, and as amended again by the final HIPAA omnibus rule, Modifications to the HIPAA Privacy, Security, Enforcement, and Breach
- Notification Rules Under HITECH and the Genetic Information Nondiscrimination Act; Other Modifications to HIPAA, published in January 2013, which imposes certain requirements relating to

the privacy, security and transmission of individually identifiable health information without appropriate authorization by entities subject to the rule, such as health plans, health care clearinghouses and health care providers;

- federal transparency laws, including the federal Physician Payment Sunshine Act, that require certain manufacturers of drugs, devices, biologics and medical supplies for which payment is available under Medicare, Medicaid or the Children's Health Insurance Program, with specific exceptions, to report annually to the Centers for Medicare & Medicaid Services, or CMS, information related to: (i) payments or other "transfers of value" made to physicians and teaching hospitals and (ii) ownership and investment interests held by physicians and their immediate family members;
- state and foreign law equivalents of each of the above federal laws, state laws that require drug manufacturers to report information related to payments and other transfers of value to physicians and other healthcare providers or marketing expenditures and state laws governing the privacy and security of health information in certain circumstances, many of which differ from each other in significant ways and may not have the same effect, thus complicating compliance efforts in certain circumstances, such as specific disease states; 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.

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

Efforts to ensure that our business arrangements with third parties will comply with applicable healthcare laws and regulations will involve substantial costs. It is possible that governmental authorities will conclude that our business practices may not comply with current or future statutes, regulations or case law involving applicable fraud and abuse or other healthcare laws and regulations. If our operations are found to be in violation of any of these laws or any other governmental regulations that may apply to us, we may be subject to significant civil, criminal and administrative penalties, damages, fines, imprisonment, exclusion of products from government funded healthcare programs, such as Medicare and Medicaid, and the curtailment or restructuring of our operations.

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 and expandable systems to comply with multiple jurisdictions with different compliance and/or reporting requirements increases the possibility that a healthcare company may run afoul of one or more of the requirements.

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 have a material adverse effect on the success of our business.

We are subject to numerous environmental, health and safety laws and regulations, including those governing laboratory procedures and the generation, handling, use, storage, treatment, manufacture, transportation and disposal of, and exposure to, hazardous materials and wastes, as well as laws and regulations

relating to occupational health and safety. Our operations involve the use of hazardous and flammable materials, including chemicals and biologic materials. 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. We do not carry specific biological or hazardous waste insurance coverage, and our property, casualty and general liability insurance policies specifically exclude coverage for damages and fines arising from biological or hazardous waste exposure or contamination. Accordingly, in the event of contamination or injury, we could be held liable for damages or be penalized with fines in an amount exceeding our resources, and our clinical trials or regulatory approvals could be suspended.

Although we maintain workers' compensation insurance for certain costs and expenses we may incur due to injuries to our employees resulting from the use of hazardous materials or other work-related injuries, this insurance may not provide adequate coverage against potential liabilities. We do not maintain insurance for toxic tort claims that may be asserted against us in connection with our storage or disposal of biologic, 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, which have tended to become more stringent over time. These current or future laws and regulations may impair our research, development or production efforts. Failure to comply with these laws and regulations also may result in substantial fines, penalties or other sanctions or liabilities, which could materially adversely affect our business, financial condition, results of operations and prospects.

Our business continuity and disaster recovery plans may not adequately protect us from a serious disaster.

Natural disasters could severely disrupt our operations or the operations of manufacturing facilities and have a material adverse effect on our business, financial condition, results of operations and prospects. If a natural disaster, power outage or other event occurred that prevented us from using all or a significant portion of our headquarters, that damaged critical infrastructure, such as manufacturing facilities, or that otherwise disrupted operations, it may be difficult or, in certain cases, impossible for us to continue our business for a substantial period of time. The disaster recovery and business continuity plans we have in place currently are limited and may not prove adequate in the event of a serious disaster or similar event. Our third-party manufacturing facility, as well as substantially all of our current supply of KB103 is located in Pittsburgh, Pennsylvania, and we do not have any existing back-up facilities in place or plans for such back-up facilities. We may incur substantial expenses as a result of the limited nature of our disaster recovery and business continuity plans, which could have a material adverse effect on our business, financial condition, results of operations and prospects.

Risks Related to Our Intellectual Property

If we are unable to obtain and maintain patent protection for our product candidates, KB103 and KB105, any future product candidates we may develop and our STAR-D platform, or if the scope of the patent protection obtained is not sufficiently broad, our competitors could develop and commercialize products and technology similar or identical to ours, and our ability to successfully commercialize our current product candidate, any future product candidates we may develop and our technology may be adversely affected.

Our success depends, in large part, on our ability to obtain and maintain patent protection in the United States and other countries with respect to KB103, KB105, any future innovations related to our STAR-D platform, and our institutional knowledge, including our manufacturing processes. The patent prosecution process is expensive, time-consuming and complex, and we may not be able to file, prosecute, maintain, enforce or license all necessary or desirable patent applications and issued patents at a reasonable cost or in a timely manner. We currently have one issued patent in the United States covering, in part, pharmaceutical formulations

and methods of treating dystrophic epidermolysis bullosa ("DEB") using our KB103 product. A corresponding international application has been filed in accordance with the Paris Cooperation treaty, and a number of patent applications are on file in foreign jurisdictions stemming from this international application. We are actively prosecuting a continuing patent application in front of the U.S. Patent and Trademark Office, or USPTO, directed to further aspects of our KB103 product candidate. In addition, we are seeking patent protection for other key aspects of our business, including our product KB105, through additional patent applications on file at the USPTO. We do not, however, yet know the outcome of these patent applications.

Even if we are granted the patents we are currently pursuing, they may not issue in a form that will provide us with the full scope of protection we desire, they may not prevent competitors or other third parties from competing with us, and/or they may not otherwise provide us with a competitive advantage. Our competitors, or other third parties, may be able to circumvent our patents by developing similar or alternative technologies or products in a non-infringing manner. Even assuming patents issue from our pending and future patent applications, changes in either the patent laws or interpretation of the patent laws in the United States and foreign jurisdictions may diminish the value of our patents, or narrow their scope of protection.

In addition, we may not be aware of all third-party intellectual property rights potentially relating to technologies similar to our own. Publications of discoveries in the scientific literature often lag behind their 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, it is impossible to be certain that we were the first to develop the specific technologies as claimed in any owned patents or pending patent applications, or that we were the first to file for patent protection of such inventions.

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

Filing, prosecuting and defending patents on product candidates in all countries throughout the world would be prohibitively expensive, and intellectual property rights in some countries outside the United States may differ in scope from those eventually granted in the United States. Thus, in some cases, we will not have the opportunity to obtain patent protection for certain technologies in some jurisdictions 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, we may not be able to prevent third parties from practicing our inventions in all countries outside the United States, even in jurisdictions where we do pursue patent protection. Competitors may use our technologies in jurisdictions where we have not pursued and obtained 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 product candidates, and our patents or other intellectual property rights may not be effective or sufficient to prevent them from competing.

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

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 any potential future collaborators) to develop, manufacture, market and sell our product candidates, and to use our proprietary technologies without infringing the rights and intellectual property of others. Many companies and institutions have filed, and continue to file, patent applications related to various aspects of gene therapy. Some of these patent applications have already been allowed or issued, while others may issue in the future. Since the areas of gene delivery and gene therapeutics are competitive and of strong interest to pharmaceutical and biotechnology companies, there will likely be additional patent applications filed, and additional patents granted, in the future, as well as additional gene therapy research and development programs. Furthermore, because patent applications can take many years to issue, may be confidential for 18 months or more after filing, and can be revised before issuance, there may be applications now pending which may later result in issued patents that a third party asserts are infringed by the manufacture, use, sale, or importation of our products. The biotechnology and pharmaceutical industries are characterized by extensive and complex litigation regarding patents and other intellectual property rights. We may in the future become party to, or be threatened with, adversarial proceedings or litigation regarding intellectual property rights with respect to KB103, KB105 or related technologies, including, for example, interference proceedings, post grant review challenges, and inter partes review before the USPTO. Our competitors or other third parties may assert infringement claims against us, alleging that our therapeutics, manufacturing methods, formulations or administration methods are covered by their patents. Moreover, we may face patent infringement claims from non-practicing entities that have no relevant product revenue, and against whom our licensed patent portfolio may therefore have no deterrent effect.

Third parties may assert infringement claims against us based on existing patents or patents that may be granted in the future, regardless of their merit. There is a risk that third parties may choose to engage in litigation with us to enforce or to otherwise assert their patents or other intellectual property rights against us. Even if we believe such claims are without merit, a court of competent jurisdiction could hold that these third-party patents are valid, enforceable and infringed, which could materially and adversely affect our ability to commercialize KB103. In order to successfully challenge the validity of any such U.S. patent in federal court, we would need to overcome a presumption of validity. As this burden is a high, one requiring us to present clear and convincing evidence as to the invalidity of any such U.S. patent claim, there is no assurance that a court of competent jurisdiction would invalidate the claims of any such U.S. patent. In such a hypothetical situation, there is no assurance that a court of competent jurisdiction would find that KB103 or our other product candidates or technologies do not infringe a third-party patent.

Patent and other types of intellectual property litigation can involve complex factual and legal questions, and their outcomes are uncertain. If we are found, or believe there is a risk that we may be found, to infringe a third party’s valid and enforceable intellectual property rights, we could be required (or may choose) to obtain a license from such a third party to continue developing, manufacturing and marketing our technologies. However, we may not be able to obtain any required license on commercially reasonable terms, if at all. Even if we were able to obtain a license, it could be non-exclusive, thereby giving our competitors and other third parties access to the same technologies licensed to us, and further, it could require us to make substantial licensing and royalty payments. We could be forced, including by court order, to cease developing, manufacturing and commercializing the infringing technologies, including KB103. 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 or other intellectual property right. A finding of infringement could prevent us from manufacturing and commercializing KB103, or force us to cease some or all of our business operations. Claims that we have misappropriated the confidential information or trade secrets of third parties could have a similar negative impact on our business, financial condition, results of operations and prospects.

Intellectual property litigation could cause us to spend substantial resources and distract our personnel from their normal responsibilities.

Litigation or other legal proceedings relating to intellectual property claims, with or without merit, is unpredictable and generally expensive and time consuming. Competitors may infringe our patents, should such patents issue, or we may be required to defend against claims of infringement or other unauthorized use of intellectual property. Even if resolved in our favor, litigation or other legal proceedings relating to intellectual property claims may cause us to incur significant expenses, and could distract our scientific and management personnel from their normal responsibilities. Furthermore, because of the substantial amount of discovery required in connection with intellectual property litigation, there is a risk that some of our confidential information could be compromised by disclosure during this type of litigation. In addition, there could be public announcements of the results of hearings, motions, or other interim proceedings or developments, and if securities analysts or investors perceive these results to be negative, it could have a substantial adverse effect on the price of our common stock. Such litigation or proceedings could substantially increase our operating losses and reduce the resources available for development activities or any future sales, marketing, or distribution activities.

We may not have sufficient financial or other resources to adequately conduct such litigation or proceedings. Some of our competitors may be able to sustain the costs of such litigation or proceedings more effectively than we can because of their greater financial resources. Accordingly, despite our efforts, we may not be able to prevent third parties from infringing, misappropriating, or successfully challenging our intellectual property rights. Uncertainties resulting from the initiation and continuation of patent litigation or other proceedings could have a material adverse effect on our ability to compete in the marketplace.

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

Certain of our employees or advisors are currently, or were previously, employed at universities or other biotechnology or pharmaceutical companies, including potential competitors, and we have and may in the future enter into agreements providing us with rights to intellectual property of third parties for limited purposes. Although we try to observe the terms of agreements under which we obtain access to third party intellectual property and to ensure that our employees and advisors do not use the proprietary information or know-how of others in their work for us, we may be subject to claims that these individuals, or we, have used or disclosed intellectual property, including trade secrets or other proprietary information, of third parties or the current or former employers of employees or advisors. Litigation may be necessary to defend against these claims. If we fail in defending any such claims, in addition to paying monetary damages, we may lose valuable intellectual property rights or personnel. Moreover, any such litigation, or the threat thereof, may adversely affect our ability to hire new employees or contract with independent contractors. A loss of key personnel or their work product could hamper or prevent our ability to commercialize our technologies, which would have an adverse effect on our business, results of operations, and financial condition. Even if we are successful in defending against such claims, litigation could result in substantial costs and be a distraction to management.

In addition, while it is our policy to require our employees and contractors who may be involved in the conception of intellectual property to execute agreements assigning such intellectual property rights to us, unforeseen complications may arise when fully and adequately executing such an agreement with each party who, in fact, conceives of intellectual property that we regard as our own. Examples of such complications may include, for example, when we obtain agreements assigning intellectual property to us, the assignment of intellectual property rights may not be self-executing or the assignment agreements may be breached. Such complications may lead to us being forced to bring claims against third parties, or defend claims that they may bring against us, to determine the ownership of what we regard as our intellectual property. Moreover, individuals executing agreements with us may have preexisting or competing obligations to a third party, such as

an academic institution, and thus an agreement with us may be insufficient in fully perfecting ownership of inventions developed by that individual. Disputes about the ownership of intellectual property that we may own may have a material adverse effect on our business.

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

Patent reform legislation could increase the uncertainties and costs surrounding the prosecution of patent applications and the enforcement or defense of issued patents. For example, on September 16, 2011, the Leahy-Smith America Invents Act, or the Leahy-Smith Act, was signed into law. The Leahy-Smith Act included several significant changes to U.S. patent law, including provisions that affected the way patent applications are prosecuted, and altered strategies regarding patent litigation. These provisions also switched the United States from a "first-to-invent" system to a "first-to-file" system, allowed third-party submission of prior art to the USPTO during patent prosecution, and set forth additional procedures to attack the validity of a patent through various post grant proceedings administered by the USPTO. As patent reform legislation can inject serious uncertainty into the patent prosecution and litigation processes, it is not clear what impact future patent reform legislation will have on the operation of our business. However, such future legislation, and its implementation, could increase the uncertainties and costs surrounding the prosecution of our patent applications and the enforcement or defense of any issued patents, all of which could have a material adverse effect on our business, financial condition, results of operations and prospects.

Moreover, the patent positions of companies engaged in the development and commercialization of biologics and pharmaceuticals are particularly uncertain given the ever evolving and constantly shifting nature of precedential patent cases decided by both the U.S. Court of Appeals for the Federal Circuit and the U.S. Supreme Court. For instance, two cases involving diagnostic method claims and "gene patents" have recently been decided by the Supreme Court. On March 20, 2012, the Supreme Court issued a decision in Mayo Collaborative Services v. Prometheus Laboratories, Inc., or Prometheus, a case involving patent claims directed to a process of measuring a metabolic product in a patient to optimize a drug dosage for the patient. According to the Supreme Court, the addition of well-understood, routine or conventional activity such as "administering" or "determining" steps was not enough to transform an otherwise patent-ineligible natural phenomenon into patent-eligible subject matter. On July 3, 2012, the USPTO issued a guidance memo to patent examiners indicating that process claims directed to a law of nature, a natural phenomenon or a naturally occurring relation or correlation that do not include additional elements or steps that integrate the natural principle into the claimed invention such that the natural principle is practically applied (and thus, the claim amounts to significantly more than the natural principle itself) should be rejected as directed to patent-ineligible subject matter. On June 13, 2013, the Supreme Court issued its decision in Association for Molecular Pathology v. Myriad Genetics, Inc., or Myriad, a case involving patent claims held by Myriad Genetics, Inc. relating to the breast cancer susceptibility genes BRCA1 and BRCA2. In its decision, the US Supreme Court held that an isolated segment of naturally occurring DNA, such as the DNA constituting the BRCA1 or BRCA2 genes, is not patent eligible subject matter; however, complementary DNA may be patent eligible.

Although the Supreme Court held in Myriad that isolated segments of naturally occurring DNA are not patent-eligible subject matter, certain third parties could allege that potential activities that we undertake in the future may infringe other gene-related patent claims, and we may deem it necessary to defend ourselves against these claims by asserting non-infringement and/or invalidity positions, or paying to obtain a license to these claims. In any situation involving third-party intellectual property rights, such as those directed to gene-related patent claims, if we are unsuccessful in defending against claims of patent infringement (*e.g.*, by asserting invalidity of the infringed patent in view of the Supreme Court's Myriad decision), we could be forced to pay damages or be subjected to an injunction that would prevent us from utilizing the patented subject matter. Such outcomes could harm our business, financial condition, results of operations or prospects.

Moreover, we cannot assure you that our efforts to seek patent protection for our technology and product candidates will not be negatively impacted by the decisions described above, rulings in other cases, or changes in

guidance or procedures issued by the USPTO. These decisions, the guidance issued by the USPTO (or changes thereto), and rulings in other cases could have a material adverse effect on our existing patent portfolio and our ability to protect and enforce our intellectual property rights in the future.

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.

We are currently in the process of registering our trademarks and trade names. Once registered, our 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 partners 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 secrets, domain names, copyrights 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.

Intellectual property rights and regulatory exclusivity rights do not necessarily address all potential threats.

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

- others may be able to make gene therapy products that are similar to our product candidates but that are not covered by the claims of the patents that we may own or license in the future;
- we, or any future license partners or collaborators, might not have been the first to develop the specific technologies covered by the issued patents or pending patent applications that we may own or license in the future;
- we, or any future license partners or collaborators, might not have been the first to file patent applications covering certain aspects of the concerned technologies;
- others may independently develop similar or alternative technologies, or duplicate any of our technologies, potentially without falling within the scope of our future issued claims, thus not infringing our intellectual property rights;
- others may circumvent our regulatory exclusivities, such as by pursuing approval of a competitive product candidate via the traditional approval pathway based on their own clinical data, rather than relying on the abbreviated pathway provided for biosimilar applicants;
- it is possible that our filed or future patent applications will not lead to issued patents;
- issued patents to which we hold rights in the future may be held invalid or unenforceable, including as a result of legal challenges by our competitors;
- others may have access to any future intellectual property rights licensed to us on a non-exclusive basis;
- our competitors might conduct research and development activities in countries where we do not have or pursue patent rights, and then use the information learned from such activities to develop competitive products for sale in our major commercial markets;

- we may not develop additional proprietary technologies that are patentable;
- the patents or other intellectual property rights of others may have an adverse effect on our business; and
- we may choose not to file a patent for certain trade secrets or know-how, and a third party may subsequently file a patent covering such intellectual property.

Should any of these events occur, they could significantly harm our business, financial condition, results of operations and prospects.

Risks Related to this Ownership of Our Common Stock

Our Chief Executive Officer and Chairman of the Board of Directors and our founder, Chief Operating Officer and director will maintain the ability to substantially influence all matters submitted to stockholders for approval.

As of September 28, 2018, Krish S. Krishnan and Suma M. Krishnan, our Chief Executive Officer and Chairman of the Board and our founder, Chief Operating Officer and director, respectively, in the aggregate, beneficially owned shares representing approximately 37.3% of our capital stock. As a result, they will be able to substantially influence all matters submitted to our stockholders for approval, as well as our management and affairs. For example, these persons would substantially influence the election of directors and approval of any merger, consolidation or sale of all or substantially all of our assets. This concentration of voting power could delay or prevent an acquisition of our company on terms that other stockholders may desire or result in management of our company that our public stockholders disagree with.

If securities analysts publish negative evaluations of our stock, the price of our stock could decline.

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

The price of our common stock may be volatile and fluctuate substantially, which could result in substantial losses for holders of our common stock.

Our stock price has been and is likely to continue to be volatile. The stock market in general and the market for biopharmaceutical or pharmaceutical companies in particular, has 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 price that you paid for it. The market price of our common stock may be influenced by many factors, including:

- our ability to successfully proceed to and conduct clinical trials;
- results of clinical trials of our product candidates or those of our competitors;
- the success of competitive products or technologies;
- commencement or termination of collaborations;
- regulatory or legal developments in the United States and other countries;
- developments or disputes concerning patent applications, issued patents or other proprietary rights;
- the recruitment or departure of key personnel;
- the level of expenses related to any of our product candidates or clinical development programs;

- the results of our efforts to discover, develop, acquire or in-license additional product candidates;
- actual or anticipated changes in estimates as to financial results, development timelines or recommendations by securities analysts;
- our inability to obtain or delays in obtaining adequate product supply for any approved product or inability to do so at acceptable prices;
- disputes or other developments relating to proprietary rights, including patents, litigation matters and our ability to obtain patent protection for our technologies;
- significant lawsuits, including patent or stockholder litigation;
- 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.

We have broad discretion in the use of our cash, including the net proceeds from any offering, and may not use them effectively.

Our management will have broad discretion in the application of our cash, including the net proceeds from any offering, and could spend the proceeds in ways that do not improve our results of operations or enhance the value of our common stock. The failure by our management to apply these funds effectively could result in financial losses that could have a material adverse effect on our business, cause the price of our common stock to decline and delay the development of KB103, KB105 and any other product candidates we may develop. Pending their use, we may invest our cash, including the net proceeds from any offering, in a manner that does not produce income or that loses value.

Raising additional capital may cause dilution to our existing stockholders, restrict our operations or require us to relinquish rights to our technologies or product candidates, including KB103.

We may seek additional capital through a combination of public and private equity offerings, debt financings, collaborations and licensing arrangements. To the extent that we raise additional capital through the sale of equity or debt securities, your ownership interest will be diluted and the terms may include liquidation or other preferences that adversely affect your rights as a stockholder. The incurrence of indebtedness would result in increased fixed payment obligations and could involve restrictive covenants, such as limitations on our ability to incur additional debt, limitations on our ability to acquire or license intellectual property rights and other operating restrictions that could adversely impact our ability to conduct our business. If we raise additional funds through strategic partnerships and alliances and licensing arrangements with third parties, we may have to relinquish valuable rights to our technologies or product candidates, including KB103, or grant licenses on terms unfavorable to us.

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 defined in the JOBS Act, and we may take advantage of certain exemptions and relief from various reporting requirements that are applicable to other public companies that are not "emerging growth companies." In particular, while we are an "emerging growth company: (i) we will not be required to comply with the auditor attestation requirements of Section 404(b) of the Sarbanes-Oxley Act; (ii) we will be exempt from any rules that may be adopted by the Public Company Accounting Oversight Board requiring mandatory audit firm rotations or a supplement to the auditor's report on financial statements; (iii) we

will be subject to reduced disclosure obligations regarding executive compensation in our periodic reports and proxy statements; and (iv) we will not be required to hold nonbinding advisory votes on executive compensation or stockholder approval of any golden parachute payments not previously approved. Investors may find our common stock less attractive if we rely on the exemptions and relief granted by the JOBS Act. 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 decline or become more volatile.

In addition, the JOBS Act provides that an emerging growth company may 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 certain accounting standards until those standards would otherwise apply to private companies. We have irrevocably elected not to avail ourselves of this exemption from new or revised accounting standards and, therefore, we will be subject to the same new or revised accounting standards as other public companies that are not emerging growth companies.

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

As a smaller reporting 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. In addition, the Sarbanes-Oxley Act and rules subsequently implemented by the SEC and NASDAQ have imposed 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.

Pursuant to Section 404, we will be required to furnish a report by our management on our internal control over financial reporting, including an attestation report on internal control over financial reporting issued by our independent registered public accounting firm. 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 neither we nor our independent registered public accounting firm will be able to conclude within the prescribed timeframe that our internal control over financial reporting is effective as required by Section 404. This could result in an adverse reaction in the financial markets due to a loss of confidence in the reliability of our financial statements.

Provisions in our corporate charter documents and under Delaware law could make an acquisition of us, 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 corporate charter and our bylaws may discourage, delay or prevent a merger, acquisition or other change in control of us that stockholders may consider favorable, including transactions in which you might otherwise receive a premium for your shares. These provisions also could 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:

- establish a classified board of directors such that not all members of the board are elected at one time;
- allow the authorized number of our directors to be changed only by resolution of our board of directors;
- limit the manner in which stockholders can remove directors from the board;
- establish advance notice requirements for stockholder proposals that can be acted on at stockholder meetings and nominations to our board of directors;
- require that stockholder actions must be effected at a duly called stockholder meeting and prohibit actions by our stockholders by written consent;
- limit who may call stockholder meetings;
- authorize our board of directors to issue preferred stock without stockholder approval, which could be used to institute a stockholder rights plan, or so-called “poison pill,” that would work to dilute the stock ownership of a potential hostile acquirer, effectively preventing acquisitions that have not been approved by our board of directors; and
- require the approval of the holders of at least 80% of the votes that all our stockholders would be entitled to cast to amend or repeal certain provisions of our bylaws.

Moreover, because we are incorporated in Delaware, we are governed by the provisions of Section 203 of the Delaware General Corporation Law, 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.

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 growth and development of our business. In addition, the terms of any future debt agreements may preclude us from paying dividends. As a result, capital appreciation, if any, of our common stock will be your sole source of gain for the foreseeable future.

Cyber-security incidents, including data security breaches or computer viruses, could harm our business by disrupting our delivery of services, damaging our reputation or exposing us to liability.

We receive, process, store, and transmit, often electronically, confidential data of others. Unauthorized access to our computer systems or stored data could result in the theft or improper disclosure of confidential information, the deletion or modification of records, or could cause interruptions in our operations. These cyber-security risks increase when we transmit information from one location to another, including transmissions over the Internet or other electronic networks. Despite implemented security measures, our facilities, systems, and procedures, and those of our third-party service providers, may be vulnerable to security breaches, acts of vandalism, software viruses, misplaced or lost data, programming and/or human errors, or other similar events which may disrupt our delivery of services or expose the confidential information of our customers and others. Any security breach involving the misappropriation, loss or other unauthorized disclosure or use of confidential information of others, whether by us or a third party, could: (i) subject us to civil and criminal penalties; (ii) have a negative impact on our reputation; or (iii) expose us to liability to our customers, third parties or government authorities.

Any of these developments could have a material adverse effect on our business, financial condition, and results of operations.

USE OF PROCEEDS

Except as described in any applicable prospectus supplement or in any free writing prospectuses we have authorized for use in connection with a specific offering, we currently intend to use the net proceeds from the sale of the securities offered by us hereunder, if any, for working capital and general corporate purposes, including research and development expenses and capital expenditures.

The amounts and timing of our use of the net proceeds from this offering will depend on a number of factors, such as our funding requirements and the availability and cost of other funds at the time of sale, the timing and progress of our research and development efforts, the timing and progress of any partnering and commercialization efforts, technological advances and the competitive environment for our products. As of the date of this prospectus, we cannot specify with certainty all of the particular uses for the net proceeds to us from the sale of the securities offered by us hereunder. Accordingly, our management will have broad discretion in the timing and application of these proceeds. Pending application of the net proceeds as described above, we intend to temporarily invest the proceeds in short-term, interest-bearing instruments or other investment-grade securities, certificates of deposits or short-term U.S. government securities.

We will not receive any proceeds from the resale of shares of our common stock by the selling stockholder.

RATIO OF EARNINGS TO FIXED CHARGES

Any time debt securities are offered pursuant to this prospectus, we will provide a table setting forth our ratio of earnings to fixed charges on a historical basis in the applicable prospectus supplement, if required.

	Year Ended December 31,		Six Months Ended June 30,
	2016	2017	2018
Ratio of earnings to fixed charges	*	*	*

(*) We did not record earnings for the years ended December 31, 2016 or 2017 or the six months ended June 30, 2018. Accordingly, our earnings were insufficient to cover fixed charges for such periods and we are unable to disclose a ratio of earnings to fixed charges for such periods. The dollar amount of the deficiency in earnings available for fixed charges for the years ended December 31, 2016 and 2017 and the six months ended June 30, 2018 was $1.2 million, $7.9 million and $4.4 million, respectively.

DIVIDEND POLICY

We have never declared or paid cash dividends on our capital stock. We currently intend to retain all available funds and any future earnings for use in the operation of our business and do not anticipate paying any dividends on our common stock in the foreseeable future. Any future determination to declare dividends will be made at the discretion of our board of directors and will depend on our financial condition, operating results, capital requirements, general business conditions and other factors that our board of directors may deem relevant.

GENERAL DESCRIPTION OF SECURITIES

We may offer shares of our common stock or preferred stock, various series of debt securities, warrants or other rights to purchase common stock or preferred stock, or units consisting of combinations of the foregoing, either individually or in combination with other securities, in each case from time to time under this prospectus, together with the applicable prospectus supplement or any related free writing prospectus, at prices and on terms to be determined by market conditions at the time of offering. This prospectus provides you with a general description of the securities we may offer. At the time we offer a type or series of securities, we will provide a prospectus supplement describing the specific amounts, prices and other important terms of the securities, including, to the extent applicable:

- designation or classification;
- aggregate principal amount or aggregate offering price;
- voting or other rights;
- rates and times of payment of interest, dividends or other payments;
- original issue discount;
- maturity;
- ranking;
- restrictive covenants;
- redemption, conversion, exercise, exchange, settlement or sinking fund terms, including prices or rates, and any provisions for changes to or adjustments in such prices or rates and in the securities or other property receivable upon conversion, exercise, exchange or settlement;
- any securities exchange or market listing arrangements; and
- important U.S. federal income tax considerations.

This prospectus may not be used to offer or sell securities unless accompanied by a prospectus supplement. The prospectus supplement may add, update or change any of the information contained in this prospectus or in the documents incorporated by reference in this prospectus. We urge you to read the prospectus supplement related to any securities being offered.

We may sell the securities directly to investors or to or through underwriters, dealers or agents. We and our underwriters, dealers or agents reserve the right to accept or reject all or part of any proposed purchase of securities. If we do offer securities to or through underwriters or agents, we will include in the applicable prospectus supplement (a) the names of the underwriters or agents and applicable fees, discounts and commissions to be paid to them, (b) details regarding over-allotment options, if any, and (c) net proceeds to us, if any.

The following descriptions are not complete and may not contain all the information you should consider before investing in any securities we may offer hereunder; they are summarized from, and qualified by reference to, our Certificate of Incorporation, Bylaws and the other documents referred to in the descriptions, all of which are or will be publicly filed with the SEC, as applicable. See “Where You Can Find More Information.”

DESCRIPTION OF CAPITAL STOCK

General

Our authorized capital stock consists of 80,000,000 shares of common stock, $0.00001 par value per share, and 20,000,000 shares of preferred stock, $0.00001 par value per share. As of September 28, 2018, there were 10,978,916 shares of our common stock outstanding and no shares of preferred stock outstanding.

The following description summarizes the most important terms of our capital stock. Because it is only a summary, it does not contain all the information that may be important to you. The description is intended as a summary, and is qualified in its entirety by reference to our second amended and restated certificate of incorporation (our "Certificate of Incorporation") and our amended and restated bylaws (our "Bylaws"). For a complete description, you should refer to our Certificate of Incorporation and Bylaws.

Common Stock

Dividend Rights

The holders of our common stock are entitled to receive dividends out of funds legally available if our board of directors, in its discretion, determines to issue dividends and then only at the times and in the amounts that our board of directors may determine. See "Dividend Policy" above.

Voting Rights

Holders of our common stock are entitled to one vote for each share held on all matters submitted to a vote of stockholders. We have not provided for cumulative voting for the election of directors in our Certificate of Incorporation. Accordingly, holders of a majority of the shares of our common stock will be able to elect all of our directors. Our Certificate of Incorporation has established a classified board of directors, divided into three classes with staggered three-year terms. Only one class of directors will be elected at each annual meeting of our stockholders, with the other classes continuing for the remainder of their respective three-year terms.

No Preemptive or Similar Rights

Our common stock is not entitled to preemptive rights, and is not subject to conversion, redemption or sinking fund provisions.

Right to Receive Liquidation Distributions

Upon our liquidation, dissolution or winding-up, the assets legally available for distribution to our stockholders would be distributable ratably among the holders of our common stock at that time, subject to prior satisfaction of all outstanding debt and liabilities.

Preferred Stock

Pursuant to our Certificate of Incorporation, our board of directors is authorized, subject to limitations prescribed by Delaware law, to issue from time to time up to 20,000,000 shares of preferred stock in one or more series, to establish from time to time the number of shares to be included in each series and to fix the designation, powers, preferences and rights of the shares of each series and any of their qualifications, limitations or restrictions, in each case without further vote or action by our stockholders. Our board of directors may increase or decrease the number of shares of any series of preferred stock, but not below the number of shares of that series then outstanding, without any further vote or action by our stockholders. Our board of directors may authorize the issuance of preferred stock with voting or conversion rights that could adversely affect the voting power or other rights of the holders of our common stock. The issuance of preferred stock, while providing

flexibility in connection with possible acquisitions and other corporate purposes, could, among other things, have the effect of delaying, deferring or preventing a change in control of our company and might adversely affect the market price of our common stock and the voting and other rights of the holders of our common stock. We have no current plan to issue any shares of preferred stock.

The General Corporation Law of the State of Delaware (the "DGCL"), the state of our incorporation, provides that the holders of preferred stock will have the right to vote separately as a class on any proposal involving fundamental changes in the rights of holders of that preferred stock. This right is in addition to any voting rights that may be provided for in the applicable certificate of designation.

Anti-Takeover Provisions

The provisions of Delaware law, our Certificate of Incorporation and our Bylaws could have the effect of delaying, deferring or discouraging another person from acquiring control of our company. These provisions, which are summarized below, may have the effect of discouraging takeover bids. They are also designed, in part, to encourage persons seeking to acquire control of us to negotiate first with our board of directors. We believe that the benefits of increased protection of our potential ability to negotiate with an unfriendly or unsolicited acquirer outweigh the disadvantages of discouraging a proposal to acquire us because negotiation of these proposals could result in an improvement of their terms.

Delaware Law

We are subject to the provisions of Section 203 of the DGCL, regulating corporate takeovers. In general, Section 203 of the DGCL prohibits a publicly held Delaware corporation from engaging in a business combination with an interested stockholder for a period of three years following the date on which the person became an interested stockholder unless:

- prior to the date of the transaction, the board of directors of the corporation approved either the business combination or the transaction which resulted in the stockholder becoming an interested stockholder;
- the interested stockholder owned at least 85% of the voting stock of the corporation outstanding at the time the transaction commenced, excluding for purposes of determining the voting stock outstanding, but not the outstanding voting stock owned by the interested stockholder: (i) shares owned by persons who are directors and also officers; and (ii) shares owned by employee stock plans in which employee participants do not have the right to determine confidentially whether shares held subject to the plan will be tendered in a tender or exchange offer; or
- at or subsequent to the date of the transaction, the business combination is approved by the board of directors of the corporation and authorized at an annual or special meeting of stockholders, and not by written consent, by the affirmative vote of at least 66.67% of the outstanding voting stock that is not owned by the interested stockholder.

Generally, a business combination includes a merger, asset or stock sale, or other transaction or series of transactions together resulting in a financial benefit to the interested stockholder. 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 outstanding voting stock. We expect the existence of this provision to have an anti-takeover effect with respect to transactions our board of directors does not approve in advance. We also anticipate that Section 203 of the DGCL may also discourage attempts that might result in a premium over the market price for the shares of common stock held by stockholders.

Second Amended and Restated Certificate of Incorporation and Amended and Restated Bylaws Provisions

Our Certificate of Incorporation and our Bylaws include a number of provisions that could deter hostile takeovers or delay or prevent changes in control of our company, including the following:

- *Board of Directors Vacancies.* Our Certificate of Incorporation and Bylaws authorizes only our board of directors to fill vacant directorships, including newly created seats. In addition, the number of directors constituting our board of directors may only be set by a resolution adopted by a majority vote of our entire board of directors. These provisions would prevent a stockholder from increasing the size of our board of directors and then gaining control of our board of directors by filling the resulting vacancies with its own nominees. This makes it more difficult to change the composition of our board of directors but promotes continuity of management.
- *Classified Board.* Our Certificate of Incorporation and Bylaws provide that our board of directors will be classified into three classes of directors, each with staggered three-year terms. A third party may be discouraged from making a tender offer or otherwise attempting to obtain control of us as it is more difficult and time consuming for stockholders to replace a majority of the directors on a classified board of directors.
- *Stockholder Action; Special Meetings of Stockholders.* Our Certificate of Incorporation provides that our stockholders may not take action by written consent, but may only take action at annual or special meetings of our stockholders. As a result, a holder controlling a majority of our capital stock may not amend our restated bylaws or remove directors without holding a meeting of our stockholders called in accordance with our restated bylaws. Further, our Certificate of Incorporation and Bylaws provide that special meetings of our stockholders may be called only by a majority of our board of directors, the chairman of our board of directors, or our Chief Executive Officer, thus prohibiting a stockholder from calling a special meeting. These provisions might delay the ability of our stockholders to force consideration of a proposal or for stockholders controlling a majority of our capital stock to take any action, including the removal of directors.
- *Advance Notice Requirements for Stockholder Proposals and Director Nominations.* Our Bylaws provides advance notice procedures for stockholders seeking to bring business before our annual meeting of stockholders or to nominate candidates for election as directors at our annual meeting of stockholders. Our Bylaws also specifies certain requirements regarding the form and content of a stockholder's notice. These provisions may preclude our stockholders from bringing matters before our annual meeting of stockholders or from making nominations for directors at our annual meeting of stockholders if the proper procedures are not followed. We expect that these provisions may also 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 our company.
- *No Cumulative Voting.* The DGCL provides that stockholders are not entitled to the right to cumulate votes in the election of directors unless a corporation's certificate of incorporation provides otherwise. Our Certificate of Incorporation does not provide for cumulative voting.
- *Directors Removed Only for Cause.* Our Certificate of Incorporation provides that stockholders may remove directors only for cause and only by the affirmative vote of the holders of at least two-thirds of our outstanding common stock.
- *Amendment of Charter Provisions.* Any amendment of the above expected provisions in our Certificate of Incorporation requires approval by holders of at least two-thirds of our outstanding common stock.
- *Issuance of Undesignated Preferred Stock.* Our board of directors has the authority, without further action by the stockholders, to issue up to 20,000,000 shares of undesignated preferred stock with rights and preferences, including voting rights, designated from time to time by our board of directors. The existence of authorized but unissued shares of preferred stock will enable our board of directors to

render more difficult or to discourage an attempt to obtain control of us by means of a merger, tender offer, proxy contest or other means.

- *Choice of Forum.* Our Certificate of Incorporation provides that the Court of Chancery of the State of Delaware will be the exclusive forum for: any derivative action or proceeding brought on our behalf; any action asserting a breach of fiduciary duty; any action asserting a claim against us arising pursuant to the DGCL, our Certificate of Incorporation or our Bylaws; any action to interpret, apply, enforce or determine the validity of our Certificate of Incorporation or our Bylaws; or any action asserting a claim against us that is governed by the internal affairs doctrine. 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 a court could find these types of provisions to be inapplicable or unenforceable.

Transfer Agent and Registrar

The transfer agent and registrar for our common stock is Computershare Trust Company, N.A. The transfer agent's address is 250 Royall Street Canton, Massachusetts 02021, and its telephone number is 1-800-962-4284. Our shares of common stock were issued in uncertificated form only, subject to limited circumstances.

NASDAQ Capital Market Listing

Our common stock is listed on The NASDAQ Capital Market under the symbol "KRYS."

DESCRIPTION OF DEBT SECURITIES

We may issue debt securities from time to time, in one or more series, as senior, subordinated or junior subordinated, convertible or non-convertible and secured or unsecured debt. Any senior debt securities will rank equally with any unsubordinated debt. Subordinated debt securities will rank equally with any other subordinated debt of the same ranking we may issue. Convertible debt securities will be convertible into or exchangeable for our common stock or other securities at predetermined conversion rates, and conversion may be mandatory or at the holder's option.

Debt securities will be issued under one or more indentures-contracts between us and a national banking association or other eligible party acting as trustee. Following is a summary of certain general features of debt securities we may issue; we will describe the particular terms of any debt securities that we may offer in more detail in the applicable prospectus supplement, which may differ from the terms we describe below. You should read the prospectus supplements, any free writing prospectus we may authorize and the indentures, supplemental indentures and forms of debt securities relating to any series of debt securities we may offer.

General

Except as we may otherwise provide in a prospectus supplement, the relevant indenture will provide that debt securities may be issued from time to time in one or more series. The indenture will not limit the amount of debt securities that may be issued thereunder and will provide that the specific terms of any series of debt securities shall be set forth in, or determined pursuant to, an authorizing resolution, an officers' certificate or a supplemental indenture, if any, relating to such series.

We will describe in each prospectus supplement the following terms relating to any series of debt securities:

- the title or designation;
- whether they will be secured or unsecured, and the terms of any security;
- whether the debt securities will be subject to subordination, and any terms thereof;
- any limit upon the aggregate principal amount;
- the date or dates on which the debt securities may be issued and on which we will pay the principal;
- the interest rate, which may be fixed or variable, or the method for determining the rate, the date interest will begin to accrue, the date or dates interest will be payable and the record dates for interest payment dates or the method for determining them;
- the manner in which the amounts of payment of principal of, premium or interest on the debt securities will be determined, if these amounts may be determined by reference to an index based on a currency or currencies other than that in which the debt securities are denominated or designated to be payable or by reference to a commodity, commodity index, stock exchange index or financial index;
- the currency of denomination;
- if payments of principal of, premium or interest will be made in one or more currencies or currency units other than that or those in which the debt securities are denominated, the manner in which the exchange rate with respect to these payments will be determined;
- the place or places where the principal of, premium, and interest will be payable, where debt securities of any series may be presented for registration of transfer, exchange or conversion, and where notices and demands to or upon the Company in respect of the debt securities may be made;
- the form of consideration in which principal of, premium or interest will be paid;
- the terms and conditions upon which we may redeem the debt securities;

- any obligation we have to redeem or purchase the debt securities pursuant to any sinking fund, amortization or analogous provisions or at the option of a holder;
- the dates on which and the price or prices at which we will repurchase the debt securities at the option of holders and other detailed terms and provisions of these obligations;
- the denominations in which the debt securities will be issued, if other than denominations of $1,000 and any integral multiple thereof;
- the portion of principal amount payable upon declaration of acceleration of the maturity date, if other than the principal amount;
- whether the debt securities are to be issued at any original issuance discount and the amount of discount with which they may be issued;
- whether the debt securities will be issued in certificated or global form and, in such case, the depositary and the terms and conditions, if any, upon which interests in such global security or securities may be exchanged in whole or in part for the individual securities represented thereby;
- provisions, if any, for defeasance in whole or in part and any addition or change to provisions related to satisfaction and discharge;
- the form of the debt securities;
- the terms and conditions upon which convertible debt securities will be convertible or exchangeable into securities or property of the Company or another person, if at all, and any additions or changes, if any, to permit or facilitate the same;
- provisions, if any, granting special rights to holders upon the occurrence of specified events;
- any restriction or condition on transferability;
- any addition or change in the provisions related to compensation and reimbursement of the trustee;
- any addition to or change in the events of default described in this prospectus or in the indenture and any change in the acceleration provisions so described;
- whether the debt securities will restrict our ability to pay dividends, or will require us to maintain any asset ratios or reserves;
- whether we will be restricted from incurring any additional indebtedness;
- any addition to or change in the covenants described in this prospectus or in the indenture, including terms of any restrictive covenants; and
- any other terms which may modify or delete any provision of the indenture.

We may issue debt securities that provide for an amount less than their stated principal amount to be due and payable upon declaration of acceleration of their maturity pursuant to the terms of the indenture. We will provide you with information on the U.S. federal income tax considerations and other special considerations applicable to any debt securities in the applicable prospectus supplement.

Conversion or Exchange Rights

We will set forth in the applicable prospectus supplement the terms, if any, on which a series of debt securities may be convertible into or exchangeable for our common stock or other securities. We will include provisions as to settlement upon conversion or exchange and whether conversion or exchange is mandatory, at the option of the holder or at our option. We may include provisions pursuant to which the number of shares of our common stock or other securities that the holders of the series of debt securities receive would be subject to adjustment.

Consolidation, Merger or Sale; No Protection in Event of a Change of Control or Highly Leveraged Transaction

Except as we may otherwise provide in a prospectus supplement, the indenture will provide that we may not merge or consolidate with or into another entity, or sell other than for cash or lease all or substantially all our assets to another entity, or purchase all or substantially all the assets of another entity unless we are the surviving entity or, if we are not the surviving entity, the successor, transferee or lessee entity expressly assumes all of our obligations under the indenture or the debt securities, as appropriate.

Unless we state otherwise in the applicable prospectus supplement, the debt securities will not contain any provisions that may afford holders additional protection in the event we have a change of control or in the event of a highly leveraged transaction (whether or not such transaction results in a change of control), which could adversely affect them.

Events of Default under the Indenture

Except as we may otherwise provide in a prospectus supplement, the following will be events of default under the indenture with respect to any series of debt securities that we may issue:

- if we fail to pay interest when due and our failure continues for 90 days and the time for payment has not been extended or deferred;
- if we fail to pay the principal, or premium, if any, when due whether by maturity or called for redemption;
- if we fail to pay a sinking fund installment, if any, when due and our failure continues for 30 days;
- if we fail to observe or perform any other covenant relating to the debt securities, other than a covenant specifically relating to and for the benefit of holders of another series of debt securities, and our failure continues for 90 days after we receive written notice from the debenture trustee or holders of not less than a majority in aggregate principal amount of the outstanding series; and
- if specified events of bankruptcy, insolvency or reorganization occur as to the Company.

No event of default with respect to a particular series of debt securities (except as to certain events of bankruptcy, insolvency or reorganization) will necessarily constitute an event of default with respect to any other series. The occurrence of an event of default may constitute an event of default under any bank credit agreements we may have in existence from time to time. In addition, the occurrence of certain events of default or an acceleration under the indenture may constitute an event of default under certain of our other indebtedness outstanding from time to time.

Except as we may otherwise provide in a prospectus supplement, if an event of default with respect to debt securities of any series at the time outstanding occurs and is continuing, then the trustee or the holders of not less than a majority in principal amount of the outstanding series may, by a notice in writing to us (and to the debenture trustee if given by the holders), declare to be due and payable immediately the principal (or, if the debt securities are discount securities, that portion of the principal amount as may be specified in the terms of such securities) of and premium and accrued and unpaid interest, if any, on all such debt securities. Before a judgment or decree for payment of the money due has been obtained with respect to any series, the holders of a majority in principal amount of that series (or, at a meeting of holders at which a quorum is present, the holders of a majority in principal amount represented at such meeting) may rescind and annul the acceleration if all events of default, other than the non-payment of accelerated principal, premium, if any, and interest, if any, have been cured or waived as provided in the applicable indenture (including payments or deposits in respect of principal, premium or interest that had become due other than as a result of such acceleration) and the Company has deposited with the indenture trustee or paying agent a sum sufficient to pay all amounts owed to the indenture trustee under the

indenture, all arrears of interest, if any, and the principal and premium, if any, on the debt securities that have become due other than by such acceleration. We refer you to the relevant prospectus supplement relating to any discount securities for the particular provisions relating to acceleration of a portion of the principal amount thereof upon the occurrence of an event of default.

Subject to the terms of the indenture, and except as we may otherwise provide in a prospectus supplement, if an event of default under the indenture shall occur and be continuing, the debenture trustee will be under no obligation to exercise any of its rights or powers under such indenture at the request or direction of any of the holders of the applicable series, unless such holders have offered the debenture trustee reasonable indemnity. The holders of a majority in principal amount of any series will have the right to direct the time, method and place of conducting any proceeding for any remedy available to the debenture trustee, or exercising any trust or power conferred on the debenture trustee, with respect to that series, provided that, subject to the terms of the indenture, the debenture trustee need not take any action that it believes, upon the advice of counsel, might involve it in personal liability or might be unduly prejudicial to holders not involved in the proceeding.

Except as we may otherwise provide in a prospectus supplement, a holder of the debt securities of any series will only have the right to institute a proceeding under the indenture or to appoint a receiver or trustee, or to seek other remedies if:

- the holder previously has given written notice to the debenture trustee of a continuing event of default with respect to that series;
- the holders of at least a majority in aggregate principal amount outstanding of that series have made written request, and such holders have offered reasonable indemnity to the debenture trustee to institute the proceeding as trustee; and
- the debenture trustee does not institute the proceeding and does not receive from the holders of a majority in aggregate principal amount outstanding of that series (or at a meeting of holders at which a quorum is present, the holders of a majority in principal amount of such series represented at such meeting) other conflicting directions within 60 days after the notice, request and offer.

Except as we may otherwise provide in a prospectus supplement, these limitations will not apply to a suit instituted by a holder of debt securities if we default in the payment of the principal, premium, if any, or interest on, them.

We will periodically file statements with the applicable debenture trustee regarding our compliance with specified covenants in the applicable indenture.

Modification of Indenture; Waiver

Except as we may otherwise provide in a prospectus supplement, the debenture trustee and the Company may, without the consent of any holders, execute a supplemental indenture to change the applicable indenture with respect to specific matters, including, among other things:

- to surrender any right or power conferred upon the Company;
- to provide, change or eliminate any restrictions on payment of principal of or premium, if any; provided that any such action shall not adversely affect the interests of the holders of debt securities of any series in any material respect;
- to change or eliminate any of the provisions of the indenture; provided that any such change or elimination shall become effective only when there is no outstanding debt security created prior to the execution of such supplemental indenture that is entitled to the benefit of such provision and as to which such supplemental indenture would apply;
- to evidence the succession of another entity to the Company;

- to evidence and provide for the acceptance of appointment by a successor trustee with respect to one or more series of debt securities and to add or change provisions of the indenture to facilitate the administration of the trusts thereunder by more than one trustee;
- to cure any ambiguity, mistake, manifest error, omission, defect or inconsistency in the indenture or to conform the text of any provision in the indenture or in any supplemental indenture to any description thereof in the applicable section of a prospectus, prospectus supplement or other offering document that was intended to be a verbatim recitation of a provision of the indenture or of any supplemental indenture;
- to add to or change or eliminate any provision of the indenture as shall be necessary or desirable in accordance with any amendments to the U.S. Trust Indenture Act of 1939;
- to make any change in any series of debt securities that does not adversely affect in any material respect the interests of the holders thereof; and
- to supplement any of the provisions of the indenture to such extent as shall be necessary to permit or facilitate the defeasance and discharge of any series of debt securities; provided that any such action shall not adversely affect the interests of holders of any debt securities.

In addition, and except as we may otherwise provide in a prospectus supplement, under the indenture the rights of holders of a series of debt securities may be changed by us and the debenture trustee with the written consent of the holders of at least a majority in aggregate principal amount outstanding (or, at a meeting of holders of such series at which a quorum is present, the holders of a majority in principal amount represented at such meeting) that is affected. The debenture trustee and the Company may, however, make the following changes only with the consent of each holder of any outstanding debt securities affected:

- extending the fixed maturity;
- reducing the principal amount, reducing the rate of or extending the time of payment of interest, or any premium payable upon redemption;
- reducing the principal amount of discount securities payable upon acceleration of maturity;
- making the principal of or premium or interest payable in currency other than that stated;
- impairing the right to institute suit for the enforcement of any payment on or after the fixed maturity date;
- materially adversely affecting the economic terms of any right to convert or exchange; and
- reducing the percentage of debt securities, the holders of which are required to consent to any amendment or waiver; or modifying, without the written consent of the trustee, the rights, duties or immunities of the trustee.

Except for certain specified provisions, and except as we may otherwise provide in a prospectus supplement, the holders of at least a majority in principal amount of any series (or, at a meeting of holders of such series at which a quorum is present, the holders of a majority in principal amount represented at such meeting) may, on behalf of the holders of all debt securities of that series, waive our compliance with provisions of the indenture. The holders of a majority in principal amount of the outstanding debt securities of any series may, on behalf of all such holders, waive any past default under the indenture with respect to that series and its consequences, other than a default in the payment of the principal of, premium or any interest; provided, however, that the holders of a majority in principal amount of the outstanding debt securities of any series may rescind an acceleration and its consequences, including any related payment default that resulted from the acceleration.

Discharge

Except as we may otherwise provide in a prospectus supplement, the indenture will provide that we can elect to be discharged from our obligations with respect to one or more series of debt securities. In order to

exercise our rights to be discharged, we must deposit with the trustee money or government obligations sufficient to pay all the principal of, the premium, if any, and interest on, the debt securities of the affected series on the dates payments are due.

Form, Exchange and Transfer

Except as we may otherwise provide in a prospectus supplement, we will issue debt securities only in fully registered form without coupons and, unless we otherwise specify in the applicable prospectus supplement, in denominations of $1,000 and any integral multiple thereof. Except as we may otherwise provide in a prospectus supplement, the indenture will provide that we may issue debt securities in temporary or permanent global form and as book-entry securities that will be deposited with a depositary named by us and identified in a prospectus supplement with respect to that series.

At the option of the holder, subject to the terms of the indenture and the limitations applicable to global securities described in the applicable prospectus supplement, the holder will be able to exchange the debt securities for other debt securities of the same series, in any authorized denomination and of like tenor and aggregate principal amount.

Subject to the terms of the indenture and the limitations applicable to global securities set forth in the applicable prospectus supplement, holders may present the debt securities for exchange or for registration of transfer, duly endorsed or with the form of transfer endorsed thereon duly executed if so required by us or the security registrar, at the office of the security registrar or at the office of any transfer agent designated by us for this purpose. Unless otherwise provided in the debt securities or the indenture, we will impose no service charge for any registration of transfer or exchange, but we may require payment of any taxes or other governmental charges.

We will name in the applicable prospectus supplement the security registrar, and any transfer agent in addition to the security registrar, that we initially designate for any debt securities. We may at any time designate additional transfer agents or rescind the designation of any transfer agent or approve a change in the office through which any transfer agent acts, except that we will be required to maintain a transfer agent in each place of payment for the debt securities of each series.

Except as we may otherwise provide in a prospectus supplement, if we elect to redeem the debt securities of any series, we will not be required to:

- issue, register the transfer of, or exchange any debt securities of that series during a period beginning at the opening of business 15 days before the day of mailing of a notice of redemption of any debt securities that may be selected for redemption and ending at the close of business on the day of the mailing; or
- register the transfer of or exchange any debt securities so selected for redemption, in whole or in part, except the unredeemed portion of any debt securities we are redeeming in part.

Information Concerning the Debenture Trustee

The debenture trustee, other than during the occurrence and continuance of an event of default under the indenture, will undertake to perform only those duties as are specifically set forth in the applicable indenture. Upon an event of default, the debenture trustee must use the same degree of care as a prudent person would exercise or use in the conduct of his or her own affairs. Subject to this provision, the debenture trustee will be under no obligation to exercise any of the powers given it by the indenture at the request of any holder unless it is offered reasonable security and indemnity against the costs, expenses and liabilities that it might incur.

Payment and Paying Agents

Unless we otherwise indicate in the applicable prospectus supplement, we will make payment of interest on any interest payment date to the person in whose name the debt securities, or one or more predecessor securities, are registered at the close of business on the regular record date for the interest.

Unless we otherwise indicate in the applicable prospectus supplement, we will pay principal of and any premium and interest at the office of the indenture trustee or, at the option of the Company, by check payable to the holder. Unless we otherwise indicate in a prospectus supplement, we will designate the corporate trust office of the debenture trustee as our sole paying agent for payments. We will name in the applicable prospectus supplement any other paying agents that we initially designate. We will maintain a paying agent in each place of payment.

All money we pay to a paying agent or the debenture trustee for the payment of principal or any premium or interest which remains unclaimed at the end of two years after such principal, premium or interest has become due and payable will be repaid to us, and the holder of the debt security thereafter may look only to us for payment thereof.

Governing Law

The indenture and the debt securities will be governed and construed in accordance with the laws of the State of New York.

No Personal Liability of Directors, Officers, Employees and Stockholders

No incorporator, stockholder, employee, agent, officer, director or subsidiary of ours will have any liability for any obligations of ours or, due to the creation of any indebtedness under the debt securities, the indentures or supplemental indentures. The indentures provide that all such liability is expressly waived and released as a condition of, and as consideration for, the execution of such indentures and the issuance of the debt securities.

DESCRIPTION OF WARRANTS, OTHER RIGHTS AND UNITS

We may, from time to time, issue warrants or other rights (together, "Rights"), in one or more series, for the purchase of common stock or preferred stock. We may issue Rights independently or together with such securities, and such Rights may be attached to or separate from them. Rights will be evidenced by a Rights certificate issued under one or more Rights agreements between us and a Rights agent which will act solely as our agent in connection with the Rights and will not have any obligation or relationship of agency or trust for or with any holders or beneficial owners of Rights. We may issue securities in units ("Units"), each consisting of two or more types of securities. For example, we might issue Units consisting of a combination of common stock and warrants to purchase common stock. If we issue Units, the prospectus supplement relating to the Units will contain the information described above with regard to each of the securities that is a component of the Units. In addition, the prospectus supplement relating to the Units will describe the terms of any Units we issue. The forms of any such certificates and agreements will be filed as exhibits to the registration statement of which this prospectus is a part by amendment thereof or as exhibits to a Current Report on Form 8-K incorporated herein by reference, and the accompanying prospectus supplement and such forms may add, update or change the terms and conditions of the Rights or Units described in this prospectus.

The following description of material terms and provisions of Rights and Units will generally apply to the Rights and/or Units offered by this prospectus unless we provide otherwise in the applicable prospectus supplement, which may specify different or additional terms. The following summaries are subject to, and qualified in their entirety by reference to, all the provisions of the form of Rights and/or the Rights agreement and Rights certificate, as applicable, and any supplemental agreements applicable to a particular series of Rights and/or Units that we may offer under this prospectus. We urge you to read the applicable prospectus supplement related to the particular series of Rights or Units that we may offer under this prospectus, as well as any related free writing prospectus, and the complete form of Rights and/or the Rights agreement and Right certificates, as applicable, and any supplemental agreements, that contain the terms of the Rights.

The particular terms of each issue of Rights or Units will be described in the applicable prospectus supplement, including, as applicable:

- the title of the Rights or Units;
- any initial offering price;
- the title, aggregate principal amount or number and terms of the securities purchasable upon exercise of the Rights;
- the principal amount or number of securities purchasable upon exercise of each Right and the price at which that principal amount or number may be purchased upon exercise of each Right;
- the currency or currency units in which any offering price and any exercise price are payable;
- the title and terms of any related securities with which the Rights are issued and the number of the Rights issued with each security;
- any date on and after which the Rights or Units and the related securities will be separately transferable;
- any minimum or maximum number of Rights that may be exercised at any one time;
- the date on which the right to exercise the Rights will commence and the date on which the right will expire;
- a discussion of U.S. federal income tax, accounting or other considerations applicable to the Rights or Units;
- whether the Rights represented by the Rights certificates, if applicable, will be issued in registered or bearer form and, if registered, where they may be transferred and registered;

- any anti-dilution provisions of the Rights or Units;
- any redemption or call provisions applicable to the Rights;
- any provisions for changes to or adjustments in the exercise price of any Rights; and
- any additional terms of the Rights or Units, including terms, procedures and limitations relating to exchange and exercise of the Rights or Units.

Rights certificates will be exchangeable for new Rights certificates of different denominations and, if in registered form, may be presented for registration of transfer, and Rights may be exercised, at the corporate trust office of the Rights agent or any other office indicated in the related prospectus supplement. Before the exercise of Rights, holders of Rights will not be entitled to payments of any dividends, principal, premium or interest on securities purchasable upon exercise of the Rights, to vote, consent or receive any notice as a holder of and in respect of any such securities or to enforce any covenants in any indenture, or to exercise any other rights whatsoever as a holder of securities purchasable upon exercise of the Rights.

SELLING STOCKHOLDER

The selling stockholder may, from time to time, offer and sell, or otherwise disposed of, up to 625,000 shares of our common stock under this prospectus. The 625,000 shares of our common stock held by the selling stockholder were issued and sold to the selling stockholder in a private placement (the "Private Placement") pursuant to a stock purchase agreement, dated August 16, 2018 (the "Purchase Agreement"), between us and the selling stockholder. Pursuant to the Purchase Agreement, the Company agreed to file a registration statement with the SEC registering the resale of the shares issued and sold in the Private Placement, to have such registration statement declared effective within the time period set forth in the Purchase Agreement, and to keep such registration statement effective for up to three years. The 625,000 shares of our common stock held by the selling stockholder are being registered by the registration statement of which this prospectus forms a part pursuant to such registration rights granted to the selling stockholder pursuant to the Purchase Agreement.

The following table sets forth certain information with respect to the selling stockholder, including (i) the shares of our common stock beneficially owned by the selling stockholder prior to this offering, (ii) the number of shares being offered by the selling stockholder pursuant to this prospectus and (iii) the selling stockholder's beneficial ownership after completion of this offering, assuming that all of the shares covered hereby (but none of the other shares, if any, held by the selling stockholder) are sold.

The table is based on information supplied to us by the selling stockholder, with beneficial ownership and percentage ownership determined in accordance with the rules and regulations of the SEC and includes voting or investment power with respect to shares of stock. This information does not necessarily indicate beneficial ownership for any other purpose. The percentage of beneficial ownership after this offering is based on 10,978,916 shares outstanding on September 28, 2018.

The registration of these shares of common stock does not mean that the selling stockholder will sell or otherwise dispose of all or any of those securities. The selling stockholder may sell or otherwise dispose of all, a portion or none of such shares from time to time. We do not know the number of shares, if any, that will be offered for sale or other disposition by any of the selling stockholder under this prospectus. Furthermore, the selling stockholder may have sold, transferred or disposed of the shares of common stock covered hereby in transactions exempt from the registration requirements of the Securities Act since the date on which we filed this prospectus.

To our knowledge and except as noted below, the selling stockholder has not, or within the past three years has not, any position, office or other material relationship with us or any of our predecessors or affiliates.

	Beneficial Ownership Before This Offering		Beneficial Ownership After This Offering	
Selling Stockholder(1)	Number of Shares Owned	Shared Offered Hereby	Number of Shares Owned	Percentage of Outstanding Shares
Frazier Life Sciences IX, L.P.(2)	625,000	625,000	—	—

(1) This table and the information in the notes below are based upon information supplied by the selling stockholder, including reports and amendments thereto filed with the SEC on Schedule 13G.

(2) Consists of 625,000 shares of Common Stock held directly by Frazier Life Sciences IX, L.P. FHMLS IX, L.P. is the general partner of Frazier Life Sciences IX, L.P. and FHMLS IX, L.L.C. is the general partner of FHMLS IX, L.P. Patrick Heron and James Topper are the members of FHMLS IX, L.L.C. Each of FHMLS IX, L.P., FHMLS IX, L.L.C., Patrick Heron and James Topper disclaims beneficial ownership of these shares, except to the extent of its or his pecuniary interest in such shares, if any. The address of the principal business office of Frazier Life Sciences IX, L.P. is c/o Frazier Healthcare Partners, 601 Union Street, Suite 3200, Seattle, Washington 98101.

PLAN OF DISTRIBUTION

Our Plan of Distribution

We may sell the securities, from time to time, to or through underwriters or dealers, through agents or remarketing firms, or directly to one or more purchasers pursuant to:

- underwritten public offerings;
- negotiated transactions;
- block trades;
- "At the Market Offerings," within the meaning of Rule 415(a)(4) of the Securities Act, into an existing trading market, at prevailing market prices; or
- through a combination of these methods.

We may sell the securities to or through one or more underwriters or dealers (acting as principal or agent), through agents, or directly to one or more purchasers.

We may distribute securities from time to time in one or more transactions:

- at a fixed price or prices, which may be changed;
- at market prices prevailing at the time of sale;
- at prices related to such prevailing market prices; or
- at negotiated prices.

A prospectus supplement or supplements (and any related free writing prospectus that we may authorize to be provided to you) will describe the terms of the offering of the securities, including, to the extent applicable:

- the name or names of the underwriters, dealers or agents, if any;
- if the securities are to be offered through the selling efforts of brokers or dealers, the plan of distribution and the terms of any agreement, arrangement, or understanding entered into with broker(s) or dealer(s) prior to the effective date of the registration statement, and, if known, the identity of any broker(s) or dealer(s) who will participate in the offering and the amount to be offered through each;
- the purchase price of the securities or other consideration therefor, and the proceeds, if any, we will receive from the sale;
- if any of the securities being registered are to be offered otherwise than for cash, the general purposes of the distribution, the basis upon which the securities are to be offered, the amount of compensation and other expenses of distribution, and by whom they are to be borne;
- any delayed delivery arrangements;
- any over-allotment or other options under which underwriters may purchase additional securities from us;
- any agency fees or underwriting discounts and other items constituting agents' or underwriters' compensation;
- any public offering price;
- any discounts, commissions or commissions allowed or reallowed or paid to dealers;
- the identity and relationships of any finders, if applicable; and
- any securities exchange or market on which the securities may be listed.

Only underwriters named in the prospectus supplement will be underwriters of the securities offered by the prospectus supplement.

If underwriters are used in the sale, they will acquire the securities for their own account and may resell the securities from time to time in one or more transactions at a fixed public offering price or at varying prices determined at the time of sale. The obligations of the underwriters to purchase the securities will be subject to the conditions set forth in the applicable underwriting agreement. We may offer the securities to the public through underwriting syndicates represented by managing underwriters or by underwriters without a syndicate. Unless otherwise indicated in the prospectus supplement, subject to certain conditions, the underwriters will be obligated to purchase all of the securities offered by the prospectus supplement, other than securities covered by any over-allotment option. Any public offering price and any discounts or concessions allowed or reallowed or paid to dealers may change from time to time. We may use underwriters, dealers or agents with whom we have a material relationship. We will describe in the prospectus supplement, naming the underwriter, dealer or agent, the nature of any such relationship.

We may use a remarketing firm to offer the securities in connection with a remarketing arrangement upon their purchase. Remarketing firms will act as principals for their own account or as agents for us. These remarketing firms will offer or sell the securities pursuant to the terms of the securities. A prospectus supplement will identify any remarketing firm and the terms of its agreement, if any, with us and will describe the remarketing firm's compensation. Remarketing firms may be deemed to be underwriters in connection the securities they remarket.

If we offer and sell securities through a dealer, we or an underwriter will sell the securities to the dealer, as principal. The dealer may then resell the securities to the public at varying prices to be determined by the dealer at the time of resale. The name of the dealer and the terms of the transaction will be set forth in the applicable prospectus supplement.

We may sell securities directly or through agents we designate from time to time. We will name any agent involved in the offering and sale of securities and we will describe any commissions payable to the agent in the prospectus supplement. Unless the prospectus supplement states otherwise, the agent will act on a best-efforts basis for the period of its appointment.

Dealers and agents participating in the distribution of the securities may be deemed to be underwriters, and compensation received by them on resale of the securities may be deemed to be underwriting discounts. If such dealers or agents were deemed to be underwriters, they may be subject to statutory liabilities under the Securities Act.

We may sell securities directly to one or more purchasers without using underwriters or agents. Underwriters, dealers and agents that participate in the distribution of the securities may be underwriters as defined in the Securities Act, and any discounts or commissions they receive from us and any profit on their resale of the securities may be treated as underwriting discounts and commissions under the Securities Act.

We may authorize agents or underwriters to solicit offers by certain types of institutional investors to purchase securities from us at the public offering price set forth in the prospectus supplement pursuant to delayed delivery contracts providing for payment and delivery on a specified date in the future. We will describe the conditions to these contracts and the commissions we must pay for solicitation of these contracts in the prospectus supplement.

We may provide agents, underwriters and dealers with indemnification against civil liabilities, including liabilities under the Securities Act, or contribution with respect to payments that the agents, underwriters or dealers may make with respect to these liabilities. Agents, underwriters and dealers, or their respective affiliates, may engage in transactions with, or perform services for, us in the ordinary course of business.

All securities we may offer, other than common stock, will be new issues of securities with no established trading market. Any underwriters may make a market in these securities, but will not be obligated to do so and may discontinue any market making at any time without notice. We cannot guarantee the liquidity of the trading markets for any securities.

Any underwriter may engage in over-allotment, stabilizing transactions, short-covering transactions and penalty bids in accordance with Regulation M under the Exchange Act. Over-allotment involves sales in excess of the offering size, which create a short position. Stabilizing transactions permit bids to purchase the underlying security so long as the stabilizing bids do not exceed a specified maximum price. Syndicate-covering or other short-covering transactions involve purchases of the securities, either through exercise of the over-allotment option or in the open market after the distribution is completed, to cover short positions. Penalty bids permit the underwriters to reclaim a selling concession from a dealer when the securities originally sold by the dealer are purchased in a stabilizing or covering transaction to cover short positions. Those activities may cause the price of the securities to be higher than it would otherwise be. If commenced, the underwriters may discontinue any of the activities at any time.

Any underwriters that are qualified market makers on The NASDAQ Capital Market may engage in passive market making transactions in the common stock on The NASDAQ Capital Market in accordance with Regulation M under the Exchange Act, during the business day prior to the pricing of the offering, before the commencement of offers or sales of the common stock. Passive market makers must comply with applicable volume and price limitations and must be identified as passive market makers. In general, a passive market maker must display its bid at a price not in excess of the highest independent bid for such security; if all independent bids are lowered below the passive market maker's bid, however, the passive market maker's bid must then be lowered when certain purchase limits are exceeded. Passive market making may stabilize the market price of the securities at a level above that which might otherwise prevail in the open market and, if commenced, may be discontinued at any time.

Selling Stockholder's Plan of Distribution

The selling stockholder, including its transferees, donees, pledgees, assignees and successors-in-interest, may sell, transfer or otherwise dispose of any or all of the shares of common stock offered by this prospectus from time to time on The Nasdaq Capital Market or any other stock exchange, market or trading facility on which the shares are traded or in private transactions. These dispositions may be at fixed prices, at market prices prevailing at the time of sale, at prices related to prevailing market price or at negotiated prices. The selling stockholder may use any one or more of the following methods when selling shares:

- ordinary brokerage transactions and transactions in which the broker-dealer solicits purchasers;
- block trades in which the broker-dealer will attempt to sell the shares as agent but may position and resell a portion of the block as principal to facilitate the transaction;
- purchases by a broker-dealer as principal and resale by the broker-dealer for its account;
- an exchange distribution in accordance with the rules of the applicable exchange;
- privately negotiated transactions;
- "at the market" or through market makers or into an existing market for shares:
- short sales;
- broker-dealers may agree with the selling stockholder to sell a specified number of such shares at a stipulated price per share;
- through one or more underwritten offerings on a firm commitment or best efforts basis;
- a combination of any such methods of sale;

- through the writing or settlement of options or other hedging transactions, whether through an options exchange or otherwise; or
- any other method permitted pursuant to applicable law.

The selling stockholder may also sell shares under Rule 144 under the Securities Act, if available, rather than under this prospectus.

Broker-dealers engaged by the selling stockholder may arrange for other brokers-dealers to participate in sales. Broker-dealers may receive commissions or discounts from the selling stockholder or, if any broker-dealer acts as agent for the purchaser of shares, from the purchaser in amounts to be negotiated. The selling stockholder does not expect these commissions and discounts relating to its sales of shares to exceed what is customary in the types of transactions involved.

The selling stockholder may enter into hedging transactions with broker-dealers or other financial institutions, which may in turn engage in short sales of the common stock in the course of hedging the positions they assume. The selling stockholder may also sell shares of our common stock short and deliver these securities to close out its short positions, or loan or pledge the common stock to broker-dealers that in turn may sell these securities. The selling stockholder may also enter into option or other transactions with broker-dealers or other financial institutions or the creation of one or more derivative securities which require the delivery to such broker-dealer or other financial institution of shares offered by this prospectus, which shares such broker-dealer or other financial institution may resell pursuant to this prospectus, as supplemented or amended to reflect such transaction.

The selling stockholder and any broker-dealers or agents that are involved in selling the shares may be deemed to be “underwriters” within the meaning of the Securities Act in connection with such sales. In such event, any commissions received by such broker-dealers or agents and any profit on the resale of the shares purchased by them may be deemed to be underwriting commissions or discounts under the Securities Act. The selling stockholder has advised us that it has not entered into any agreements, understandings or arrangements with any underwriters or broker-dealers regarding the sale of its shares of common stock, nor is there an underwriter or coordinating broker acting in connection with a proposed sale of shares of common stock by the selling stockholder.

Because the selling stockholder may be deemed to be an “underwriter” within the meaning of the Securities Act, it will be subject to the prospectus delivery requirements of the Securities Act. In addition, any securities covered by this prospectus which qualify for sale pursuant to Rule 144 under the Securities Act may be sold under Rule 144 rather than under this prospectus. The selling stockholder had advised us that there is no underwriter or coordinating broker acting in connection with the proposed sale of the resale securities by the selling stockholder.

The shares will be sold only through registered or licensed brokers or dealers if required under applicable state securities laws. In addition, in certain states, the shares may not be sold unless they have been registered or qualified for sale in the applicable state or an exemption from the registration or qualification requirement is available and is complied with.

Under applicable rules and regulations under the Exchange Act, any person engaged in the distribution of the resale shares may not simultaneously engage in market making activities with respect to our common stock for the applicable restricted period, as defined in Regulation M, prior to the commencement of the distribution. In addition, the selling stockholder will be subject to applicable provisions of the Exchange Act and the rules and regulations thereunder, including Regulation M, which may limit the timing of purchases and sales of shares of our common stock by the selling stockholder or any other person. We will make copies of this prospectus available to the selling stockholder and have informed the selling stockholder of the need to deliver a copy of this prospectus to each purchaser at or prior to the time of the sale (including by compliance with Rule 172 under the Securities Act).

We have agreed to indemnify the selling stockholder against certain losses, claims, damages and liabilities, including liabilities under the Securities Act.

We will not receive any proceeds from the sale of the shares by the selling stockholder.

LEGAL MATTERS

The validity of the securities being offered hereby will be passed upon by Morrison & Foerster LLP, San Francisco, California. Additional legal matters may be passed upon for us or any underwriters, dealers or agents, by counsel that we will name in the applicable prospectus supplement.

EXPERTS

Mayer Hoffman McCann P.C., an independent registered public accounting firm, has audited our consolidated financial statements included in our Annual Report on Form 10-K for the years ended December 31, 2017 and 2016, as set forth in its report, which is incorporated by reference in this prospectus and the registration statement. Our financial statements are incorporated by reference in reliance on Mayer Hoffman McCann P.C.'s report, given on the authority of said firm as experts in accounting and auditing.

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You should rely only on the information contained in this prospectus. We have not authorized any dealer, broker, salesperson or any other person to provide you with information or to make any representations different from those contained in this prospectus or incorporated herein by reference. The information contained in this prospectus is accurate only as of the date of this prospectus, regardless of the time of delivery of this prospectus or of any sale of the shares. This prospectus does not constitute an offer or solicitation by anyone in any jurisdiction in which such offer or solicitation is not authorized or in which the person making such offer is not qualified to do so or to anyone to whom it is unlawful to make such offer or solicitation.

$200,000,000

Krystal Biotech, Inc.

Common Stock
Preferred Stock
Debt Securities
Warrants
Rights
Units
and
625,000 Shares of Common Stock
Offered by the Selling Stockholder

PROSPECTUS

, 2018

PART II

INFORMATION NOT REQUIRED IN THE PROSPECTUS

Item 14. Other Expenses of Issuance and Distribution.

The following table sets forth an estimate of the fees and expenses, other than the underwriting discounts and commissions, payable by us in connection with the issuance and distribution of the securities being registered. All the amounts shown are estimates.

SEC registration fee	$ 25,555.40
FINRA fee	$ *
NASDAQ listing fee	*
Accounting fees and expenses	*
Legal fees and expenses	*
Transfer agent and registrar fees and expenses	*
Trustee fees and expenses (including counsel fees and expenses)	*
Printing and engraving expenses	*
Miscellaneous expenses	*
Total	$

* These fees and expenses depend on the securities offered and the number of issuances and, accordingly, cannot be estimated at this time. An estimate of the aggregate fees and expenses in connection with the sale and distribution of securities being offered will be included in the applicable prospectus supplement.

Item 15. Indemnification of Directors and Officers.

We are incorporated under the laws of the State of Delaware. Section 102 of the Delaware General Corporation Law permits a corporation to eliminate the personal liability of directors of a corporation to the corporation or its stockholders for monetary damages for a breach of fiduciary duty as a director, except where the director breached his duty of loyalty, failed to act in good faith, engaged in intentional misconduct or knowingly violated a law, authorized the payment of a dividend or approved a stock repurchase in violation of Delaware corporate law or obtained an improper personal benefit.

Section 145 of the Delaware General Corporation Law provides that a corporation has the power to indemnify a director, officer, employee or agent of the corporation and certain other persons serving at the request of the corporation in related capacities against expenses (including attorneys' fees), judgments, fines and amounts paid in settlements actually and reasonably incurred by the person in connection with an action, suit or proceeding to which he is or is threatened to be made a party by reason of such position, if such person acted in good faith and in a manner he reasonably believed to be in or not opposed to the best interests of the corporation, and, in any criminal action or proceeding, had no reasonable cause to believe his conduct was unlawful, except that, in the case of actions brought by or in the right of the corporation, no indemnification shall be made with respect to any claim, issue or matter as to which such person shall have been adjudged to be liable to the corporation unless and only to the extent that the Court of Chancery or other adjudicating court determines that, despite the adjudication of liability but in view of all of the circumstances of the case, such person is fairly and reasonably entitled to indemnity for such expenses which the Court of Chancery or such other court shall deem proper.

As permitted by the Delaware General Corporation Law, our second amended and restated certificate of incorporation and amended and restated bylaws provide that: (i) we are required to indemnify our directors and officers to the fullest extent permitted by the Delaware General Corporation Law; (ii) we may, in our discretion, indemnify our employees and agents as set forth in the Delaware General Corporation Law; (iii) we are required,

upon satisfaction of certain conditions, to advance all expenses incurred by our directors and officers in connection with certain legal proceedings; (iv) the rights conferred in the bylaws are not exclusive; and (v) we are authorized to enter into indemnification agreements with our directors, officers, employees and agents.

We have entered into indemnification agreements with our directors and executive officers that require us to indemnify them against expenses, judgments, fines, settlements and other amounts that any such person becomes legally obligated to pay (including with respect to a derivative action) in connection with any proceeding, whether actual or threatened, to which such person may be made a party by reason of the fact that such person is or was a director or officer of us or any of our affiliates, provided such person acted in good faith and in a manner such person reasonably believed to be in, or not opposed to, our best interests. We maintain a directors' and officers' liability insurance policy. The policy insures directors and officers against unindemnified losses arising from certain wrongful acts in their capacities as directors and officers and reimburses us for those losses for which we have lawfully indemnified the directors and officers. The policy contains various exclusions.

In addition, the form of underwriting agreement to be filed as Exhibit 1.1 to this Registration Statement provides for indemnification by the underwriters of us and our officers and directors for certain liabilities arising under the Securities Act of 1933, as amended, or the Securities Act, or otherwise.

Item 16. Exhibits

Exhibit No.	Description
1.1*	Form of Underwriting Agreement.
3.1#	Second Amended and Restated Certificate of Incorporation of Krystal Biotech, Inc. (incorporated herein by reference to Exhibit 3.1 to the Current Report on Form 8-K of Krystal Biotech, Inc. filed with the SEC on September 25, 2017).
3.2#	Amended and Restated Bylaws of Krystal Biotech, Inc.(incorporated herein by reference to Exhibit 3.2 to the Current Report on Form 8-K of Krystal Biotech, Inc. filed with the SEC on September 25, 2017).
4.1#	Form of Common Stock Certificate (incorporated herein by reference to Exhibit 4.1 to the Registrant's Registration Statement on Form S-1/A filed on September 14, 2017).
4.2*	Specimen Preferred Stock Certificate and Form of Certificate of Designation of Preferred Stock.
4.3*	Form of Common Stock Warrant Agreement and Warrant Certificate.
4.4*	Form of Preferred Stock Warrant Agreement and Warrant Certificate.
4.5†	Form of Indenture (including form of Debt Securities).
4.6*	Form of Rights Agreement (including form of Rights).
5.1†	Opinion of Morrison & Foerster LLP.
23.1†	Consent of Mayer Hoffman McCann P.C., independent registered public accounting firm.
23.2†	Consent of Morrison & Foerster LLP (included in Exhibit 5.1).
24.1†	Power of Attorney (included on signature page hereto).
25.1††	Statement of Eligibility of Trustee on Form T-1.

* To be filed, if necessary, as an exhibit to a post-effective amendment to this registration statement or as an exhibit to a Current Report on Form 8-K to be filed by the registrant in connection with a specific offering, and incorporated herein by reference.

Previously filed.
† Filed herewith.
†† To be filed pursuant to Section 305(b)(2) of the U.S. Trust Indenture Act of 1939, as amended, as applicable.

Item 17. Undertakings.

(a) The undersigned registrant hereby undertakes:

(1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:

(i) to include any prospectus required by Section 10(a)(3) of the Securities Act of 1933;

(ii) to reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than a 20% change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement; and

(iii) To include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement;

provided, *however*, that paragraphs (a)(1)(i), (a)(1)(ii) and (a)(1)(iii) do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the Commission by the registrant pursuant to Section 13 or Section 15(d) of the Securities Exchange Act of 1934 that are incorporated by reference in the registration statement, or is contained in a form of prospectus filed pursuant to Rule 424(b) that is part of the registration statement.

(2) That, for the purpose of determining any liability under the Securities Act of 1933, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.

(3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

(4) That, for the purpose of determining liability under the Securities Act of 1933 to any purchaser:

(i) Each prospectus filed by the registrant pursuant to Rule 424(b)(3) shall be deemed to be part of the registration statement as of the date the filed prospectus was deemed part of and included in the registration statement; and

(ii) Each prospectus required to be filed pursuant to Rule 424(b)(2), (b)(5), or (b)(7) as part of a registration statement in reliance on Rule 430B relating to an offering made pursuant to Rule 415(a)(1)(i), (vii), or (x) for the purpose of providing the information required by Section 10(a) of the Securities Act of 1933 shall be deemed to be part of and included in the registration statement as of the earlier of the date such form of prospectus is first used after effectiveness or the date of the first contract of sale of securities in the offering described in the prospectus. As provided in Rule 430B, for liability purposes of the issuer and any person that is at that date an underwriter, such date shall be deemed to be a new effective date of the registration statement relating to the

securities in the registration statement to which that prospectus relates, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof. *Provided, however*, that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such effective date, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such effective date.

(5) That, for the purpose of determining liability of the registrant under the Securities Act of 1933 to any purchaser in the initial distribution of the securities, the undersigned registrant undertakes that in a primary offering of securities of the undersigned registrant pursuant to this registration statement, regardless of the underwriting method used to sell the securities to the purchaser, if the securities are offered or sold to such purchaser by means of any of the following communications, the undersigned registrant will be a seller to the purchaser and will be considered to offer or sell such securities to such purchaser:

(i) Any preliminary prospectus or prospectus of the undersigned registrant relating to the offering required to be filed pursuant to Rule 424;

(ii) Any free writing prospectus relating to the offering prepared by or on behalf of the undersigned registrant or used or referred to by the undersigned registrant;

(iii) The portion of any other free writing prospectus relating to the offering containing material information about the undersigned registrant or its securities provided by or on behalf of the undersigned registrant; and

(iv) Any other communication that is an offer in the offering made by the undersigned registrant to the purchaser.

(b) The undersigned registrant hereby undertakes that, for the purpose of determining liability of the registrant under the Securities Act of 1933, each filing of the registrant's annual report pursuant to Section 13(a) or Section 15(d) of the Securities Exchange Act of 1934 (and, where applicable, each filing of an employee benefit plan's annual report pursuant to Section 15(d) of the Securities Exchange Act of 1934) that is incorporated by reference in the registration statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.

(c) Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Securities Act of 1933 and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act of 1933 and will be governed by the final adjudication of such issue.

(d) The undersigned registrant hereby undertakes to file an application for the purpose of determining the eligibility of the trustee to act under subsection (a) of Section 310 of the Trust Indenture Act in accordance with the rules and regulations prescribed by the Commission under Section 305(b)(2) of the Trust Indenture Act.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, as amended, the registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-3 and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Pittsburgh, State of Pennsylvania, on October 1, 2018.

KRYSTAL BIOTECH, INC.

By: /s/ Krish S. Krishnan
Krish S. Krishnan
President and Chief Executive Officer

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that the undersigned officers and directors of Krystal Biotech, Inc., a Delaware corporation, do hereby constitute and appoint Krish S. Krishnan as the lawful attorney-in-fact and agent with full power of substitution or re-substitution, with full power and authority to do any and all acts and things in our name and on our behalf in our capacities as officers and directors and to execute any and all instruments for us and in our names in the capacities indicated below which said attorney-in-fact and agent determines may be necessary or advisable or required to enable said corporation to comply with the Securities Act of 1933, as amended, and any rules or regulation or requirements of the Securities and Exchange Commission in connection with this registration statement. Without limiting the generality of the foregoing power and authority, the powers granted include the power and authority to sign the names of the undersigned officers and directors in the capacities indicated below to this registration statement, to any and all amendments, both pre-effective and post-effective, and supplements to this registration statement and to any and all instruments or documents filed as part of or in conjunction with this registration statement or amendments or supplements thereto, and each of the undersigned hereby ratifies and confirms all that said attorney-in-fact and agent shall do or cause to be done by virtue hereof. This power of attorney may be signed in several counterparts.

IN WITNESS WHEREOF, each of the undersigned has executed this Power of Attorney as of the date indicated.

Pursuant to the requirements of the Securities Act of 1933, as amended, this registration statement has been signed below by the following persons in the capacities and on the dates indicated.

SIGNATURE	TITLE	DATE
/s/ Krish S. Krishnan Krish S. Krishnan	President and Chief Executive Officer and Director (Principal Executive Officer)	October 1, 2018
/s/ Antony A. Riley Antony A. Riley	Chief Financial Officer (Principal Accounting and Financial Officer)	October 1, 2018
/s/ Suma M. Krishnan Suma M. Krishnan	Chief Operating Officer and Director	October 1, 2018
/s/ Daniel S. Janney Daniel S. Janney	Director	October 1, 2018
/s/ Dino A. Rossi Dino A. Rossi	Director	October 1, 2018
/s/ Kirti Ganorkar Kirti Ganorkar	Director	October 1, 2018
/s/ R. Douglas Norby R. Douglas Norby	Director	October 1, 2018

Exhibit 4.5

KRYSTAL BIOTECH, INC.

and

[NAME OF TRUSTEE], as Trustee

INDENTURE

Dated as of _____, 201__

CROSS-REFERENCE TABLE

TIA Section		Indenture Section
310	(a)(1)	7.10
	(a)(2)	7.10
	(a)(3)	N.A.
	(a)(4)	N.A.
	(a)(5)	7.10
	(b)	7.08; 7.10
	(b)(1)	7.10
311	(a)	N.A.
	(b)	7.11
	(c)	7.11
312	(a)	N.A.
	(b)	2.06
	(c)	10.03
313	(a)	10.03
	(b)	7.06
	(b)(1)	7.08
	(b)(2)	N.A.
	(c)	7.06
	(d)	7.06
314		4.08;
	(a)	10.04
	(b)	N.A.
	(c)(1)	10.04
	(c)(2)	10.04
	(c)(3)	N.A.
	(d)	N.A.
	(e)	10.05
	(f)	N.A.
315	(a)	7.01(b)
	(b)	7.05
	(c)	7.01(a)
	(d)	7.01(c)
	(e)	6.12
316	(a) (last sentence)	2.10
	(a)(1)(A)	6.05
	(a)(1)(B)	6.04
	(a)(2)	N.A.
	(b)	6.08
	(c)	8.04
317	(a)(1)	6.09
	(a)(2)	6.10
	(b)	2.05; 7.12
318	(a)	10.01

N.A. means Not Applicable.

Note: This Cross-Reference Table shall not, for any purpose, be deemed to be a part of this Indenture.

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INDENTURE, dated as of _____ ____, 201__ between Krystal Biotech, Inc., a Delaware corporation, as issuer (the "Company") and [Name of Trustee], a [national banking association], as trustee (the "Trustee").

The Company has duly authorized the execution and delivery of this Indenture to provide for the issuance from time to time of its unsecured senior debentures or notes or other evidences of indebtedness (hereinafter called "Securities") to be issued in one or more series as provided in and in accordance with this Indenture.

Each party agrees as follows for the benefit of the other party and for the equal and ratable benefit of the Holders of the Securities.

ARTICLE ONE
DEFINITIONS AND INCORPORATION BY REFERENCE

SECTION 1.01. Definitions.

"Affiliate" of any specified Person means any other Person directly or indirectly controlling or controlled by or under direct or indirect common control with such specified Person. For the purposes of this definition, "control" when used with respect to any specified Person means the power to direct the management and policies of such Person, directly or indirectly, whether through the ownership of voting securities, by contract or otherwise; and the terms "controlling" and "controlled" have meanings correlative to the foregoing.

"Agent" means any Registrar, Paying Agent or agent for service or notices and demands.

"amend" means amend, modify, supplement, restate or amend and restate, including successively; "amending" and "amended" have correlative meanings; and "amendment" means amendment, modification, supplement, restatement or amendment and restatement.

"Attributable Debt" in respect of a Sale and Lease-Back Transaction means, as of any particular time, the present value (discounted at the rate of interest implicit in the terms of the lease involved in such Sale and Lease-Back Transaction, as determined in good faith by the Company) of the obligation of the lessee thereunder for rental payments (excluding, however, any amounts required to be paid by such lessee, whether or not designated as rent or additional rent, on account of maintenance and repairs, insurance, taxes, assessments, water rates or similar charges or any amounts required to be paid by such lessee thereunder contingent upon the amount of sales, maintenance and repairs, insurance, taxes, assessments, water rates or similar charges) during the remaining term of such lease (including any period for which such lease has been extended or may, at the option of the lessor, be extended).

"Bankruptcy Law" means Title 11, United States Code, or any similar U.S. Federal or state law or law of any other jurisdiction relating to bankruptcy, insolvency, winding-up, liquidation, reorganization or relief of debtors.

"Board of Directors" means either the board of directors of the Company or any duly authorized committee of that board.

"Board Resolution" means a copy of a resolution certified by the Secretary or an Assistant Secretary of the Company to have been duly adopted by the Board of Directors and to be in full force and effect on the date of such certification, and delivered to the Trustee.

"Business Day" means, unless otherwise provided with respect to a series of Securities, any day other than a Legal Holiday.

"capital stock" or "stock" means:

(i) in the case of a corporation, corporate stock or shares;

(ii) in the case of a partnership or limited liability company, partnership interests (whether general or limited) or membership interests;

(iii) in the case of an association or business entity (other than as provided in clauses (i) and (ii) above), shares, interests, participations, rights or other equivalents (however designated) similar to corporate stock; and

(iv) any other interest or participation that confers on a Person the right to receive a share of the profit and losses of, or distribution of assets of, the issuing Person.

"Commission" means the U.S. Securities and Exchange Commission, as from time to time constituted, created under the Exchange Act or, if at any time after the execution and delivery of this Indenture such Commission is not existing and performing the duties now assigned to it under the TIA, then the body performing such duties at such time.

"Company" means the party named as such in the first paragraph of this Indenture, until a successor replaces such party pursuant to Article Five and thereafter means the successor.

"Company Order" means a written request or order signed in the name of the Company by its Chairman of the Board, its President or a Vice President, and by its Treasurer, an Assistant Treasurer, its Controller, an Assistant Controller, its Secretary or an Assistant Secretary, and delivered to the Trustee.

"Consolidated Net Tangible Assets" means, as of any particular time, the total amount of assets (less applicable reserves) after deducting therefrom (a) all current liabilities (excluding any thereof which are by their terms extendible or renewable at the option of the obligor thereon to a time more than 12 months after the time as of which the amount thereof is being computed and excluding current maturities of long-term indebtedness), and (b) all goodwill, trade names, trademarks, patents, unamortized debt discount and expense and other like intangible assets, all as shown in the audited consolidated balance sheet of the Company and subsidiaries contained in the Company's then most recent annual report to stockholders, except that assets shall include an amount equal to the Attributable Debt in respect of any Sale and Lease-Back Transaction not capitalized on such balance sheet.

"Corporate Trust Office" means the principal office of the Trustee at which at any time this Indenture shall be administered, which office at the date hereof is located at , Attention: , or such other address as the Trustee may designate from time to time by notice to the Holders and the Company, or the principal corporate trust office of any successor Trustee (or such other address as such successor Trustee may designate from time to time by notice to the Holders and the Company).

"corporation" includes corporations, associations, companies (including any limited liability company), business and statutory trusts and limited partnerships.

"Custodian" means any receiver, interim receiver, receiver and manager, trustee, assignee, liquidator, custodian or similar official under any Bankruptcy Law.

"Default" means any event which is, or after notice or passage of time or both would be, an Event of Default.

"Depository" means, with respect to the Securities issued in the form of one or more Global Securities, The Depository Trust Company or another Person designated as Depository by the Company, which Person must be a clearing agency registered under the Exchange Act that is designated to act as Depository for such Securities as contemplated by Section 2.01.

"Exchange Act" means the U.S. Securities Exchange Act of 1934, as amended.

"GAAP" means generally accepted accounting principles in the United States of America as in effect from time to time.

"Global Security" means a Security that evidences all or part of the Securities of any series and bears the legend set forth in Section 2.17 (or such legend as may be specified as contemplated by Section 2.01 for such Securities).

"Government Obligations" means securities that are (i) direct obligations of the United States of America for the payment of which its full faith and credit is pledged, or (ii) obligations of a Person controlled or supervised by and acting as an agency or instrumentality of the United States of America the payment of which is unconditionally guaranteed as a full faith and credit obligation by the United States of America, which, in either case under clauses (i) or (ii), are not callable or redeemable at the option of the issuer thereof, and shall also include a depository receipt issued by a bank or trust company as custodian with respect to any such Government Obligation or a specific payment of interest on or principal of any such Government Obligation held by such custodian for the account of the holder of a depository receipt; *provided* that (except as required by law) such custodian is not authorized to make any deduction from the amount payable to the holder of such depository receipt from any amount received by the custodian in respect of the Government Obligation or the specific payment of interest on or principal of the Government Obligation evidenced by such depository receipt.

"Holder" means the Person in whose name a Security is registered in the register maintained by the Registrar pursuant to Section 2.04.

"Indenture" means this Indenture as amended, restated or supplemented from time to time, including, for all purposes of this instrument, the provisions of the TIA that are deemed to be a part of and govern this instrument and any supplemental indenture, respectively. The term "Indenture" shall also include the terms of a particular series of Securities established as contemplated by Section 2.01.

"interest" means, with respect to the Securities, interest on the Securities.

"Interest Payment Date" means, when used with respect to any Security, the Stated Maturity of an installment of interest on such Security.

"Legal Holiday" means a Saturday, a Sunday or other day on which commercial banking institutions in New York City are authorized or required by law to close.

"Maturity Date", when used with respect to any Security, means the date on which the principal amount of such Security becomes due and payable as therein or herein provided, whether at the Stated Maturity or by declaration of acceleration, call for redemption or otherwise.

"Officer" means the Chief Executive Officer, the President, the Chief Financial Officer, any Vice President, the Treasurer or the Secretary of the specified Person.

"Officers' Certificate" means a certificate signed by the Chairman of the Board, the Chief Executive Officer, the President or a Vice President, and by the Treasurer, an Assistant Treasurer, the Controller, an Assistant Controller, the Secretary or an Assistant Secretary, of the Company, and delivered to the Trustee.

"Opinion of Counsel" means a written opinion of counsel, who may be an employee of or counsel for the Company, and who shall be reasonably acceptable to the Trustee.

"Paying Agent" means any Person authorized by the Company to pay the principal of (and premium, if any) or interest on any Securities on behalf of the Company.

"Person" means any individual, corporation, company (including any limited liability company), association, partnership, joint venture, joint-stock company, trust, unincorporated organization, government or any agency or political subdivision thereof or any other entity.

"Physical Securities" means certificated Securities in registered form in substantially the form set forth in Exhibit A-1 or in such form as shall be established by or pursuant to a Board Resolution or in one or more indentures supplemental hereto.

"Place of Payment", when used with respect to the Securities of any series, means the place or places where the principal of (and premium, if any) and interest on the Securities of such series are payable as specified as contemplated by Section 2.01.

"Principal Property" means any manufacturing plant or manufacturing facility located within the United States of America, having a gross book value in excess of [ ]% of Consolidated Net Tangible Assets at the time of determination thereof and owned by the Company or any Restricted Subsidiary, in each case other than (1) any such plant or facility which, in the opinion of the Board of Directors, is not of material importance to the total business conducted by the Company and its Restricted Subsidiaries taken as a whole, or (2) any portion of such plant or facility similarly found not to be of material importance to the use or operation thereof.

"Redemption Date", when used with respect to any Security to be redeemed, means the date fixed for such redemption pursuant to this Indenture.

"Redemption Price", when used with respect to any Security to be redeemed, means the price at which it is to be redeemed pursuant to this Indenture.

"Responsible Officer", when used with respect to the Trustee, means any officer assigned by the Trustee to administer corporate trust matters and any other officer of the Trustee to whom any corporate trust matter is referred because of such officer's knowledge of and familiarity with the particular subject.

"Restricted Subsidiary" means any Subsidiary (a) substantially all of the property of which is located, or substantially all of the business of which is carried on, within the United States of America (other than its territories or possessions and other than Puerto Rico) and (b) which owns a Principal Property; *provided*, *however*, that any Subsidiary which is principally engaged in financing operations outside the United States of America or which is principally engaged in leasing or financing installment receivables shall not be deemed a Restricted Subsidiary for purposes of this Indenture.

"Securities" has the meaning provided in the preamble of this Indenture.

"Securities Act" means the U.S. Securities Act of 1933, as amended.

"Stated Maturity" means (a) with respect to any Security, the date specified in such Security as the fixed date on which the payment of principal of such Security is due and payable, including pursuant to any mandatory redemption provision (but excluding any provision providing for the repurchase of such Security at the option of the Holder thereof upon the happening of any contingency beyond the control of the Company unless such contingency has occurred) and (b) with respect to any scheduled installment of principal of or interest on any Security, the date specified in such Security as the fixed date on which such installment is due and payable.

"Subsidiary" means a corporation more than 50% of the outstanding voting stock of which is owned, directly or indirectly, by the Company or by one or more other Subsidiaries, or by the Company and one or more other Subsidiaries. For the purposes of this definition, "voting stock" means stock which ordinarily has voting power for the election of directors, whether at all times or only so long as no senior class of stock has such voting power by reason of any contingency.

"TIA" means the Trust Indenture Act of 1939 (15 U.S. Code §§77aaa-77bbbb) as in effect on the date of this Indenture, except as provided in Section 8.03.

"Trustee" means the party named as such in this Indenture until a successor replaces it pursuant to this Indenture and thereafter means the successor, and, if at any time there is more than one Person, "Trustee", as used with respect to the Securities of any series, shall mean the Trustee with respect to Securities of such series.

SECTION 1.02. Other Definitions.

The definitions of the following terms can be found in the sections indicated as follows:

Term	Defined in Section
"Agent Members"	2.16
"Covenant Defeasance"	9.01
"Expiration Date"	2.19
"Events of Default"	6.01
"indebtedness"	4.06
"Legal Defeasance"	9.01
"mortgage"	4.06
"Notice of Default"	6.01
"Registrar"	2.04
"Sale and Lease-Back Transaction"	4.07

SECTION 1.03. Incorporation by Reference of TIA.

Whenever this Indenture refers to a provision of the TIA, the portion of such provision required to be incorporated herein in order for this Indenture to be qualified under the TIA is incorporated by reference in and made a part of this Indenture. The following TIA terms used in this Indenture have the following meanings:

"indenture securities" means the Securities.

"indenture securityholder" means a Holder.

"indenture to be qualified" means this Indenture.

"obligor on this indenture securities" means the Company or any other obligor on the Securities.

All other terms used in this Indenture that are defined by the TIA, defined in the TIA by reference to another statute or defined by Commission rule have the meanings therein assigned to them.

SECTION 1.04. Rules of Construction.

Unless the context otherwise requires:

(i) a term has the meaning assigned to it herein, whether defined expressly or by reference;

(ii) "or" is not exclusive;

(iii) words in the singular include the plural, and in the plural include the singular;

(iv) words used herein implying any gender shall apply to both genders;

(v) "herein," "hereof" and other words of similar import refer to this Indenture as a whole and not to any particular Article, Section or subsection;

(vi) unless otherwise specified herein, all accounting terms used herein shall be interpreted, all accounting determinations hereunder shall be made, and all financial statements required to be delivered hereunder shall be prepared, in accordance with GAAP; and

(vii) "$," "U.S. Dollars" and "United States Dollars" each refer to United States dollars, or such other money of the United States of America that at the time of payment is legal tender for payment of public and private debts.

ARTICLE TWO
THE SECURITIES

SECTION 2.01. Series of Securities; Amount Unlimited.

The aggregate principal amount of Securities which may be authenticated and delivered under this Indenture is unlimited. The Securities may be issued in one or more series. There shall be established in one or more Board Resolutions or pursuant to authority granted by one or more Board Resolutions and, subject to Sections 2.02 and 2.03, set forth in, or determined in the manner provided in, an Officers' Certificate, or established in one or more indentures supplemental hereto, prior to the issuance of Securities of any series,

(1) the title of the Securities of the series (which shall distinguish the Securities of the series from Securities of any other series);

(2) any limit upon the aggregate principal amount of the Securities of the series which may be authenticated and delivered under this Indenture (except for Securities authenticated and delivered upon registration of transfer of, or in exchange for, or in lieu of, other Securities of the series pursuant to Sections 2.07, 2.08, 2.11, 3.06 or 8.05, and except for any Securities which, pursuant to Section 2.03, are deemed never to have been authenticated and delivered hereunder);

(3) the Person to whom any interest on a Security of the series shall be payable, if other than the Person in whose name that Security is registered at the close of business on the regular record date for such interest;

(4) the date or dates on which the principal of any Securities of the series is payable;

(5) the rate or rates at which any Securities of the series shall bear interest, if any, the date or dates from which any such interest shall accrue, the Interest Payment Dates on which any such interest shall be payable and the regular record date for any such interest payable on any Interest Payment Date;

(6) the place or places where the principal of and any premium and interest on any Securities of the series shall be payable;

(7) the period or periods within which, the price or prices at which and the terms and conditions upon which any Securities of the series may be redeemed, in whole or in part, at the option of the Company and, if other than by a Board Resolution, the manner in which any election by the Company to redeem the Securities shall be evidenced;

(8) the obligation, if any, of the Company to redeem or purchase any Securities of the series pursuant to any sinking fund or analogous provisions or at the option of the Holder thereof and the period or periods within which, the price or prices at which and the terms and conditions upon which any Securities of the series shall be redeemed or purchased, in whole or in part, pursuant to such obligation;

(9) if other than denominations of $1,000 and any integral multiple thereof, the denominations in which any Securities of the series shall be issuable;

(10) if the amount of principal of or any premium or interest on any Securities of the series may be determined with reference to an index or pursuant to a formula, the manner in which such amounts shall be determined;

(11) if other than the currency of the United States of America, the currency, currencies or currency units in which the principal of or any premium or interest on any Securities of the series shall be payable and the manner of determining the equivalent thereof in the currency of the United States of America for any purpose;

(12) if the principal of or any premium or interest on any Securities of the series is to be payable, at the election of the Company or the Holder thereof, in one or more currencies or currency units other than that or those in which such Securities are stated to be payable, the currency, currencies or currency units in which the principal of or any premium or interest on such Securities as to which such election is made shall be payable, the periods within which and the terms and conditions upon which such election is to be made and the amount so payable (or the manner in which such amount shall be determined);

(13) if other than the entire principal amount thereof, the portion of the principal amount of any Securities of the series which shall be payable upon declaration of acceleration of the maturity of the principal amount thereof pursuant to Section 6.02;

(14) if the principal amount payable at the Stated Maturity of any Securities of the series will not be determinable as of any one or more dates prior to the Stated Maturity, the amount which shall be deemed to be the principal amount of such Securities as of any such date for any purpose thereunder or hereunder, including the principal amount thereof which shall be due and payable upon any date other than the Stated Maturity or which shall be deemed to be outstanding as of any date prior to the Stated Maturity (or, in any such case, the manner in which such amount deemed to be the principal amount shall be determined);

(15) if applicable, that any Securities of the series shall be issuable in whole or in part in the form of one or more Global Securities and, in such case, the respective Depositories for such Global Securities, the form of any legend or legends which shall be borne by any such Global Security in addition to or in lieu of that set forth in Section 2.17 and any circumstances in addition to or in lieu of those set forth in Section 2.16 in which any such Global Security may be exchanged in whole or in part for Securities registered, and any transfer of such Global Security in whole or in part may be registered, in the name or names of Persons other than the Depositary for such Global Security or a nominee thereof;

(16) any addition to or change in the Events of Default which applies to any Securities of the series and any change in the right of the Trustee or the requisite Holders of such Securities to declare the principal amount thereof due and payable pursuant to Section 6.02;

(17) any addition to or change in the covenants set forth in Article Four which applies to Securities of the series; and

(18) any other terms of the series (which terms shall not be inconsistent with the provisions of this Indenture, except as permitted by Section 8.01(viii)).

All Securities of any one series shall be substantially identical except as to denomination and except as may otherwise be provided in or pursuant to the Board Resolution referred to above and (subject to Section 2.03) set forth, or determined in the manner provided, in the Officers' Certificate referred to above or in any such indenture supplemental hereto.

If any of the terms of the series are established by action taken pursuant to a Board Resolution, a copy of an appropriate record of such action shall be certified by the Secretary or an Assistant Secretary of the Company and delivered to the Trustee at or prior to the delivery of the Officers' Certificate setting forth the terms of the series.

The Securities shall be general unsecured senior obligations of the Company and will rank equally with all other unsecured senior indebtedness of the Company from time to time outstanding.

SECTION 2.02. Form.

The Securities and the Trustee's certificate of authentication with respect thereto shall be substantially in the form set forth in Exhibit A-1, which is incorporated in and forms a part of this Indenture, or such form established by one or more Board Resolutions adopted with respect to such series or in one or more indentures supplemental hereto, in each case with such appropriate insertions, omissions, substitutions and other variations as are required or permitted by this Indenture, and may have such letters, numbers or other marks of identification and such legends or endorsements placed thereon as may be required to comply with law or the rules of any securities exchange or Depository therefor or as may, consistently herewith, be determined by the officers executing such Securities, as evidenced by their execution thereof. If the form of Securities of any series is established by action taken pursuant to a Board Resolution, a copy of an appropriate record of such action shall be certified by the Secretary or an Assistant Secretary of the Company and delivered to the Trustee at or prior to the delivery of the Company Order contemplated by Section 2.03 for the authentication and delivery of such Securities.

The Securities shall be issued initially in the form of one or more permanent Global Securities in registered form and deposited with the Trustee, as custodian for the Depository. The aggregate principal amount of any Global Security may from time to time be increased or decreased by adjustments made on the records of the Trustee, as custodian for the Depository.

The terms and provisions contained in the Securities shall constitute, and are expressly made, a part of this Indenture and, to the extent applicable, the Company and the Trustee, by their execution and delivery of this Indenture, expressly agree to such terms and provisions and agree to be bound thereby.

SECTION 2.03. Execution and Authentication.

The Securities shall be executed on behalf of the Company by its Chairman of the Board, Chief Executive Officer, Chief Financial Officer, President or any Vice President. The signature of any of these officers on the Securities may be manual or facsimile.

If an Officer whose signature is on a Security was an Officer at the time of such execution but no longer holds that office at the time the Trustee authenticates the Security, the Security shall be valid nevertheless.

At any time and from time to time after the execution and delivery of this Indenture, the Company may deliver Securities of any series executed by the Company to the Trustee for authentication, together with a Company Order for the authentication and delivery of such Securities, and the Trustee in accordance with the Company Order shall authenticate and deliver such Securities. If the form or terms of the Securities of the series have been established by or pursuant to one or more Board Resolutions as permitted by Sections 2.01 and 2.02, in authenticating such Securities, and accepting the additional responsibilities under this Indenture in relation to such Securities, the Trustee shall be entitled to receive, and (subject to Section 7.01) shall be fully protected in relying upon, an Opinion of Counsel stating:

(1) if the form of such Securities has been established by or pursuant to Board Resolution as permitted by Section 2.02, that such form has been established in conformity with the provisions of this Indenture;

(2) if the terms of such Securities have been established by or pursuant to Board Resolution as permitted by Section 2.01, that such terms have been established in conformity with the provisions of this Indenture; and

(3) that such Securities, when authenticated and delivered by the Trustee and issued by the Company in the manner and subject to any conditions specified in such Opinion of Counsel, will constitute valid and legally binding obligations of the Company enforceable in accordance with their terms, subject to bankruptcy, insolvency, fraudulent transfer, fraudulent conveyance, reorganization, moratorium and similar laws of general applicability relating to or affecting creditors' rights and to general equity principles.

If such form or terms have been so established, the Trustee shall not be required to authenticate such Securities if the issue of such Securities pursuant to this Indenture will affect the Trustee's own rights, duties or immunities under the Securities and this Indenture or otherwise in a manner which is not reasonably acceptable to the Trustee.

Notwithstanding the provisions of Section 2.01 and of the second preceding paragraph, if all Securities of any series are not to be originally issued at one time, it shall not be necessary to deliver the Officers' Certificate otherwise required pursuant to Section 2.01 or the Company Order and Opinion of Counsel otherwise required pursuant to such second preceding paragraph at or prior to the authentication of each Security of such series if such documents are delivered at or prior to the authentication upon original issuance of the first Security of such series to be issued.

Each Security shall be dated the date of its authentication.

No Security shall be entitled to any benefit under this Indenture or be valid or obligatory for any purpose unless there appears on such Security a certificate of authentication substantially in the form provided for herein executed by the Trustee by manual signature, and such certificate upon any Security shall be conclusive evidence, and the only evidence, that such Security has been duly authenticated and delivered hereunder. Notwithstanding the foregoing, if any Security shall have been authenticated and delivered hereunder but never issued and sold by the Company, and the Company shall deliver such Security to the Trustee for cancellation as provided in Section 2.12, for all purposes of this Indenture such Security shall be deemed never to have been authenticated and delivered hereunder and shall never be entitled to the benefits of this Indenture.

The Securities of each series shall be issuable only in registered form without coupons and only in such denominations as shall be specified as contemplated by Section 2.01. In the absence of any such specified denomination with respect to the Securities of any series, the Securities of such series shall be issuable in denominations of $1,000 and any integral multiple thereof.

SECTION 2.04. Registrar and Paying Agent.

The Company shall cause to be kept at the Corporate Trust Office a register in which, subject to such reasonable regulations as it may prescribe, the Company shall provide for the registration of the Securities and of their transfer and exchange. The Trustee is hereby appointed "Registrar" for purposes of maintaining such register.

The Company shall maintain an office or agency where Securities may be presented for payment and an office or agency where notices and demands to or upon the Company, if any, in respect of the Securities and this Indenture may be served. The Company may have one or more Paying Agents.

The Company initially appoints the Trustee as Paying Agent and Agent for service of notices and demands in connection with the Securities and this Indenture. The Company may change the Paying Agent without prior notice to the Holders. The Company or any of its Subsidiaries may act as Paying Agent.

The Company shall enter into an appropriate agency agreement, which shall incorporate the provisions of the TIA, with any Agent that is not a party to this Indenture. The agreement shall implement the provisions of this Indenture that relate to such Agent. The Company shall notify the Trustee of the name and address of any such Agent. If the Company fails to maintain a Registrar or Paying Agent, or fails to give the foregoing notice, the Trustee shall act as such and shall be entitled to appropriate compensation in accordance with Section 7.07.

SECTION 2.05. Paying Agent To Hold Money in Trust.

Each Paying Agent shall hold in trust for the benefit of the Holders or the Trustee all money held by the Paying Agent for the payment of principal of or premium or interest on the Securities (whether such money has been paid to it by the Company or any other obligor on the Securities), and the Company and the Paying Agent shall notify the Trustee of any default by the Company (or any other obligor on the Securities) in making any such payment. Money held in trust by the Paying Agent need not be segregated except as required by law and in no event shall the Paying Agent be liable for any interest on any money received by it hereunder; *provided* that if the Company or an Affiliate thereof acts as Paying Agent, it shall segregate the money held by it as Paying Agent and hold it as a separate trust fund. The Company at any time may require the Paying Agent to pay all money held by it to the Trustee and account for any funds disbursed and the Trustee may at any time during the continuance of any Event of Default specified in Section 6.01(1) or (2), upon written request to the Paying Agent, require the Paying Agent to pay forthwith all money so held by it to the Trustee and to account for any funds disbursed. Upon making such payment, the Paying Agent shall have no further liability for the money delivered to the Trustee.

SECTION 2.06. Holder Lists.

The Trustee shall preserve in as current a form as is reasonably practicable the most recent list available to it of the names and addresses of the Holders. If the Trustee is not the Registrar, the Company shall furnish to the Trustee at least five Business Days before each Interest Payment Date for Securities of any series, and at such other times as the Trustee may request in writing, a list in such form and as of such date as the Trustee may reasonably require of the names and addresses of the Holders of Securities of such series; *provided* that, as long as the Trustee is the Registrar, no such list need be furnished.

SECTION 2.07. Transfer and Exchange.

Subject to Section 2.16, when Securities of any series are presented to the Registrar with a request from the Holder of such Securities to register a transfer or to exchange them for an equal principal amount of Securities of such series of other authorized denominations, the Registrar shall register the transfer or make the exchange as requested. Every Security presented or surrendered for registration of transfer or exchange shall be duly endorsed or be accompanied by a written instrument of transfer in form satisfactory to the Company and the Registrar, duly executed by the Holder thereof or his attorneys duly authorized in writing. To permit registrations of transfers and exchanges, the Company shall issue and execute and the Trustee shall authenticate new Securities of the same series evidencing such transfer or exchange at the Registrar's request. No service charge shall be made to the Holder for any registration of transfer or exchange. The Company may require from the Holder payment of a sum sufficient to cover any transfer taxes or other governmental charge that may be imposed in relation to a transfer exchange, but this provision shall not apply to any exchange pursuant to Section 2.11, 3.06 or 8.05 (in which events the Company shall be responsible for the payment of such taxes). The Registrar shall not be required to exchange or register a transfer of any Security for a period of 15 days immediately preceding the redemption of Securities of such series, except the unredeemed portion of any Security being redeemed in part.

Any Holder of a Global Security shall, by acceptance of such Global Security, agree that transfers of the beneficial interests in such Security may be effected only through a book-entry system maintained by the Holder of such Security (or its agent), and that ownership of a beneficial interest in the Global Security shall be required to be reflected in a book entry.

SECTION 2.08. Replacement Securities.

If a mutilated Security is surrendered to the Registrar or the Trustee, or if the Holder of a Security claims that the Security has been lost, destroyed or wrongfully taken, the Company shall issue, and the Trustee shall authenticate, a replacement Security of the same series if the Holder of such Security furnishes to the Company and the Trustee evidence reasonably acceptable to them of the ownership and the destruction, loss or theft of such Security and if the requirements of Section 8-405 of the New York Uniform Commercial Code as in effect on the date of this Indenture are met. If required by the Trustee or the Company, an indemnity bond shall be posted, sufficient in the judgment of all to protect the Company, the Trustee or any Paying Agent from any loss that any of them may suffer if such Security is replaced. The Company may charge such Holder for the Company's reasonable out-of-pocket expenses in replacing such Security and the Trustee may charge the Company for the Trustee's expenses (including, without limitation, attorneys' fees and disbursements) in replacing such Security. Every replacement Security shall constitute a contractual obligation of the Company.

SECTION 2.09. Outstanding Securities.

The Securities outstanding at any time are all Securities that have been authenticated by the Trustee except for (a) those canceled by it, (b) those delivered to it for cancellation, (c) to the extent set forth in Sections 9.01 and 9.02, on or after the date on which the conditions set forth in Section 9.01 or 9.02 have been satisfied, those Securities theretofore authenticated and delivered by the Trustee hereunder and (d) those described in this Section 2.09 as not outstanding. Subject to Section 2.10, a Security does not cease to be outstanding because the Company or one of its Affiliates holds the Security.

If a Security is replaced pursuant to Section 2.08, it ceases to be outstanding unless the Trustee receives proof satisfactory to it that the replaced Security is held by a bona fide purchaser in whose hands such Security is a legal, valid and binding obligation of the Company.

If the Paying Agent holds, in its capacity as such, on any Maturity Date, money sufficient to pay all accrued interest and principal with respect to the Securities payable on that date and is not prohibited from paying such money to the Holders thereof pursuant to the terms of this Indenture, then on and after that date such Securities cease to be outstanding and interest on them ceases to accrue.

SECTION 2.10. Treasury Securities.

In determining whether the Holders of the required principal amount of Securities of any series have concurred in any declaration of acceleration or notice of default or direction, waiver or consent or any amendment to this Indenture, Securities of such series owned by the Company or any Affiliate of the Company shall be disregarded as though they were not outstanding, except that for the purposes of determining whether the Trustee shall be protected in relying on any such direction, waiver or consent or any amendment to this Indenture, only Securities of such series as to which a Responsible Officer of the Trustee has actually received an Officers' Certificate stating that such Securities are so owned shall be so disregarded. Securities of such series so owned which have been pledged in good faith shall not be disregarded if the pledgee established to the satisfaction of the Trustee the pledgee's right so to act with respect to such Securities and that the pledgee is not the Company or any other obligor on such Securities or any of their respective Affiliates.

SECTION 2.11. Temporary Securities.

Until definitive Securities of any series are prepared and ready for delivery, the Company may prepare and the Trustee shall authenticate temporary Securities of such series. Temporary Securities shall be substantially in the form of definitive Securities of the same series but may have variations that the Company considers appropriate for temporary Securities.

Without unreasonable delay, the Company shall prepare and the Trustee shall authenticate definitive Securities of any series in exchange for temporary Securities of such series. Until such exchange, temporary Securities of such series shall be entitled to the same rights, benefits and privileges as definitive Securities of such series.

SECTION 2.12. Cancellation.

The Company at any time may deliver Securities to the Trustee for cancellation. The Registrar and the Paying Agent shall forward to the Trustee any Securities surrendered to them for registration of transfer, exchange or payment. The Trustee shall cancel all Securities surrendered for registration of transfer, exchange, payment, replacement or cancellation and shall deliver such canceled Securities to the Company. The Company may not reissue or resell, or issue new Securities of any series to replace Securities of such series that the Company has redeemed or paid, or that have been delivered to the Trustee for cancellation.

SECTION 2.13. Defaulted Interest.

If the Company defaults on a payment of interest on any series of Securities, it shall pay the defaulted interest, plus (to the extent permitted by law) any interest payable on the defaulted interest (including post-petition interest in any proceeding under any Bankruptcy Law), in accordance with the terms hereof, to the Persons who are Holders of such series of Securities on a subsequent special record date, which date shall be at least five Business Days prior to the payment date. The Company shall fix such special record date and payment date in a manner satisfactory to the Trustee. At least 10 days before such special record date, the Company shall mail to each Holder of such series of Securities a notice that states the special record date, the payment date and the amount of defaulted interest, and interest payable on defaulted interest, if any, to be paid. The Company may make payment of any defaulted interest in any other lawful manner not inconsistent with the requirements (if applicable) of any securities exchange on which the Securities of such series may be listed and, upon such notice as may be required by such exchange, if, after written notice given by the Company to the Trustee of the proposed payment pursuant to this sentence, such manner of payment shall be deemed practicable by the Trustee.

SECTION 2.14. CUSIP Number.

The Company in issuing the Securities of any series may use a "CUSIP" number, and if so, such CUSIP number shall be included in notices of redemption or exchange as a convenience to Holders of such series; *provided* that any such notice may state that no representation is made as to the correctness or accuracy of the CUSIP number printed in the notice or on the Securities, and that reliance may be placed only on the other identification numbers printed on the Securities. The Company shall promptly notify the Trustee of any such CUSIP number used by the Company in connection with the issuance of the Securities and of any change in the CUSIP number.

SECTION 2.15. Deposit of Moneys.

Prior to 11:00 a.m., New York City time, on each Interest Payment Date and Maturity Date, the Company shall have deposited with the Paying Agent in immediately available funds money sufficient to make cash payments, if any, due on such Interest Payment Date or Maturity Date, as the case may be, in a timely manner which permits the Trustee to remit payment to the Holders on such Interest Payment Date or Maturity Date, as the case may be. The principal and interest on Global Securities shall be payable to the Depository or its nominee, as the case may be, as the sole registered owner and the sole Holder of the Global Securities represented thereby. The principal and interest on Physical Securities shall be payable, either in person or by mail, at the office of the Paying Agent.

SECTION 2.16. Book-Entry Provisions for Global Securities.

(a) Each Global Security authenticated under this Indenture shall be registered in the name of the Depository designated for such Global Security or a nominee thereof and delivered to such Depository or a nominee thereof or custodian therefor, and each such Global Security shall constitute a single Security for all purposes of this Indenture

(b) Members of, or direct or indirect participants in, the Depository ("Agent Members") shall have no rights under this Indenture with respect to any Global Security held on their behalf by the Depository, or the Trustee as its custodian, or under the Global Security, and the Depository may be treated by the Company, the Trustee and any agent of the Company or the Trustee as the absolute owner of the Global Security for all purposes whatsoever. Notwithstanding the foregoing, nothing herein shall prevent the Company, the Trustee or any agent of the Company or the Trustee from giving effect to any written certification, proxy or other authorization (which may be in electronic form) furnished by the Depository or impair, as between the Depository and its Agent Members, the operation of customary practices governing the exercise of the rights of a Holder of any Security.

(c) Transfers of Global Securities shall be limited to transfer in whole, but not in part, to the Depository, its successors or their respective nominees. Interests of beneficial owners in the Global Securities of any series may be transferred or exchanged for Physical Securities of such series in accordance with the rules and procedures of the Depository. In addition, a Global Security shall be exchangeable for Physical Securities if (i) the Depository (x) notifies the Company that it is unwilling or unable to continue as depository for such Global Security or (y) has ceased to be a clearing agency registered under the Exchange Act, and, with respect to (x) or (y), the Company thereupon fails to appoint a successor depository within 90 days of such notice or cessation, (ii) the Company, at its option, notifies the Trustee in writing that it elects to cause the issuance of such Physical Securities in exchange for any or all of the Securities of any series represented by the Global Securities of such series or (iii) there shall have occurred and be continuing an Event of Default with respect to the Securities of any series. In all cases, Physical Securities delivered in exchange for any Global Security or beneficial interests therein shall be registered in the names, and issued in any authorized denominations, requested by or on behalf of the Depository (in accordance with its customary procedures).

(d) In connection with any transfer or exchange of a portion of the beneficial interest in any Global Security to beneficial owners pursuant to Section 2.16(c), the Registrar shall (if one or more Physical Securities are to be issued) reflect on its books and records the date and a decrease in the principal amount of the Global Security of such series in an amount equal to the principal amount of the beneficial interest in the Global Security of such series to be transferred, and the Company shall execute, and the Trustee shall upon receipt of a Company Order authenticate and make available for delivery, one or more Physical Securities of like tenor and amount.

(e) In connection with the transfer of Global Securities of any series as an entirety to beneficial owners pursuant to Section 2.16(c), the Global Securities of such series shall be deemed to be surrendered to the Trustee for cancellation, and the Company shall execute, and the Trustee shall authenticate and deliver, to each beneficial owner identified by the Depository in writing in exchange for its beneficial interest in the Global Securities of such series, an equal aggregate principal amount of Physical Securities of authorized denominations.

(f) Any beneficial interest in one of the Global Securities of any series that is transferred to a Person who takes delivery in the form of an interest in another Global Security of such series shall, upon transfer, cease to be an interest in such Global Security and become an interest in such other Global Security and, accordingly, shall thereafter be subject to all transfer restrictions and other procedures applicable to beneficial interests in such other Global Security for as long as it remains such an interest.

(g) The Holder of any Global Security may grant proxies and otherwise authorize any Person, including Agent Members and Persons that may hold interests through Agent Members, to take any action which a Holder is entitled to take under this Indenture or the Securities.

SECTION 2.17. Legend for Global Security.

Unless otherwise specified as contemplated by Section 2.01 for the Securities evidenced thereby, every Global Security authenticated and delivered hereunder shall bear a legend in substantially the following form:

> This Security is a Global Security within the meaning of the Indenture hereinafter referred to and is registered in the name of a Depository or a nominee thereof. This Security may not be exchanged in whole or in part for a Security registered, and no transfer of this Security in whole or in part may be registered, in the name of any Person other than such Depository or a nominee thereof, except in the limited circumstances described in the Indenture.

SECTION 2.18. Computation of Interest.

Except as otherwise specified as contemplated by Section 2.01, interest on the Securities shall be computed on the basis of a 360-day year of twelve 30-day months.

SECTION 2.19. Record Dates.

(a) The Company may set any day as a record date for the purpose of determining the Holders of outstanding Securities of any series entitled to give, make or take any request, demand, authorization, direction, notice, consent, waiver or other action provided or permitted by this Indenture to be given, made or taken by Holders of Securities of such series; *provided* that the Company may not set a record date for, and the provisions of this Section 2.19(a) shall not apply with respect to, the giving or making of any notice, declaration, request or direction referred to in Section 2.19(b). If any record date is set pursuant to this Section 2.19(a), the Holders of outstanding Securities of the relevant series on such record date, and no other Holders, shall be entitled to take the relevant action, whether or not such Holders remain Holders after such record date; *provided* that no such action shall be effective hereunder unless taken on or prior to the applicable Expiration Date by Holders of the requisite principal amount of outstanding Securities of such series on such record date. Nothing in this Section 2.19(a) shall be construed to prevent the Company from setting a new record date for any action for which a record date has previously been set pursuant to this Section 2.19(a) (whereupon the record date previously set shall automatically and with no action by any Person be cancelled and of no effect), and nothing in this Section 2.19(a) shall be construed to render ineffective any action taken by Holders of the requisite principal amount of outstanding Securities of the relevant series on the date such action is taken. Promptly after any record date is set pursuant to this Section 2.19(a), the Company, at its own expense, shall cause notice of such record date, the proposed action by Holders and the applicable Expiration Date to be given to the Trustee in writing and to each Holder of Securities of the relevant series.

(b) The Trustee may set any day as a record date for the purpose of determining the Holders of outstanding Securities of any series entitled to join in the giving or making of (i) any notice of default, (ii) any declaration of acceleration referred to in Section 6.02, (iii) any request to institute proceedings referred to in Section 6.06(2) or (iv) any direction referred to in Section 6.05, in each case with respect to Securities of such series. If any record date is set pursuant to this Section 2.19(b), the Holders of outstanding Securities of such series on such record date, and no other Holders, shall be entitled to join in such notice, declaration, request or direction, whether or not such Holders remain Holders after such record date; *provided* that no such action shall be effective hereunder unless taken on or prior to the applicable Expiration Date by Holders of the requisite principal amount of outstanding Securities of such series on such record date. Nothing in this Section 2.19(b) shall be construed to prevent the Trustee from setting a new record date for any action for which a record date has previously been set pursuant to this Section 2.19(b) (whereupon the record date previously set shall automatically and with no action by any Person be cancelled and of no effect), and nothing in this Section 2.19(b) shall be construed to render ineffective any action taken by Holders of the requisite principal amount of outstanding Securities of the relevant series on the date such action is taken. Promptly after any record date is set pursuant to this Section 2.19(b), the Trustee, at the Company's expense, shall cause notice of such record date, the proposed action by Holders and the applicable Expiration Date to be given to the Company in writing and to each Holder of Securities of the relevant series.

(c) With respect to any record date set pursuant to this Section 2.19, the party hereto which sets such record dates may designate any day as the "Expiration Date" and from time to time may change the Expiration Date to any earlier or later day; *provided* that no such change shall be effective unless notice of the proposed new Expiration Date is given to the other party hereto in writing, and to each Holder of Securities of the relevant series, on or prior to the existing Expiration Date. If an Expiration Date is not designated with respect to any record date set pursuant to this Section 2.19, the party hereto which set such record date shall be deemed to have initially designated the 180th day after such record date as the Expiration Date with respect thereto, subject to its right to change the Expiration Date as provided in this Section 2.19. Notwithstanding the foregoing, no Expiration Date shall be later than the 180th day after the applicable record date.

(d) Without limiting the foregoing, a Holder entitled hereunder to take any action hereunder with regard to any particular Security may do so with regard to all or any part of the principal amount of such Security or by one or more duly appointed agents each of which may do so pursuant to such appointment with regard to all or any part of such principal amount.

ARTICLE THREE
REDEMPTION

SECTION 3.01. Applicability of Article.

Securities of any series which are redeemable before their Stated Maturity shall be redeemable in accordance with their terms and (except as otherwise specified as contemplated by Section 2.01 for such Securities) in accordance with this Article.

SECTION 3.02. Election To Redeem; Notices to Trustee.

If the Company elects to redeem the Securities of any series, at least 30 days prior to the Redemption Date (unless a shorter notice shall be agreed to in writing by the Trustee) but not more than 60 days before the Redemption Date, the Company shall notify the Trustee in writing of the Redemption Date, the principal amount of the Securities of such series to be redeemed and the Redemption Price, and deliver to the Trustee, no later than two Business Days prior to the Redemption Date, an Officers' Certificate stating that such redemption will comply with the conditions contained herein and in the Securities of such series, as appropriate. Notice given to the Trustee pursuant to this Section 3.02 may, at the Company's discretion, be subject to the satisfaction of one or more conditions precedent.

SECTION 3.03. Selection by Trustee of Securities To Be Redeemed.

If less than all the Securities of any series are to be redeemed, the Trustee shall select the Securities to be redeemed on a *pro rata* basis or on as nearly a *pro rata* basis as is practicable (subject to procedures of the Depository). The Trustee shall promptly notify the Company of the Securities selected for redemption and, in the case of any Securities selected for partial redemption, the principal amount thereof to be redeemed. The Trustee may select for redemption portions of the principal of the Securities that have denominations larger than $1,000. Securities and portions thereof the Trustee selects shall be redeemed in amounts of $1,000 or whole multiples of $1,000. For all purposes of this Indenture unless the context otherwise requires, provisions of this Indenture that apply to Securities called for redemption also apply to portions of Securities called for redemption.

SECTION 3.04. Notice of Redemption.

At least 30 days, and no more than 60 days, before a Redemption Date, the Company shall mail, or cause to be mailed, a notice of redemption by first-class mail to each Holder of Securities to be redeemed at such Holder's last address as the same appears on the register maintained by the Registrar pursuant to Section 2.04.

The notice of redemption shall identify the Securities to be redeemed (including the CUSIP numbers thereof) and shall state:

(i) the Redemption Date;

(ii) the appropriate calculation of the Redemption Price;

(iii) if fewer than all outstanding Securities of any series are to be redeemed, the portion of the principal amount of such Securities to be redeemed and that, after the Redemption Date and upon surrender of such Securities, a new Security or Securities of such series in principal amount equal to the unredeemed portion will be issued;

(iv) the name and address of the Paying Agent;

(v) that Securities called for redemption must be surrendered to the Paying Agent to collect the Redemption Price;

(vi) that unless the Company defaults in making the redemption payment, interest on Securities called for redemption ceases to accrue on and after the Redemption Date; and

(vii) the aggregate principal amount of Securities of such series that are being redeemed.

In addition, if such redemption is subject to satisfaction of one or more conditions precedent, such notice of redemption shall describe each such condition, and if applicable, shall state that, in the Company's discretion, the Redemption Date may be delayed until such time as any or all such conditions shall be satisfied, or such redemption may not occur and such notice may be rescinded in the event that any or all such conditions shall not have been satisfied by the Redemption Date as stated in such notice, or by the redemption date as so delayed.

At the Company's written request made at least five Business Days prior to the date on which notice of redemption is to be given, the Trustee shall give the notice of redemption in the Company's name and at the Company's expense.

SECTION 3.05. Effect of Notice of Redemption.

Once the notice of redemption described in Section 3.04 is mailed, Securities called for redemption become due and payable on the Redemption Date and at the Redemption Price, including any premium, plus interest accrued to the Redemption Date, subject to the satisfaction of any conditions precedent provided in such notice of redemption. Upon surrender to the Paying Agent, such Securities shall be paid at the Redemption Price, including any premium, plus interest accrued to the Redemption Date; *provided* that if the Redemption Date is after a regular record date and on or prior to the Interest Payment Date, the accrued interest shall be payable to the Holder of the redeemed Securities registered on the relevant record date; and *provided*, *further*, that if a Redemption Date is a Legal Holiday, payment shall be made on the next succeeding Business Day and no interest shall accrue for the period from such Redemption Date to such succeeding Business Day. Such notice, if mailed in the manner provided in Section 3.03, shall be conclusively presumed to have been given whether or not the Holder receives such notice.

SECTION 3.06. Deposit of Redemption Price.

On or prior to 11:00 A.M., New York City time, on each Redemption Date, the Company shall deposit with the Paying Agent in immediately available funds money sufficient to pay the Redemption Price of, including premium, if any, and accrued interest on all Securities to be redeemed on that date other than Securities or portions thereof called for redemption on that date which have been delivered by the Company to the Trustee for cancellation.

On and after any Redemption Date, if money sufficient to pay the Redemption Price, including any premium, plus interest accrued to the Redemption Date, of the Securities called for redemption shall have been made available in accordance with the immediately preceding paragraph, the Securities called for redemption will cease to accrue interest and the only right of the Holders of such Securities will be to receive payment of the Redemption Price of and, subject to the first proviso in Section 3.05, accrued and unpaid interest on such Securities to the Redemption Date. If any Security called for redemption shall not be so paid upon surrender thereof for redemption, interest will accrue from the Redemption Date until such redemption payment is made, on the unpaid principal of such Security (and any premium) and interest not paid on such unpaid principal, in each case at the rate and in the manner provided in such Securities.

SECTION 3.07. Securities Redeemed in Part.

Upon surrender of a Security that is redeemed in part, the Company shall execute and the Trustee shall authenticate for the Holder thereof a new Security of such series equal in principal amount to the unredeemed portion of the original Security in the name of the Holder upon cancellation of the original Security surrendered, except that if a Global Security is so surrendered, the Company shall execute and the Trustee shall authenticate and deliver to the Depository, a new Global Security of such series in denomination equal to and in exchange for the unredeemed portion of the principal of the Global Security so surrendered.

SECTION 3.08. Mandatory Redemption.

The Company is not required to make mandatory redemption or sinking fund payments with respect to the Securities of any series, unless otherwise specified in accordance with Section 2.01 when establishing the terms of the Securities of such series.

ARTICLE FOUR
COVENANTS

SECTION 4.01. Payment of Principal, Premium and Interest.

The Company covenants and agrees for the benefit of each series of Securities that it will duly and punctually pay the principal of (and premium, if any) and interest on the Securities of such series in accordance with the terms of the Securities of such series and this Indenture.

SECTION 4.02. Maintenance of Office or Agency.

The Company will maintain in each Place of Payment for any series of Securities an office or agency where Securities of such series may be presented or surrendered for payment, where Securities of such series may be surrendered for registration of transfer or exchange and where notices and demands to or upon the Company in respect of the Securities of such series and this Indenture may be served. The Company will give prompt written notice to the Trustee of the location, and any change in the location, of such office or agency.

If at any time the Company shall fail to maintain any such required office or agency or shall fail to furnish the Trustee with the address thereof, such presentations, surrenders, notices and demands may be made or served at the Corporate Trust Office, and the Company hereby appoints the Trustee as its agent to receive all such presentations, surrenders, notices and demands.

The Company may also from time to time designate one or more other offices or agencies where the Securities of any one or more series may be presented or surrendered for any or all such purposes and may from time to time rescind such designations; *provided*, *however*, that no such designation or rescission shall in any manner relieve the Company of its obligation to maintain an office or agency in each Place of Payment for Securities of any series for such purposes. The Company will give prompt written notice to the Trustee of any such designation or rescission and of any change in the location of any such other office or agency.

SECTION 4.03. Money for Securities Payments To Be Held in Trust.

If the Company shall at any time act as its own Paying Agent with respect to the Securities of any series, it will, on or before each due date of the principal of (and premium, if any) or interest on any of the Securities of such series, segregate and hold in trust for the benefit of the Persons entitled thereto a sum sufficient to pay the principal (and premium, if any) or interest so becoming due until such sums shall be paid to such Persons or otherwise disposed of as herein provided and will promptly notify the Trustee of its action or failure so to act.

Whenever the Company shall have a Paying Agent for the Securities of any series, it will, prior to 11:00 a.m., New York City time, on each due date of the principal of (and premium, if any) or interest on the Securities of such series, deposit with the Paying Agent a sum sufficient to pay the principal (and premium, if any) or interest so becoming due, such sum to be held in trust for the benefit of the Persons entitled to such principal, premium or interest, and (unless such Paying Agent is the Trustee) the Company will promptly notify the Trustee of its action or failure so to act.

The Company will cause the Paying Agent for the Securities of any series, other than the Trustee, to execute and deliver to the Trustee an instrument in which the Paying Agent shall agree with the Trustee, subject to the provisions of this Section 4.03, that the Paying Agent will:

(1) hold all sums held by it for the payment of the principal of (and premium, if any) or interest on the Securities of such series in trust for the benefit of the Persons entitled thereto until such sums shall be paid to such Persons or otherwise disposed of as herein provided;

(2) give the Trustee notice of any default by the Company in the making of any payment of principal (and premium, if any) or interest on the Securities of such series; and

(3) at any time during the continuance of any such default, upon the written request of the Trustee, forthwith pay to the Trustee all sums so held in trust by the Paying Agent.

The Company may at any time, for the purpose of obtaining the satisfaction and discharge of this Indenture or for any other purpose, pay, or by Company Order direct the Paying Agent to pay, to the Trustee all sums held in trust by the Company or the Paying Agent, such sums to be held by the Trustee upon the same trusts as those upon which such sums were held by the Company or the Paying Agent; and, upon such payment by the Paying Agent to the Trustee, the Paying Agent shall be released from all further liability with respect to such money.

SECTION 4.04. Corporate Existence.

Subject to Article Five, the Company will do or cause to be done all things necessary to preserve and keep in full force and effect its existence as a corporation.

SECTION 4.05. Payment of Taxes and Other Claims.

The Company will pay or discharge or cause to be paid or discharged, before the same shall become delinquent, (1) all taxes, assessments and governmental charges levied or imposed upon the Company or any Restricted Subsidiary or upon the income, profits or property of the Company or any Restricted Subsidiary, and (2) all lawful claims against the Company or any Restricted Subsidiary for labor, materials and supplies which in the case of either clause (1) or (2) of this Section 4.05, if unpaid, might by law become a lien upon a Principal Property; *provided*, *however*, that neither the Company nor any Restricted Subsidiary shall be required to pay or discharge or cause to be paid or discharged any such tax, assessment, charge or claim whose amount, applicability or validity is being contested in good faith by appropriate proceedings.

SECTION 4.06. Restrictions on Secured Debt.

(a) The Company will not, nor will it permit any Restricted Subsidiary to, create, incur, issue, assume or guarantee any indebtedness for borrowed money (hereinafter called "indebtedness") secured by a mortgage, security interest, pledge or lien (hereinafter called "mortgage") of or upon any Principal Property or on any Capital Stock or indebtedness of any Restricted Subsidiary (whether such Principal Property, Capital Stock or indebtedness is now owned or hereafter acquired) without in any such case making or causing to be made effective provision (and the Company covenants that in any such case it shall make or cause to be made effective provision) whereby the Securities (together with, if the Company shall so determine, any other indebtedness created, incurred, issued, assumed or guaranteed by the Company or any Restricted Subsidiary and then existing or thereafter created) shall be secured equally and ratably with (or, at the option of the Company, prior to) such indebtedness, so long as such indebtedness shall be so secured.

(b) The provisions of Section 4.06(a) shall not, however, apply to any indebtedness secured by any one or more of the following:

(1) mortgages of or upon any property acquired, constructed or improved by, or of or upon Capital Stock or indebtedness acquired by, the Company or any Restricted Subsidiary after the date of this Indenture (A) to secure the payment of all or any part of the purchase price of such property, Capital Stock or indebtedness upon the acquisition thereof by the Company or any Restricted Subsidiary, or (B) to secure any indebtedness issued, assumed or guaranteed by the Company or any Restricted Subsidiary prior to, at the time of, or within 180 days after (i) in the case of property, the later of the acquisition, completion of construction (including any improvements on existing property) or commencement of commercial operation of such property or (ii) in the case of Capital Stock or indebtedness, the acquisition of such Capital Stock or indebtedness, which indebtedness is issued, assumed or guaranteed for the purpose of financing or refinancing all or any part of the purchase price of such property, Capital Stock or indebtedness and, in the case of property, the cost of construction thereof or improvements thereon, provided that in the case of any such acquisition, construction or improvement the mortgage shall not apply to any property, Capital Stock or indebtedness theretofore owned by the Company or any Restricted Subsidiary, other than, in the case of any such construction or improvement, any theretofore unimproved or substantially unimproved real property on which the property so constructed or the improvement is located;

(2) mortgages of or upon any property, Capital Stock or indebtedness existing at the time of acquisition thereof by the Company or any Restricted Subsidiary;

(3) mortgages of or upon any property of a corporation existing at the time such corporation is merged with or into or consolidated with the Company or any Restricted Subsidiary or existing at the time of a sale or transfer of the properties of a corporation as an entirety or substantially as an entirety to the Company or any Restricted Subsidiary;

(4) mortgages of or upon any property of, or Capital Stock or indebtedness of, a corporation existing at the time such corporation becomes a Restricted Subsidiary;

(5) mortgages to secure indebtedness of any Restricted Subsidiary to the Company or to another Restricted Subsidiary;

(6) mortgages in favor of the United States of America or any State thereof, or any department, agency or instrumentality or political subdivision of the United States of America or any State thereof, or in favor of any other country or political subdivision, to secure partial, progress, advance or other payments pursuant to any contract or statute or to secure any indebtedness incurred or guaranteed for the purpose of financing or refinancing all or any part of the purchase price of the property, Capital Stock or indebtedness subject to such mortgages, or the cost of constructing or improving the property subject to such mortgages (including, without limitation, mortgages incurred in connection with pollution control, industrial revenue or similar financings); and

(7) any extension, renewal or replacement (or successive extensions, renewals or replacements) in whole or in part of any mortgage existing at the date of this Indenture or any mortgage referred to in the foregoing clauses (1) through (6), inclusive, *provided*, *however*, that the principal amount of indebtedness secured thereby shall not exceed the principal amount of indebtedness so secured at the time of such extension, renewal or replacement, and that such extension, renewal or replacement shall be limited to all or a part of the property (plus improvements and construction on such property), Capital Stock or indebtedness which was subject to the mortgage so extended, renewed or replaced.

(c) Notwithstanding the provisions of Section 4.06(a), the Company or any Restricted Subsidiary may, without equally and ratably securing the Securities, issue, assume or guarantee indebtedness secured by a mortgage not excepted by clauses (1) through (7) of Section 4.06(b), if the aggregate amount of such indebtedness, together with all other indebtedness of, or indebtedness guaranteed by, the Company and its Restricted Subsidiaries existing at such time and secured by mortgages not so excepted and the Attributable Debt in respect of Sale and Lease-Back Transactions existing at such time (other than Sale and Lease-Back Transactions permitted by clause (i) of Section 4.07 and other than Sale and Lease-Back Transactions the proceeds of which have been applied in accordance with clause (iii) of Section 4.07), does not at the time exceed [ ]% of Consolidated Net Tangible Assets.

SECTION 4.07. Restrictions on Sale and Lease-Back Transactions.

The Company will not, and will not permit any Restricted Subsidiary to, enter into any arrangement with any Person providing for the leasing by the Company or any Restricted Subsidiary of any Principal Property, whether now owned or hereafter acquired (except for temporary leases for a term, including any renewal thereof, of not more than three years and except for leases between the Company and any Restricted Subsidiary, between any Restricted Subsidiary and the Company or between Restricted Subsidiaries), which property has been or is to be sold or transferred by the Company or such Restricted Subsidiary to such Person with the intention of taking back a lease of such property (herein referred to as a "Sale and Lease-Back Transaction") unless:

(i) the Company or such Restricted Subsidiary would (at the time of entering into such arrangement) be entitled pursuant to clause (1) or (6) of Section 4.06(b), without equally and ratably securing the Securities, to issue, assume or guarantee indebtedness secured by a mortgage on such property, or

(ii) the Company or such Restricted Subsidiary would (at the time of entering into such arrangement) be entitled pursuant to Section 4.06(c), without equally and ratably securing the Securities, to issue, assume or guarantee indebtedness secured by a mortgage on such property in an amount at least equal to the Attributable Debt in respect of such Sale and Lease-Back Transaction or

(iii) the Company shall apply, within 180 days of the effective date of any such arrangement, an amount not less than the greater of (x) the net proceeds of the sale of such property or (y) the fair market value (as determined by the Board of Directors) of such property to either the prepayment or retirement (other than any mandatory prepayment or retirement) of indebtedness incurred or assumed by the Company or any Restricted Subsidiary (other than indebtedness owned by the Company or any Restricted Subsidiary) which by its terms matures at or is extendible or renewable at the option of the obligor to a date more than twelve months after the date of the creation of such indebtedness, or to the acquisition, construction or improvement of a manufacturing plant or manufacturing facility which is, or upon such acquisition, construction or improvement will be, a Principal Property.

SECTION 4.08. Reports to Holders.

The Company shall:

(1) file with the Trustee, within 15 days after the Company has filed the same with the Commission, copies of the annual reports and of the information, documents and other reports (or copies of such portions of any of the foregoing as the Commission may from time to time by rules and regulations prescribe) which the Company may be required to file with the Commission pursuant to Section 13 or Section 15(d) of the Exchange Act; or, if the Company is not required to file information, documents or reports pursuant to either of said Sections, then it shall file with the Trustee and the Commission, in accordance with rules and regulations prescribed from time to time by the Commission, such of the supplementary and periodic information, documents and reports which may be required pursuant to Section 13 of the Exchange Act in respect of a security listed and registered on a national securities exchange as may be prescribed from time to time in such rules and regulations;

(2) file with the Trustee and the Commission, in accordance with rules and regulations prescribed from time to time by the Commission, such additional information, documents and reports with respect to compliance by the Company with the conditions and covenants of this Indenture as may be required from time to time by such rules and regulations; and

(3) transmit by mail to all Holders, as their names and addresses appear in the register maintained by the Registrar pursuant to Section 2.04, within 30 days after the filing thereof with the Trustee, such summaries of any information, documents and reports required to be filed by the Company pursuant to Section 4.08(1) or (2) as may be required by rules and regulations prescribed from time to time by the Commission.

Delivery of such reports, information and documents to the Trustee is for informational purposes only and the Trustee's receipt of such shall not constitute constructive notice of any information contained therein or determinable from information contained therein, including the Company's compliance with any of its covenants hereunder (as to which the Trustee is entitled to rely exclusively on Officers' Certificates).

All references in this Agreement to the filing of documents with the Commission includes, at such time as is permitted pursuant to this Section, the delivering of the same to the Trustee.

SECTION 4.09. Statement by Officers as to Default.

The Company will deliver to the Trustee, within 120 days after the end of each fiscal year of the Company ending after the date hereof, an Officers' Certificate, stating whether or not to the best knowledge of the signers thereof the Company is in default in the performance and observance of any of the terms, provisions and conditions of Sections 4.06 and 4.07, and if the Company shall be in default, specifying all such defaults and the nature and status thereof of which they may have knowledge.

SECTION 4.10. Waiver of Certain Covenants.

The Company may omit in any particular instance to comply with any term, provision or condition set forth in Section 4.06 or 4.07 with respect to the Securities of any series if before the time for such compliance the Holders of a majority in principal amount of the outstanding Securities of such series shall, by act of such Holders, either waive such compliance in such instance or generally waive compliance with such term, provision or condition, but no such waiver shall extend to or affect such term, provision or condition except to the extent so expressly waived, and, until such waiver shall become effective, the obligations of the Company and the duties of the Trustee in respect of any such term, provision or condition shall remain in full force and effect.

ARTICLE FIVE
SUCCESSOR CORPORATION

SECTION 5.01. Consolidation, Merger and Sale of Assets.

The Company may consolidate or merge with or into any other corporation, or lease, sell or transfer all or substantially all of its property and assets to any Person, if:

(a) the corporation formed by such consolidation or into which the Company is merged, or the Person which acquires by lease, sale or transfer all or substantially all of the Company's property and assets, is a corporation organized and existing under the laws of the United States of America, any State in the United States of America or the District of Columbia;

(b) the corporation formed by such consolidation or into which the Company is merged, or the corporation which acquires by lease, sale or transfer all or substantially all of the Company's property and assets, agrees to pay the principal of, and any premium and interest on, the Securities and perform and observe all covenants and conditions of this Indenture by executing and delivering to the Trustee a supplemental indenture; and

(c) immediately after giving effect to such transaction and treating indebtedness for borrowed money which becomes the Company's obligation or an obligation of a Restricted Subsidiary as a result of such transaction as having been incurred by the Company or such Restricted Subsidiary at the time of such transaction, no Event of Default, and no event which, after notice or lapse of time or both, would become an Event of Default, has happened and is continuing.

If, upon any such consolidation or merger, or upon any such lease, sale or transfer as provided above, any Principal Property or any capital stock or indebtedness of any Restricted Subsidiary, owned immediately prior to the transaction, would thereupon become subject to any mortgage, security interest, pledge or lien securing any indebtedness for borrowed money of, or guaranteed by, such other corporation (other than any mortgage, security interest, pledge or lien permitted as described in Section 4.06), the Company, prior to such consolidation, merger, lease, sale or transfer, will, by executing and delivering to the Trustee a supplemental indenture, secure the due and punctual payment of the principal of, and any premium and interest on, the Securities (together with, if the Company shall so determine, any other indebtedness of, or guaranteed by, the Company or any Restricted Subsidiary and then existing or thereafter created) equally and ratably with (or, at the Company's option, prior to) the indebtedness secured by such mortgage, security interest, pledge or lien.

Upon any consolidation by the Company with or merger by the Company into any other corporation or any lease, sale or transfer of all or substantially all of the property and assets of the Company in accordance with this Section 5.01, the successor corporation formed by such consolidation or into which the Company is merged or to which such lease, sale or transfer is made shall succeed to, and be substituted for, and may exercise every right and power of, the Company under this Indenture with the same effect as if such successor corporation had been named as the Company herein, and thereafter, except in the case of a lease, the predecessor corporation shall be relieved of all obligations and covenants under this Indenture and the Securities.

ARTICLE SIX
DEFAULTS AND REMEDIES

SECTION 6.01. Events of Default.

The following events shall be "Events of Default" with respect to Securities of any series:

(1) a failure to pay interest upon any Security of such series that continues for a period of 30 days after payment is due;

(2) a failure to pay the principal or premium, if any, on any Security of such series when due upon maturity, redemption, acceleration or otherwise;

(3) a failure to comply with any of the Company's other agreements contained in this Indenture (other than a covenant or warranty a default in whose performance or whose breach is elsewhere in this Section specifically dealt with or which has expressly been included in this Indenture solely for the benefit of series of Securities other than such series), for a period of 90 days after written notice to the Company of such failure from the Trustee (or to the Company and the Trustee from the holders of at least 25% of the principal amount of the Securities of such series then outstanding) specifying such failure and requiring it to be remedied and stating that such notice is a "Notice of Default" hereunder;

(4) the Company pursuant to or within the meaning of any Bankruptcy Law:

(A) commences a voluntary insolvency proceeding;

(B) consents to the entry of an order for relief against it in an involuntary insolvency proceeding or consents to its dissolution or winding-up;

(C) consents to the appointment of a Custodian of it or for any substantial part of its property; or

(D) makes a general assignment for the benefit of its creditors; and

(5) a court of competent jurisdiction enters an order or decree under any Bankruptcy Law that:

(A) is for relief against the Company in an involuntary insolvency proceeding;

(B) appoints a Custodian of the Company or for any substantial part of its property;

(C) orders the winding-up, liquidation or dissolution of the Company; or

(D) orders the presentation of any plan or arrangement, compromise or reorganization of the Company;

and in each such case the order or decree remains unstayed and in effect for 90 days.

SECTION 6.02. Acceleration of Maturity; Rescission.

If an Event of Default with respect to the Securities of any series (other than an Event of Default specified in Section 6.01(4) or 6.01(5)) shall have occurred and be continuing, the Trustee or the registered Holders of not less than 25% in aggregate principal amount of the Securities of such series then outstanding may declare to be immediately due and payable the principal amount of all Securities of such series then outstanding by written notice to the Company and the Trustee, plus accrued but unpaid interest to the date of acceleration. In case an Event of Default specified in Sections 6.01(4) and 6.01(5)

shall occur, such amount with respect to all such Securities shall be automatically due and payable immediately without any declaration or other act on the part of the Trustee or the Holders of such Securities. After any such acceleration, but before a judgment or decree based on acceleration is obtained by the Trustee, the Holders of a majority in aggregate principal amount of such Securities then outstanding may rescind and annul such acceleration (i) if the rescission would not conflict with any judgment or decree, (ii) if all existing Events of Default have been cured or waived except nonpayment of principal, premium or interest that has become due solely because of the acceleration, (iii) to the extent the payment of such interest is lawful, interest on overdue installments of interest and overdue principal, which has become due otherwise than by such declaration of acceleration, has been paid, (iv) if the Company has paid the Trustee its reasonable compensation and reimbursed the Trustee for its expenses, disbursements and advances and all other amounts due to the Trustee under Section 7.07 and (v) in the event of the cure or waiver of an Event of Default of the type described in either Section 6.01(4) or (5), the Trustee shall have received an Officers' Certificate to the effect that such Event of Default has been cured or waived. No such rescission shall affect any subsequent Default or impair any right consequent thereto.

Subject to Section 7.01, in case an Event of Default shall occur and be continuing with respect to any series of Securities, the Trustee shall be under no obligation to exercise any of its rights or powers under this Indenture at the request or direction of any of the Holders of such series of Securities, unless such Holders shall have offered to the Trustee reasonable indemnity. Subject to Section 7.07, the Holders of a majority in aggregate principal amount of such series of Securities then outstanding will have the right to direct the time, method and place of conducting any proceeding for any remedy available to the Trustee or exercising any trust or power conferred on the Trustee with respect to such Securities.

SECTION 6.03. Other Remedies.

If an Event of Default occurs and is continuing with respect to any series of Securities, the Trustee may pursue any available remedy by proceeding at law or in equity to collect the payment of principal of, or premium, if any, and interest on the Securities of such series or to enforce the performance of any provision of the Securities of such series or this Indenture and may take any necessary action requested of it as Trustee to settle, compromise, adjust or otherwise conclude any proceedings to which it is a party.

The Trustee may maintain a proceeding even if it does not possess any of the Securities of such series or does not produce any of them in the proceeding. Any such proceeding instituted by the Trustee may be brought in its own name and as trustee of an express trust, and any recovery of judgment shall, after provision for the payment of the reasonable compensation, expenses, disbursements of the Trustee and its counsel, be for the ratable benefit of the Holders of the Securities of such series in respect of which such judgment has been recovered. A delay or omission by the Trustee or any Holder in exercising any right or remedy accruing upon an Event of Default shall not impair the right or remedy or constitute a waiver of or acquiescence in the Event of Default. No remedy is exclusive of any other remedy. All available remedies are cumulative, to the extent permitted by law. Any costs associated with actions taken by the Trustee under this Section 6.03 shall be reimbursed to the Trustee by the Company.

SECTION 6.04. Waiver of Past Defaults and Events of Default.

Provided the Securities of any series are not then due and payable by reason of a declaration of acceleration, the Holders of a majority in principal amount of the then outstanding Securities of such series may on behalf of the Holders of all the affected Securities waive any past Default with respect to such Securities and its consequences by providing written notice thereof to the Company and the Trustee, except a Default (1) in the payment of interest on or the principal of (or premium, if any, on) any Security or (2) in respect of a covenant or provision hereof which under this Indenture cannot be amended without the consent of the Holder of each outstanding Security affected. In the case of any such waiver, the Company, the Trustee and the Holders of the Securities will be restored to their former positions and rights under this Indenture, respectively; *provided* that no such waiver shall extend to any subsequent or other Default or impair any right consequent thereto.

SECTION 6.05. Control by Majority.

The Holders of at least a majority in aggregate principal amount of the outstanding Securities of any series may direct the time, method and place of conducting any proceeding for any remedy available to the Trustee or exercising any trust or power conferred on the Trustee with respect to the Securities of such series. However, the Trustee may refuse to follow any direction that conflicts with law or this Indenture, that may involve the Trustee in personal liability, or that the Trustee determines in good faith may be unduly prejudicial to the rights of Holders of the affected Securities not joining in the giving of such direction and may take any other action it deems proper that is not inconsistent with any such direction received from Holders of such Securities.

SECTION 6.06. Limitation on Suits.

No Holder of any Security of any series will have any right to institute any proceeding with respect to this Indenture, or for the appointment of a receiver or trustee, or for any remedy hereunder, unless:

(1) the Holder gives the Trustee written notice of a continuing Event of Default with respect to the Securities of such series,

(2) the Holders of at least 25% in aggregate principal amount of outstanding Securities of such series make a written request to the Trustee to institute such proceeding or pursue such remedy as trustee,

(3) such Holder or Holders offer the Trustee indemnity satisfactory to the Trustee against any costs, liability or expense,

(4) the Trustee does not comply with the request within 60 days after receipt of the notice, request and offer of indemnity, and

(5) during such 60-day period the Holders of at least a majority in aggregate principal amount of the outstanding Securities of such series do not give the Trustee a direction that is inconsistent with the request.

However, such limitations do not apply to a suit instituted by a Holder of any Security for enforcement of payment of the principal of, and premium, if any, or interest on, such Security on or after the respective due date expressed in such Security.

SECTION 6.07. No Personal Liability of Directors, Officers, Employees and Stockholders.

No past, present or future director, officer, employee, incorporator, agent, member or stockholder or Affiliate of the Company, as such, shall have any liability for any obligations of the Company under the Securities, or this Indenture or for any claim based on, in respect of, or by reason of, such obligations or their creation. Each Holder of Securities by accepting a Security waives and releases all such liability. The waiver and release are part of the consideration for issuance of the Securities. This waiver may not be effective to waive liabilities under the U.S. federal securities laws.

SECTION 6.08. Rights of Holders To Receive Payment.

Notwithstanding any other provision of this Indenture, the right of any Holder of a Security to receive payment of the principal of or premium, if any, or interest, if any, on such Security or to bring suit for the enforcement of any such payment, on or after the due date expressed in the Securities shall not be impaired or affected without the consent of the Holder.

SECTION 6.09. Collection Suit by Trustee.

If an Event of Default with respect to Securities of any series in payment of principal, premium or interest specified in Section 6.01(1) or (2) occurs and is continuing, the Trustee may recover judgment in its own name and as trustee of an express trust against the Company (or any other obligor on the Securities of such series) for the whole amount of unpaid principal and accrued interest remaining unpaid.

SECTION 6.10. Trustee May File Proofs of Claim.

The Trustee may file such proofs of claim and other papers or documents as may be necessary or advisable in order to have the claims of the Trustee (including any claim for the reasonable compensation, expenses, disbursements and advances of the Trustee, its agents and counsel, and any other amounts due the Trustee under Section 7.07) and the Holders allowed in any judicial proceedings relative to the Company (or any other obligor upon the Securities), its creditors or its property and, unless prohibited by law, shall be entitled and empowered to collect and receive any monies or other property payable or deliverable on any such claims and to distribute the same after deduction of its charges and expenses to the extent that any such charges and expenses are not paid out of the estate in any such proceedings and any custodian in any such judicial proceeding is hereby authorized by each Holder to make such payments to the Trustee, and in the event that the Trustee shall consent to the making of such payments directly to the Holders, to pay to the Trustee any amount due to it for the reasonable compensation, expenses, disbursements and advances of the Trustee, its agents and counsel, and any other amounts due the Trustee under Section 7.07.

Nothing herein contained shall be deemed to authorize the Trustee to authorize or consent to or accept or adopt on behalf of any Holder any plan of reorganization, arrangement, adjustment or composition affecting the Securities or the rights of any Holder thereof, or to authorize the Trustee to vote in respect of the claim of any Holder in any such proceedings. All rights of action and claims under this Indenture or the Securities may be prosecuted and enforced by the Trustee without the

possession of any of the Securities thereof in any proceeding relating thereto, and any such proceeding instituted by the Trustee shall be brought in its own name as trustee of an express trust, and any recovery of judgment shall, after provision for the payment of the reasonable compensation, expenses, disbursements and advances of the Trustee, its agents and counsel, be for the ratable benefit of the Holders in respect of which such judgment has been recovered.

SECTION 6.11. Priorities.

If the Trustee collects any money pursuant to this Article Six, it shall pay out the money in the following order:

FIRST: to the Trustee for amounts due under Section 7.07;

SECOND: to Holders for amounts due and unpaid on the affected Securities for principal, premium, if any, and interest as to each, ratably, without preference or priority of any kind, according to the amounts due and payable on the Securities; and

THIRD: to the Company.

The Trustee may fix a record date and payment date for any payment to Holders pursuant to this Section 6.11.

SECTION 6.12. Undertaking for Costs.

In any suit for the enforcement of any right or remedy under this Indenture or in any suit against the Trustee for any action taken or omitted by it as Trustee, a court in its discretion may require the filing by any party litigant in the suit of an undertaking to pay the costs of the suit, and the court in its discretion may assess reasonable costs, including reasonable attorneys' fees and expenses, against any party litigant in the suit, having due regard to the merits and good faith of the claims or defenses made by the party litigant. This Section 6.12 does not apply to a suit by the Company, a suit by the Trustee, a suit by a Holder pursuant to Section 6.08 or a suit by Holders of more than 10% in principal amount of the Securities of any series then outstanding.

SECTION 6.13. Waiver of Stay or Extension Laws.

The Company covenants (to the extent that it may lawfully do so) that it will not at any time insist upon, or plead, or in any manner whatsoever claim or take the benefit or advantage of, any stay or extension law wherever enacted, now or at any time hereafter in force, which may affect the covenants or the performance of this Indenture; and the Company (to the extent that it may lawfully do so) hereby expressly waives all benefit or advantage of any such law and covenants that it will not hinder, delay or impede the execution of any power herein granted to the Trustee, but will suffer and permit the execution of every such power as though no such law has been enacted.

ARTICLE SEVEN
TRUSTEE

SECTION 7.01. Duties of Trustee.

(a) If an Event of Default actually known to a Responsible Officer of the Trustee has occurred and is continuing, the Trustee shall exercise such of the rights and powers vested in it by this Indenture and use the same degree of care and skill in their exercise as a prudent person would exercise or use under the circumstances in the conduct of such Person's own affairs.

The Trustee shall not be deemed to have notice of any Default or Event of Default unless a Responsible Officer of the Trustee has actual knowledge thereof or unless written notice of any event which is in fact such a Default or Event of Default is received by the Trustee at the Corporate Trust Office, and such notice references the Securities and this Indenture.

(b) Except during the continuance of an Event of Default:

(1) the Trustee need perform only such duties as are specifically set forth in this Indenture and no others.

(2) in the absence of bad faith or willful misconduct on its part, the Trustee may conclusively rely, as to the truth of the statements and the correctness of the opinions expressed therein, upon certificates or opinions furnished to the Trustee and conforming to the requirements of this Indenture but, in the case of any such certificates or opinions which by any provision hereof are specifically required to be furnished to the Trustee, the Trustee shall be under a duty to examine the same to determine whether or not they conform on their face to the requirements of this Indenture (but need not confirm or investigate

the accuracy of mathematical calculations or other facts stated therein). Whenever in the administration of this Indenture the Trustee shall deem it desirable that a matter be proved or established prior to taking, suffering or omitting any action hereunder, the Trustee (unless other evidence be herein specifically prescribed) may, in the absence of bad faith on its part, conclusively rely upon an Officers' Certificate, subject to the requirement in the preceding sentence, if applicable.

(c) The Trustee may not be relieved from liability for its own negligent action, its own negligent failure to act, or its own willful misconduct, except that:

(1) this Section 7.01(c) does not limit the effect of Section 7.01(b);

(2) the Trustee shall not be liable for any error of judgment made in good faith by a Responsible Officer or Responsible Officers of the Trustee, unless it is proved that the Trustee was negligent in ascertaining the pertinent facts;

(3) the Trustee shall not be liable with respect to any action it takes or omits to take in good faith in accordance with a direction of the Holders of a majority in aggregate principal amount of the outstanding Securities of any series received by it pursuant to the terms hereof; and

(4) no provision of this Indenture shall require the Trustee to expend or risk its own funds or otherwise incur any financial liability in the performance of any of its rights, powers or duties if it shall have reasonable grounds for believing that repayment of such funds or adequate indemnity satisfactory to it against such risk or liability is not reasonably assured to it.

(d) Whether or not therein expressly so provided, Sections 7.01(a), (b), (c) and (e) shall govern every provision of this Indenture that in any way relates to the Trustee.

(e) The Trustee shall be under no obligation to exercise any of the rights or powers vested in it by this Indenture at the request or direction of any of the Holders pursuant to this Indenture, unless such Holders shall have offered to the Trustee security or indemnity satisfactory to the Trustee against the costs, expenses and liabilities which might be incurred by it in compliance with such request.

(f) The Trustee shall not be liable for interest on any money received by it except as the Trustee may agree in writing with the Company. Money held in trust by the Trustee need not be segregated from other funds except to the extent required by law.

SECTION 7.02. Rights of Trustee.

Subject to Section 7.01:

(1) the Trustee may conclusively rely on any document (whether in its original or facsimile form) reasonably believed by it to be genuine and to have been signed or presented by the proper person. The Trustee need not investigate any fact or matter stated in the document;

(2) before the Trustee acts or refrains from acting, it may require an Officers' Certificate or an Opinion of Counsel, or both, which shall conform to the provisions of Section 10.05, and the Trustee shall be protected and shall not be liable for any action it takes or omits to take in good faith in reliance on such certificate or opinion;

(3) the Trustee may act through its attorneys and agents and shall not be responsible for the misconduct or negligence of any agent appointed by it with due care;

(4) the Trustee shall not be liable for any action it takes or omits to take in good faith which it reasonably believes to be authorized or within its rights or powers conferred upon it by this Indenture; *provided* that the Trustee's conduct does not constitute willful misconduct, negligence or bad faith;

(5) the Trustee may consult with counsel of its selection, and the advice or opinion of such counsel with respect to legal matters relating to the Securities or this Indenture shall be full and complete authorization and protection from liability in respect of any action taken, omitted or suffered by it hereunder in good faith and in accordance with the advice or opinion of such counsel;

(6) the rights, privileges, protections, immunities and benefits given to the Trustee, including, without limitation, its right to be indemnified, are extended to, and shall be enforceable by, the Trustee in each of its capacities hereunder, and each agent, custodian and other person employed to act hereunder;

(7) the Trustee shall not be bound to make any investigation into the facts or matters stated in any resolution, certificate, statement, instrument, opinion, report, notice, request, direction, consent, order, bond, debenture, note, other evidence of indebtedness or other paper or document, but the Trustee, in its discretion, may make such further inquiry or investigation into such facts or matters as it may see fit, and, if the Trustee shall determine to make such further inquiry or investigation, it shall be entitled to examine the books records, and premises of the Company, personally or by agent or attorney at the sole cost of the Company and shall incur no liability or additional liability of any kind by reason of such inquiry or investigation; and

(8) the Trustee may request that the Company deliver an Officers' Certificate setting forth the names of individuals or titles of officers authorized at such time to take specified actions pursuant to this Indenture, which Officers' Certificate may be signed by any person authorized to sign an Officers' Certificate, including any person specified as so authorized in any such certificate previously delivered and not suspended.

SECTION 7.03. Individual Rights of Trustee.

The Trustee in its individual or any other capacity may become the owner or pledgee of Securities and may make loans to, accept deposits from, perform services for or otherwise deal with the Company or any Affiliate thereof, with the same rights it would have if it were not Trustee. Any Agent may do the same with like rights. The Trustee, however, shall be subject to Sections 7.10 and 7.11.

SECTION 7.04. Trustee's Disclaimer.

The Trustee shall not be responsible for and makes no representation as to the validity or adequacy of this Indenture or the Securities, the Trustee shall not be accountable for the Company's use of the proceeds from the sale of Securities or any money paid to the Company pursuant to the terms of this Indenture and the Trustee shall not be responsible for any statement in the Securities or this Indenture other than its certificate of authentication, *provided* that the Trustee represents that it is duly authorized to execute and deliver this Indenture, authenticate the Securities and perform its obligations hereunder and that the statements made by it in any Statement of Eligibility and Qualification on Form T-1 supplied by it to the Company will be true and accurate subject to the qualifications set forth therein.

SECTION 7.05. Notice of Defaults.

If a Default occurs with respect to Securities of any series, and such Default is continuing and if it is known to the Trustee, the Trustee shall give to each Holder of Securities of such series a notice of the Default within 90 days after it occurs in the manner and to the extent provided in the TIA and otherwise as provided in this Indenture. Except in the case of a Default in payment of the principal of or interest on any Security (including payments pursuant to a redemption or repurchase of the Securities pursuant to the provisions of this Indenture), the Trustee may withhold the notice if and so long as a committee of its Responsible Officers in good faith determines that withholding the notice is in the interests of Holders.

SECTION 7.06. Reports by Trustee to Holders.

If required by TIA §313(a), within 60 days after June 15 of any year, the Trustee shall mail to each Holder a brief report dated as of such date that complies with TIA §313(a). The Trustee also shall comply with TIA §313(b)(2). The Trustee shall also transmit by mail all reports as required by TIA §313(c) and TIA§ 313(d).

Reports pursuant to this Section 7.06 shall be transmitted by mail:

(1) to all Holders of Securities, as the names and addresses of such Holders appear on the register maintained by the Registrar pursuant to Section 2.04; and

(2) to such Holders of Securities as have, within the two years preceding such transmission, filed their names and addresses with the Trustee for that purpose.

A copy of each report at the time of its mailing to Holders shall be filed with the Company, the Commission and each stock exchange on which the Securities are listed. The Company shall promptly notify the Trustee when the Securities are listed on any stock exchange or delisted therefrom.

SECTION 7.07. Compensation and Indemnity.

The Company shall pay to the Trustee and Agents from time to time such compensation for their services hereunder (which compensation shall not be limited by any provision of law in regard to the compensation of a trustee of an express trust) as shall be agreed upon in writing. The Company shall reimburse the Trustee and Agents upon request for all reasonable disbursements, expenses and advances incurred or made by them in connection with the Trustee's duties under this Indenture, including the reasonable compensation, disbursements and expenses of the Trustee's agents and external counsel, except any expense disbursement or advance as may be attributable to its willful misconduct, negligence or bad faith.

The Company shall fully indemnify each of the Trustee and any predecessor Trustee for, and hold each of them harmless against, any and all loss, damage, claim, liability or expense, including without limitation taxes (other than taxes based on the income of the Trustee or such Agent) and reasonable attorneys' fees and expenses incurred by each of them in connection with the acceptance or performance of its duties under this Indenture, including the reasonable costs and expenses of defending itself against any claim or liability in connection with the exercise or performance of any of its powers or duties hereunder (including, without limitation, settlement costs). The Trustee or Agent shall notify the Company in writing promptly of any claim of which a Responsible Officer of the Trustee has actual knowledge asserted against the Trustee or Agent for which it may seek indemnity; *provided* that the failure by the Trustee or Agent to so notify the Company shall not relieve the Company of its obligations hereunder except to the extent the Company is actually prejudiced thereby. In the event that a conflict of interest exists, the Trustee may have separate counsel, which counsel must be reasonably acceptable to the Company, and the Company shall pay the reasonable fees and expenses of such counsel.

Notwithstanding the foregoing, the Company need not reimburse the Trustee for any expense or indemnify it against any loss or liability determined to have been incurred by the Trustee through its own willful misconduct, negligence or bad faith.

To secure the payment obligations of the Company in this Section 7.07, the Trustee shall have a lien prior to the Securities on all money or property held or collected by the Trustee and such money or property held in trust to pay principal of and interest on particular Securities.

The obligations of the Company under this Section 7.07 to compensate and indemnify the Trustee, Agents and each predecessor Trustee and to pay or reimburse the Trustee, Agents and each predecessor Trustee for expenses, disbursements and advances shall be the liability of the Company and shall survive the resignation or removal of the Trustee and the satisfaction, discharge or other termination of this Indenture, including any termination or rejection hereof under any Bankruptcy Law.

When the Trustee incurs expenses or renders services after an Event of Default specified in Section 6.01(4) or (5) occurs, the expenses and the compensation for the services are intended to constitute expenses of administration under any Bankruptcy Law.

For purposes of this Section 7.07, the term "Trustee" shall include any trustee appointed pursuant to this Article Seven.

SECTION 7.08. Replacement of Trustee.

The Trustee shall comply with TIA §313(b) to the extent applicable.

The Trustee may resign by so notifying the Company in writing no later than 15 Business Days prior to the date of the proposed resignation. The Holders of a majority in principal amount of the outstanding Securities of any series may remove the Trustee with respect to such series by notifying the Company and the removed Trustee in writing and may appoint a successor Trustee with respect to such series with the Company's written consent, which consent shall not be unreasonably withheld. The Company may remove the Trustee at its election if:

(1) the Trustee fails to comply with Section 7.10 or TIA §310;

(2) the Trustee is adjudged a bankrupt or an insolvent or an order for relief is entered with respect to the Trustee under Bankruptcy Law;

(3) a receiver or other public officer takes charge of the Trustee or its property; or

(4) the Trustee otherwise becomes incapable of acting.

If the Trustee resigns or is removed with respect to the Securities of one or more series or if a vacancy exists in the office of Trustee for any reason, the Company shall promptly appoint a successor Trustee or Trustees with respect to the Securities of that or those series (it being understood that any such successor Trustee may be appointed with respect to one or more or all of such series and that at any time there shall be only one Trustee with respect to the Securities of any particular series).

If a successor Trustee with respect to the Securities of any series does not take office within 60 days after the retiring Trustee resigns or is removed, the retiring Trustee, the Company or the Holders of a majority in principal amount of the outstanding Securities of such series may petition at the expense of the Company any court of competent jurisdiction, in the case of the Trustee, for the appointment of a successor Trustee.

If the Trustee fails to comply with Section 7.10, any Holder may petition any court of competent jurisdiction for the removal of the Trustee and the appointment of a successor Trustee.

A successor Trustee shall deliver a written acceptance of its appointment to the retiring Trustee and to the Company. Immediately following such delivery, the retiring Trustee shall, subject to its rights under Section 7.07, transfer all property held by it as Trustee to the successor Trustee, the resignation or removal of the retiring Trustee shall become effective, and the successor Trustee shall have all the rights, powers and duties of the Trustee under this Indenture. A successor Trustee shall mail notice of its succession to each Holder of the affected Securities. Notwithstanding replacement of the Trustee pursuant to this Section 7.08, the Company's obligations under Section 7.07 shall continue for the benefit of the retiring Trustee.

In case of the appointment hereunder of a successor Trustee with respect to the Securities of one or more (but not all) series, the Company, the retiring Trustee and each successor Trustee with respect to the Securities of one or more series shall execute and deliver a supplemental indenture wherein each successor Trustee shall accept such appointment and which (1) shall contain such provisions as shall be necessary or desirable to transfer and confirm to, and to vest in, each successor Trustee all the rights, powers, trusts and duties of the retiring Trustee with respect to the Securities of that or those series to which the appointment of such successor Trustee relates, (2) if the retiring Trustee is not retiring with respect to all Securities, shall contain such provisions as shall be deemed necessary or desirable to confirm that all the rights, powers, trusts and duties of the retiring Trustee with respect to the Securities of that or those series as to which the retiring Trustee is not retiring shall continue to be vested in the retiring Trustee, and (3) shall add to or change any of the provisions of this Indenture as shall be necessary to provide for or facilitate the administration of the trusts hereunder by more than one Trustee, it being understood that nothing herein or in such supplemental indenture shall constitute such Trustees co-trustees of the same trust and that each such Trustee shall be trustee of a trust or trusts hereunder separate and apart from any trust or trusts hereunder administered by any other such Trustee; and upon the execution and delivery of such supplemental indenture the resignation or removal of the retiring Trustee shall become effective to the extent provided therein and each such successor Trustee, without any further act, deed or conveyance, shall become vested with all the rights, powers, trusts and duties of the retiring Trustee with respect to the Securities of that or those series to which the appointment of such successor Trustee relates; but, on request of the Company or any successor Trustee, such retiring Trustee shall duly assign, transfer and deliver to such successor Trustee all property and money held by such retiring Trustee hereunder with respect to the Securities of that or those series to which the appointment of such successor Trustee relates.

SECTION 7.09. Successor Trustee by Consolidation, Merger, etc.

If the Trustee consolidates with, merges or converts into, or transfers all or substantially all of its corporate trust assets to, another corporation, subject to Section 7.10, the successor corporation without any further act shall be the successor Trustee; *provided* such corporation shall be otherwise qualified and eligible under this Article Seven.

SECTION 7.10. Eligibility; Disqualification.

This Indenture shall always have a Trustee who satisfies the requirements of TIA §310(a)(1), (2) and (5) in every respect. The Trustee (together with its corporate parent) shall have a combined capital and surplus of at least $50 million as set forth in the most recent applicable published annual report of condition. The Trustee shall comply with TIA §310(b), including the provision in §310(b)(1).

SECTION 7.11. Preferential Collection of Claims Against Company.

The Trustee shall comply with TIA §311(a), excluding any creditor relationship listed in TIA § 311(b). A Trustee who has resigned or been removed shall be subject to TIA §311(a) to the extent indicated therein.

ARTICLE EIGHT
AMENDMENT AND WAIVER

SECTION 8.01. Without Consent of Holders.

The Company and the Trustee may enter into one or more supplemental indentures, without the consent of any Holder, for any of the following purposes:

(i) to cure any ambiguity, omission, defect or inconsistency in this Indenture;

(ii) to comply with Section 5.01;

(iii) to provide for uncertificated Securities;

(iv) to secure the Securities under this Indenture;

(v) to add to the covenants of the Company for the benefit of the Holders of the Securities or to surrender any right or power conferred upon the Company;

(vi) to make any amendment that does not adversely affect the rights of any Holder of the Securities in any material respect;

(vii) to comply with any requirement of the Commission in connection with the qualification of this Indenture under the TIA;

(viii) to add to, change or eliminate any of the provisions of this Indenture in respect of one or more series of Securities, provided that any such addition, change or elimination (A) shall neither (i) apply to any Security of any series created prior to the execution of such supplemental indenture and entitled to the benefit of such provision nor (ii) modify the rights of the Holder of any such Security with respect to such provision or (B) shall become effective only when there is no such Security outstanding;

(ix) to establish the form or terms of Securities of any series as permitted by Section 2.01; or

(x) to evidence and provide the acceptance of the appointment of a successor Trustee under Section 7.08.

SECTION 8.02. With Consent of Holders.

(a) The Company and the Trustee may enter into one or more supplemental indentures to add to, change or eliminate any of the provisions of this Indenture in respect of the Securities of a series with the consent of the Holders of a majority in aggregate principal amount of the then outstanding Securities of such series (including consents obtained in connection with a tender offer or exchange offer for such Securities). Any past default or compliance with any provisions of this Indenture with respect to Securities of a series may be waived (except a default in the payment of principal, premium or interest and except as provided in Section 8.02(b)) with the consent of the Holders of at least a majority in aggregate principal amount of the then outstanding Securities of such series.

(b) However, without the consent of each Holder of an outstanding Security of the affected series, no amendment may,

(i) change the due date of the principal of, or any installment of principal of or interest on any Security;

(ii) reduce the principal amount of, or any premium or interest rate on, any Security;

(iii) change the place or currency of payment of principal of, or any premium or interest on any Security;

(iv) impair the right to institute suit for the enforcement of any payment on or with respect to any Security; or

(v) reduce the percentage in principal amount of the then outstanding the Securities, the consent of whose holders is required for modification or amendment of the indenture, for waiver of compliance with certain provisions of the indenture or for waiver of certain defaults.

(c) The consent of the Holders of the Securities shall not be necessary to approve the particular form of any proposed amendment. It shall be sufficient if such consent approves the substance of the proposed amendment.

(d) After an amendment that requires the consent of the Holders of the affected Securities becomes effective, the Company shall mail to each Holder of the affected Securities at such Holder's address appearing in the register maintained by the Registrar pursuant to Section 2.04 a notice briefly describing such amendment. However, the failure to give such notice to all Holders of such Securities, or any defect therein, shall not impair or affect the validity of the amendment.

(e) Upon the written request of the Company accompanied by a Board Resolution authorizing the execution of any such supplemental indenture, and upon the receipt by the Trustee of evidence reasonably satisfactory to the Trustee of the consent of the Holders as aforesaid and upon receipt by the Trustee of the documents described in Section 8.06, the Trustee shall join with the Company in the execution of such supplemental indenture unless such supplemental indenture affects the Trustee's own rights, duties or immunities under this Indenture, in which case the Trustee may, but shall not be obligated to, enter into such supplemental indenture.

SECTION 8.03. Compliance with TIA.

Every amendment to this Indenture or the Securities shall comply with the TIA as then in effect.

SECTION 8.04. Revocation and Effect of Consents.

(a) Until an amendment or waiver becomes effective, a consent to it by a Holder is a continuing consent by the Holder and every subsequent Holder of a Security or portion of a Security that evidences the same indebtedness as the Security of the consenting Holder, even if notation of the consent is not made on any Security. However, until an amendment or waiver becomes effective, any such Holder or subsequent Holder may revoke the consent as to its Security or portion of its Security; *provided* that if a record date for purposes of such consent is fixed pursuant to Section 2.19, then those Persons who were such Holders at such record date (or their duly appointed agents), and no others, shall be entitled to revoke any consent previously given, whether or not such Persons continue to be such Holders after such record date. Such revocation shall be effective only if the Trustee receives the notice of revocation before the date the amendment or waiver becomes effective.

(b) After an amendment or waiver becomes effective with respect to the Securities of any series affected thereby, it shall bind every Holder of such Securities unless it is an amendment of the type described in Section 8.02(b), in which case the amendment shall bind each such Holder who has consented to it and every subsequent Holder of a Security that evidences the same indebtedness as the Security of the consenting Holder.

SECTION 8.05. Notation on or Exchange of Securities.

If an amendment changes the terms of a Security, the Trustee (in accordance with the specific written direction of the Company) shall request the Holder of the Security (in accordance with the specific written direction of the Company) to deliver it to the Trustee. In such case, the Trustee shall place an appropriate notation on the Security about the changed terms and return it to the Holder. Alternatively, if the Company or the Trustee so determines, the Company in exchange for the Security shall issue and the Trustee shall authenticate a new Security that reflects the changed terms. Failure to make the appropriate notation or issue a new Security shall not affect the validity and effect of such amendment.

SECTION 8.06. Trustee To Sign Amendments, etc.

The Trustee shall sign any amendment or waiver authorized pursuant to this Article Eight if the amendment or waiver does not affect the rights, duties, liabilities or immunities of the Trustee. If it does affect the rights, duties, liabilities or immunities of the Trustee, the Trustee may, but need not, sign such amendment or waiver. In signing or refusing to sign such amendment or waiver, the Trustee shall be entitled to receive and, subject to Section 7.01, shall be fully protected in relying upon an Officers' Certificate and an Opinion of Counsel stating, in addition to the matters required by Section 10.04, that such amendment or waiver is authorized or permitted by this Indenture and is a legal, valid and binding obligation of the Company, enforceable against the Company in accordance with its terms (subject to customary exceptions).

ARTICLE NINE
DISCHARGE OF INDENTURE; DEFEASANCE

SECTION 9.01. Discharge of Liability on Securities; Defeasance.

(a) This Indenture shall be discharged and shall cease to be of further effect as to all Securities issued hereunder when:

(i) either (x) all the Securities that have been authenticated, except lost, stolen or destroyed Securities that have been replaced or paid and Securities for whose payment money has been deposited in trust and thereafter repaid to the Company, have been delivered to the Trustee for cancellation; or (y) all the Securities that have not been delivered to the Trustee for cancellation have become due and payable by reason of the mailing of a notice of redemption or otherwise or will become due and payable within one year and the Company has irrevocably deposited or caused to be deposited with the Trustee as trust funds in trust solely for the benefit of the Holders of the affected Securities, cash in U.S. dollars, Government Obligations maturing as to principal and interest in such amounts and at such times as will insure (without consideration of any reinvestment of interest) the availability of cash, or a combination thereof, in amounts as will be sufficient to pay and discharge the entire indebtedness on the Securities not delivered to the Trustee for cancellation for principal, premium, if any, and accrued interest to the date of maturity or redemption;

(ii) the Company has paid or caused to be paid all sums payable by it under this Indenture; and

(iii) the Company has delivered irrevocable instructions to the Trustee under this Indenture to apply the deposited money toward the payment of the Securities at the date of maturity or redemption.

In addition, the Company shall deliver an Officers' Certificate and an Opinion of Counsel to the Trustee stating that all conditions precedent to satisfaction and discharge have been satisfied.

(b) Subject to Sections 9.01(c) and 9.02, the Company may at any time elect to terminate its obligations with respect to any series of Securities (hereinafter, "Legal Defeasance") except for obligations under Sections 2.04, 2.07 and 2.08 and obligations under the TIA on a date the applicable conditions set forth in Section 9.02 are satisfied. The Company may terminate its obligations with respect to any series of Securities under Sections 4.06, 4.07 and 4.08 on a date the applicable conditions set forth in Section 9.02 are satisfied (hereinafter, "Covenant Defeasance") and thereafter, any failure to comply with any of Section 4.06, 4.07 or 4.08 will not constitute a Default or an Event of Default with respect to the Securities of such series. The Company may exercise its Legal Defeasance option with respect to the series of any Securities notwithstanding its prior exercise of its Covenant Defeasance option with respect to such series.

(c) If the Company exercises its Legal Defeasance option with respect to a series of any Securities, payment of the Securities of such series may not be accelerated because of an Event of Default with respect thereto.

(d) Upon satisfaction of the conditions set forth herein and upon request of the Company, the Trustee shall acknowledge in writing the discharge of those obligations that the Company terminates upon the exercise of the Legal Defeasance option or the Covenant Defeasance option.

(e) Notwithstanding Section 9.01(a) or (b), the Company's obligations in Sections 2.04, 2.06, 2.07, 2.08, 7.07, 9.05 and 9.06 shall survive until such time as the Securities have been paid in full. Thereafter, the Company's obligations in Sections 7.07, 9.05 and 9.06 shall survive.

SECTION 9.02. Conditions to Defeasance.

The Legal Defeasance option or the Covenant Defeasance option may be exercised with respect to a series of Securities only if:

(a) the Company irrevocably deposits in trust with the Trustee cash in U.S. dollars, Government Obligations maturing as to principal and interest in such amounts and at such times as will insure (without consideration of any reinvestment of interest) the availability of cash, or a combination thereof, in amounts as will be sufficient to pay and discharge the entire indebtedness on such series of Securities for principal, premium, if any, and accrued interest to the date of maturity or redemption;

(b) the Company delivers to the Trustee a certificate from an nationally recognized firm of independent certified public accountants expressing its opinion that the payments of principal, premium, if any, and interest when due and without reinvestment on the deposited Government Obligations plus any deposited money without investment will provide cash at such times and in such amounts as will be sufficient to pay principal, premium, if any, and interest when due on all Securities of such series to maturity or redemption;

(c) 123 days pass after the deposit is made and during the 123-day period no Default described in Section 6.01(5) occurs with respect to the Company or any other Person making such deposit which is continuing at the end of the period;

(d) no Default or Event of Default has occurred and is continuing on the date of such deposit and after giving effect thereto;

(e) such deposit does not constitute a default under any other material agreement or instrument binding on the Company;

(f) the Company delivers to the Trustee an Opinion of Counsel to the effect that the trust resulting from the deposit does not constitute, or is not qualified as, a regulated investment company under the Investment Company Act of 1940;

(g) in the case of an exercise of the Legal Defeasance option, the Company delivers to the Trustee an Opinion of Counsel stating that:

(1) the Company has received from, or there has been published by, the Internal Revenue Service a ruling; or

(2) since the date of this Indenture there has been a change in the applicable U.S. Federal income tax law,

to the effect, in either case, that, and based thereon such Opinion of Counsel shall confirm that, the Holders of the affected Securities will not recognize income, gain or loss for U.S. Federal income tax purposes as a result of such Legal Defeasance election and will be subject to U.S. Federal income tax on the same amounts, in the same manner and at the same time as would have been the case if such election has not occurred;

(h) in the case of an exercise of the Covenant Defeasance option, the Company delivers to the Trustee an Opinion of Counsel to the effect that the Holders of the affected Securities will not recognize income, gain or loss for U.S. Federal income tax purposes as a result of such Covenant Defeasance and will be subject to U.S. Federal income tax on the same amounts, in the same manner and at the same times as would have been the case if such election had not occurred; and

(i) the Company delivers to the Trustee an Officers' Certificate and an Opinion of Counsel, each stating that all conditions precedent to the exercise of the Legal Defeasance option or the Covenant Defeasance option, as applicable, have been complied with as required by this Indenture.

SECTION 9.03. Deposited Money and Government Obligations To Be Held in Trust; Other Miscellaneous Provisions.

All money and Government Obligations (including the proceeds thereof) deposited with the Trustee pursuant to Section 9.02(a) in respect of the outstanding Securities of any series shall be held in trust and applied by the Trustee, in accordance with the provisions of such Securities and this Indenture, to the payment, either directly or through any Paying Agent, to the Holders of such Securities, of all sums due and to become due thereon in respect of principal, premium, if any, and accrued interest, but such money need not be segregated from other funds except to the extent required by law.

The Company shall pay and indemnify the Trustee against any tax, fee or other charge imposed on or assessed against the Government Obligations deposited pursuant to Section 9.02(a) or the principal, premium, if any, and interest received in respect thereof other than any such tax, fee or other charge which by law is for the account of the Holders of the outstanding Securities of the affected series.

Anything in this Article Nine to the contrary notwithstanding, the Trustee shall deliver or pay to the Company from time to time upon a request of the Company any money or Government Obligations held by it as provided in Section 9.02(a) which, in the opinion of a nationally recognized firm of independent public accountants expressed in a written certification thereof delivered to the Trustee, are in excess of the amount thereof which would then be required to be deposited to effect an equivalent Legal Defeasance or Covenant Defeasance.

SECTION 9.04. Reinstatement.

If the Trustee or Paying Agent is unable to apply any money or Government Obligations in accordance with Section 9.01 by reason of any legal proceeding or by reason of any order or judgment of any court or governmental authority enjoining, restraining or otherwise prohibiting such application, the Company's obligations under this Indenture and the Securities shall be revived and reinstated as though no deposit had occurred pursuant to this Article Nine until such time as the Trustee or Paying Agent is permitted to apply all such money or Government Obligations in accordance with Section 9.01; *provided* that if the Company has made any payment of principal of, premium, if any, or accrued interest on any Securities because of the reinstatement of its obligations, the Company shall be subrogated to the rights of the Holders of such Securities to receive such payment from the money or Government Obligations held by the Trustee or Paying Agent.

SECTION 9.05. Moneys Held by Paying Agent.

In connection with the satisfaction and discharge of this Indenture, all moneys then held by any Paying Agent under the provisions of this Indenture shall, upon written demand of the Company, be paid to the Trustee, or if sufficient moneys have been deposited pursuant to Section 9.02(a), to the Company upon a request of the Company, and thereupon the Paying Agent shall be released from all further liability with respect to such moneys.

SECTION 9.06. Moneys Held by Trustee.

Any moneys deposited with the Trustee or any Paying Agent or then held by the Company in trust for the payment of the principal of, or premium, if any, or interest on any Security that are not applied but remain unclaimed by the Holder of such Security for two years after the date upon which the principal of, or premium, if any, or interest on such Security shall have become due and payable shall be repaid to the Company upon a request of the Company, or if such moneys are then held by the Company in trust, such moneys shall be released from such trust; and the Holder of such Security entitled to receive such payment shall thereafter, as an unsecured general creditor, look only to the Company for the payment thereof, and all liability of the Trustee or the Paying Agent with respect to such trust money shall thereupon cease; *provided* that the Trustee or the Paying Agent, before being required to make any such repayment, may, at the expense of the Company either mail to each Holder affected, at the address shown in the register of the Securities maintained by the Registrar pursuant to Section 2.04, or cause to be published once a week for two successive weeks, in a newspaper published in the English language, customarily published each Business Day and of general circulation in the City of New York, New York, a notice that such money remains unclaimed and that, after a date specified therein, which shall not be less than 30 days from the date of such mailing or publication, any unclaimed balance of such moneys then remaining will be repaid to the Company. After payment to the Company or the release of any money held in trust by the Company, Holders entitled to the money must look only to the Company for payment as general creditors unless applicable abandoned property law designates another Person.

ARTICLE TEN
MISCELLANEOUS

SECTION 10.01. TIA Controls.

If any provision of this Indenture limits, qualifies or conflicts with another provision which is required to be included in this Indenture by the TIA, the required provision shall control. If any provision of this Indenture modifies any TIA provision that may be so modified, such TIA provision shall be deemed to apply to this Indenture as so modified. If any provision of this Indenture excludes any TIA provision that may be so excluded, such TIA provision shall be excluded from this Indenture.

The provisions of TIA §§310 through 317 that impose duties on any Person (including the provisions automatically deemed included unless expressly excluded by this Indenture) are a part of and govern this Indenture, whether or not physically contained herein.

SECTION 10.02. Notices.

Except for notice or communications to Holders, any notice or communication shall be given in writing and when received if delivered in person, when receipt is acknowledged if sent by facsimile, on the next Business Day if timely delivered by a nationally recognized courier service that guarantees overnight delivery or two Business Days after deposit if mailed by first-class mail, postage prepaid, addressed as follows:

If to the Company:

Krystal Biotech, Inc.
2100 Wharton Street, Suite 701
Pittsburgh, Pennsylvania 15203
Attn: Chief Financial Officer
Fax: ( ) -

If to the Trustee, Registrar or Paying Agent:

[Name and address of Trustee]
Attn.:
Fax: ( ) -

Such notices or communications shall be effective when received and shall be sufficiently given if so given within the time prescribed in this Indenture.

The Company or the Trustee by written notice to the others may designate additional or different addresses for subsequent notices or communications.

Any notice or communication mailed to a Holder shall be mailed to such Holder by first-class mail, postage prepaid, at his address shown on the register kept by the Registrar.

Failure to mail a notice or communication to a Holder or any defect in it shall not affect its sufficiency with respect to other Holders. If a notice or communication to a Holder is mailed in the manner provided above, it shall be deemed duly given, whether or not the addressee receives it.

In case by reason of the suspension of regular mail service, or by reason of any other cause, it shall be impossible to mail any notice as required by this Indenture, then such method of notification as shall be made with the approval of the Trustee shall constitute a sufficient mailing of such notice.

SECTION 10.03. Communications by Holders with Other Holders.

Holders may communicate pursuant to TIA §312(b) with other Holders with respect to their rights under this Indenture or the Securities. The Company, the Trustee, the Registrar and anyone else shall have the protection of TIA §312(c).

SECTION 10.04. Certificate and Opinion as to Conditions Precedent.

Upon any request or application by the Company to the Trustee to take any action under this Indenture, if so requested by the Trustee, the Company shall furnish to the Trustee:

(1) an Officers' Certificate stating that, in the opinion of the signers, all conditions precedent, if any, provided for in this Indenture relating to the proposed action have been complied with; and

(2) an Opinion of Counsel stating that, in the opinion of such counsel, all such conditions precedent have been complied with,

except that in the case of any such application or request as to which the furnishing of such documents is specifically required by any provision of this Indenture relating to such particular request or application, no additional certificate or opinion need be furnished.

SECTION 10.05. Statements Required in Certificate and Opinion.

Each certificate with respect to compliance by or on behalf of the Company with a condition or covenant provided for in this Indenture shall include:

(1) a statement that the Person making such certificate or opinion has read such covenant or condition;

(2) a brief statement as to the nature and scope of the examination or investigation upon which the statements or opinions contained in such certificate or opinion are based;

(3) a statement that, in the opinion of such Person, such Person has made such examination or investigation as is necessary to enable such Person to express an informed opinion as to whether or not such covenant or condition has been complied with; and

(4) a statement as to whether or not, in the opinion of such Person, such covenant or condition has been complied with.

SECTION 10.06. Form of Documents Delivered to Trustee.

In any case where several matters are required to be certified by, or covered by an opinion of, any specified Person, it is not necessary that all such matters be certified by, or covered by the opinion of, only one such Person, or that they be so certified or covered by only one document, but one such Person may certify or give an opinion with respect to some matters and one or more other such Persons as to other matters, and any such Person may certify or give an opinion as to such matters in one or several documents.

Any certificate or opinion of an Officer of the Company may be based, insofar as it relates to legal matters, upon a certificate or opinion of, or representations by, counsel, unless such Officer knows, or in the exercise of reasonable care should know, that the certificate or opinion or representations with respect to the matters upon which such Officer's certificate or opinion is based are erroneous. Any such certificate or Opinion of Counsel may be based, insofar as it relates to factual matters, upon a certificate or opinion of, or representations by, an Officer or Officers of the Company stating that the information with respect to such factual matters is in the possession of the Company, unless such counsel knows, or in the exercise of reasonable care should know, that the certificate or opinion or representations with respect to such matters are erroneous.

Where any Person is required to make, give or execute two or more applications, requests, consents, certificates, statements, opinions or other instruments under this Indenture, they may, but need not, be consolidated and form one instrument.

SECTION 10.07. Rules by Trustee and Agents.

The Trustee may make reasonable rules for action by or meetings of Holders. The Registrar and Paying Agent may make reasonable rules for their functions.

SECTION 10.08. Legal Holidays.

If a payment date with respect to any Security is a Legal Holiday at a Place of Payment for such Security, payment may be made at that place on the next succeeding day that is not a Legal Holiday, and no interest shall accrue for the intervening period.

SECTION 10.09. Governing Law.

This Indenture and the Securities shall be governed by and construed in accordance with the laws of the State of New York.

SECTION 10.10. No Adverse Interpretation of Other Agreements.

This Indenture may not be used to interpret another indenture, loan, security or debt agreement of the Company. No such indenture, loan, security or debt agreement may be used to interpret this Indenture.

SECTION 10.11. Successors.

All agreements of the Company in this Indenture and the Securities shall bind their respective successors. All agreements of the Trustee, any additional trustee and any Paying Agents in this Indenture shall bind its successor.

SECTION 10.12. Benefits of Indenture.

Nothing in this Indenture or in the Securities, express or implied, shall give to any Person, other than the parties hereto and their successors hereunder and the Holders, any benefit or any legal or equitable right, remedy or claim under this Indenture.

SECTION 10.13. Multiple Counterparts.

The parties may sign multiple counterparts of this Indenture. Each signed counterpart shall be deemed an original, but all of them together represent one and the same agreement.

SECTION 10.14. Table of Contents, Headings, etc.

The table of contents, cross-reference sheet and headings of the Articles and Sections of this Indenture have been inserted for convenience of reference only, are not to be considered a part hereof, and shall in no way modify or restrict any of the terms or provisions hereof.

SECTION 10.15. Separability.

Each provision of this Indenture shall be considered separable and if for any reason any provision which is not essential to the effectuation of the basic purpose of this Indenture or the Securities shall be invalid, illegal or unenforceable, the validity, legality and enforceability of the remaining provisions shall not in any way be affected or impaired thereby.

[*Signature Page Follows*]

IN WITNESS WHEREOF, the parties have caused this Indenture to be duly executed all as of the date and year first written above.

KRYSTAL BIOTECH, INC.

By: _____
Name:
Title:

[NAME OF TRUSTEE],
as Trustee

By: _____
Name:
Title:

EXHIBIT A-1

CUSIP

KRYSTAL BIOTECH, INC.

No. $

[ ] % [SECURITY] DUE [ ]

KRYSTAL BIOTECH, INC., a Delaware corporation, as issuer (the "Company"), for value received, promises to pay to [ ] or registered assigns the principal sum of [ ] on [ ], [ ].

Interest Payment Dates: [ ] and [ ].

Record Dates: [ ] and [ ].

Reference is made to the further provisions of this Security contained herein, which will for all purposes have the same effect as if set forth at this place.

IN WITNESS WHEREOF, the Company has caused this Security to be signed manually or by facsimile by one of its duly authorized officers.

KRYSTAL BIOTECH, INC.

By: _____
Name:
Title:

Certificate of Authentication

This is one of the Securities of the series designated therein referred to in the within-mentioned Indenture.

[NAME OF TRUSTEE],
as Trustee

By: _____
Name:
Title:

[FORM OF REVERSE OF SECURITY]

KRYSTAL BIOTECH, INC.

[ ]% [SECURITY] DUE [ ]

1. Interest. KRYSTAL BIOTECH, INC., a Delaware corporation, as issuer (the "Company"), promises to pay, until the principal hereof is paid or made available for payment, interest on the principal amount set forth on the face hereof at a rate of [ ]% per annum. Interest hereon will accrue from and including the most recent date to which interest has been paid or, if no interest has been paid, from and including [ ] to but excluding the date on which interest is paid. Interest shall be payable in arrears on each [ ] and [ ], commencing [ ]. Interest will be computed on the basis of a [360-day year comprised of twelve 30-day months]. The Company shall pay interest on overdue principal and on overdue interest (to the full extent permitted by law) at the rate borne by the Securities.

2. Method of Payment. The Company will pay interest hereon (except defaulted interest) to the Persons who are registered Holders at the close of business on [ ] and [ ] immediately preceding the interest payment date (whether or not a Business Day). Holders must surrender Securities to a Paying Agent to collect principal payments. The Company will pay to the Paying Agent principal and interest in money of the United States of America that at the time of payment is legal tender for payment of public and private debts. If a Holder has given wire transfer instructions to the Company, the Company may pay, or cause to be paid by the Paying Agent, all principal, interest on that Holder's Securities in accordance with those instructions. All other payments on the Securities will be made at the office or agency of the Paying Agent and Registrar unless the Company elects to make interest payments by check mailed to the Holders at their address set forth in the register of Holders.

3. Paying Agent and Registrar. Initially, _____(the "Trustee") will act as a Paying Agent and Registrar. The Company may change any Paying Agent or Registrar without notice to the Holders. The Company or any of its Subsidiaries may act as Paying Agent or Registrar.

4. Indenture. This Security is on the series designated on the fact hereof [limited in aggregate principal amount to $__]. This Security is one of a duly authorized issue of securities of the Company issued and to be issued in one or more series under an Indenture dated as of [_____], 201__ (the "Indenture", which term shall have the meaning assigned to it in such instrument) between the Company and the Trustee. This is one of an issue of Securities of the Company issued, or to be issued, under the Indenture. The terms of the Securities include those stated in the Indenture and those made part of the Indenture by reference to the Trust Indenture Act of 1939 (15 U.S. Code §§ 77aaa-77bbbb), as amended from time to time (the "Trust Indenture Act"). The Securities are subject to all such terms, and Holders are referred to the Indenture and the Trust Indenture Act for a statement of them. Capitalized and certain other terms used herein and not otherwise defined have the meanings set forth in the Indenture.

[5. If applicable, insert—Optional Redemption. The Securities of this series are subject to redemption [if applicable, insert—[at any time] [on or after __, 20__], as a whole or in part, at the election of the Company at the Redemption Price equal to]. The Company may provide in such notice that payment of such price and performance of the Company's obligations with respect to such redemption or purchase may be performed by another Person. Any such notice may, at the Company's discretion, be subject to the satisfaction of one or more conditions precedent.

[6. Redemption Procedures. The Trustee will select Securities called for redemption on a pro rata basis or on as nearly a pro rata basis as is practicable (subject to procedures of the Depository); provided that no Securities of $[ ] or less shall be redeemed in part. A new Security of this series in principal amount equal to the un-redeemed portion thereof will be issued in the name of the Holder thereof upon cancellation of the original Security. Securities called for redemption pursuant to this paragraph 6 become due on the date fixed for redemption. On and after the date fixed for redemption, interest stops accruing on Securities or portions of them called for redemption.]

[7. Notice of Redemption. Notices of redemption shall be mailed by first class mail at least 30 but not more than 60 days before the redemption date to each Holder of Securities to be redeemed at its registered address. If any Security of this series is to be redeemed in part only, the notice of redemption that relates to such Security shall state the portion of the principal amount thereof to be redeemed.]

8. Denominations, Transfer, Exchange. The Securities of this series are in registered form without coupons and in denominations of $[ ] and integral multiples of $[ ]. A Holder may transfer or exchange Securities of this series in accordance with the Indenture. The Registrar may require a Holder, among other things, to furnish appropriate endorsements and transfer documents and to pay to it any taxes and fees required by law or permitted by the Indenture.

10. Persons Deemed Owners. The registered Holder of this Security may be treated as the owner of this Security for all purposes.

11. Unclaimed Money. If money for the payment of principal or interest remains unclaimed for two years, the Trustee or Paying Agent will pay the money back to the Company at its written request. After that, Holders entitled to the money must look to the Company for payment as general creditors unless an "abandoned property" law designates another Person.

12. Amendment, Waiver, Etc. The Company and the Trustee (if a party thereto) may, without the consent of the Holders of any outstanding Securities, amend or waive the Indenture or the Securities for certain specified purposes, including, among other things, curing ambiguities, defects or inconsistencies, maintaining the qualification of the Indenture under the Trust Indenture Act, as amended, providing for the assumption by a successor to the Company of its obligations under the Indenture and making any change that does not materially and adversely affect the rights of any Holder of each series to be affected. Other amendments of the Indenture or the Securities of each series may be made by the Company and the Trustee with the consent of the Holders of Securities of such series of not less than a majority of the aggregate principal amount of the outstanding Securities of such series, subject to certain exceptions requiring the consent of the Holders of the particular Securities of such series to be affected.

13. Successor Corporation. When a successor corporation assumes all the obligations of its predecessor under the Securities and the Indenture and the transaction com-plies with the terms of Article Five of the Indenture, the predecessor corporation will, except as provided in Article Five, be released from those obligations.

14. Defaults and Remedies. Events of Default are set forth in the Indenture. Subject to certain limitations in the Indenture, if an Event of Default (other than an Event of Default specified in Sections 6.01(4) and 6.01(5) of the Indenture) with respect to the Securities of this series occurs and is continuing, then, and in each and every such case, either the Trustee, by notice in writing to the Company, or the Holders of not less than 25% of the principal amount of the Securities of this series then outstanding, by notice in writing to the Company and the Trustee, may, and the Trustee at the request of such Holders shall, declare due and payable, if not already due and payable, the principal of and any accrued and unpaid interest on all of the Securities of this series; and upon any such declaration all such amounts upon such Securities shall become and be immediately due and payable, anything in the Indenture or in the Securities to the contrary notwithstanding. If an Event of Default specified in Sections 6.01(4) and 6.01(5) of the Indenture occurs, then the principal of and any accrued and unpaid interest on all of the Securities of this series shall immediately become due and payable without any declaration or other act on the part of the Trustee or any Holder. Holders may not enforce the Indenture or the Securities of this series except as provided in the Indenture. The Trustee may require indemnity satisfactory to it before it enforces the Indenture or the Securities of this series. Subject to certain limitations, Holders of a majority in principal amount of the then outstanding Securities may direct the Trustee in its exercise of any trust or power. The Trustee may withhold from Holders notice of any continuing default (except a default in payment of principal, premium, if any, or interest on the Securities of this series) if it determines that withholding notice is in their best interests.

15. Trustee Dealings with Company. Subject to certain limitations imposed by the Trust Indenture Act, the Trustee, in its individual or any other capacity, may make loans to, accept deposits from, and perform services for the Company or its Affiliates, and may otherwise deal with the Company or its Affiliates, as if it were not Trustee.

16. No Recourse Against Others. No past, present or future director, officer, employee, incorporator, agent, member or stockholder or Affiliate of the Company, as such, shall have any liability for any obligations of the Company under the Securities of this series, the Indenture or for any claim based on, in respect of, or by reason of, such obligations or their creation. Each Holder of Securities of this series by accepting a Security of this series waives and releases all such liabilities. The waiver and release are part of the consideration for issuance of the Securities of this series.

17. Discharge; Defeasance. The Company's obligations pursuant to the Indenture with respect to Securities of this series will be discharged, except for obligations pursuant to certain sections thereof, subject to the terms of the Indenture, upon the payment of all the Securities of this series or upon the irrevocable deposit with the Trustee of United States dollars or Government Obligations sufficient to pay when due principal of and interest on the Securities of this series to maturity or redemption.

The Indenture contains provisions for defeasance at any time of (a) the entire indebtedness of the Company on this Security and (b) certain restrictive covenants and the related Events of Default, upon compliance by the Company with certain conditions set forth therein, which provisions apply to this Security.

18. Authentication. This Security shall not be valid until the Trustee signs the certificate of authentication on the other side of this Security.

19. Governing Law. THIS SECURITY SHALL BE GOVERNED BY AND CONSTRUED IN ACCORDANCE WITH THE LAWS OF THE STATE OF NEW YORK.

20. Abbreviations. Customary abbreviations may be used in the name of a Holder or an assignee, such as: TEN COM (= tenants in common), TENANT (= tenants by the entireties), JT TEN (= joint tenants with right of survivorship and not as tenants in common), CUST (= Custodian), and U/G/M/A (= Uniform Gifts to Minors Act).

The Company will furnish to any Holder upon written request and without charge a copy of the Indenture. Requests may be made to:

If to the Company:

Name and Address

Attn:

ASSIGNMENT

I or we assign and transfer this Security to:

(Insert assignee's social security or tax I.D. number)

(Print or type name, address and zip code of assignee)

and irrevocably appoint:

Agent to transfer this Security on the books of the Company. The Agent may substitute another to act for him.

Date:

Your

Signature: _____

(Sign exactly as your name appears on the other side of this Security)

Signature

Guarantee: _____

SIGNATURE GUARANTEE

Signatures must be guaranteed by an "eligible guarantor institution" meeting the requirements of the Registrar, which requirements include membership or participation in the Security Transfer Agent Medallion Program ("STAMP") or such other "signature guarantee program" as may be determined by the Registrar in addition to, or in substitution for, STAMP, all in accordance with the Securities Exchange Act of 1934, as amended

Exhibit 5.1

[*Letterhead of Morrison & Foerster LLP*]

October 1, 2018

Krystal Biotech, Inc.
2100 Wharton Street, Suite 701
Pittsburgh, Pennsylvania 15203

Re: Shelf Registration Statement on Form S-3

Ladies and Gentlemen:

We have acted as counsel to Krystal Biotech, Inc., a Delaware corporation (the "Company"), in connection with the preparation and filing with the Securities and Exchange Commission (the "Commission") of a Registration Statement on Form S-3 (the "Registration Statement") under the Securities Act of 1933, as amended (the "Act"), relating to the registration under the Act and the proposed issuance and sale from time to time pursuant to Rule 415 under the Act, together or separately and in one or more series (if applicable), of: up to a maximum aggregate offering price of $200,000,000 (or the equivalent thereof) of (i) shares of the Company's common stock, par value $0.00001 per share (the "Common Stock"), (ii) shares of the Company's preferred stock, par value $0.00001 per share (the "Preferred Stock"), (iii) the Company's debt securities, as senior, subordinated or junior subordinated, convertible or non-convertible and secured or unsecured debt (the "Debt Securities"), (iv) warrants to purchase the Company's Common Stock or Preferred Stock (the "Warrants"), (v) rights to purchase the Company's Common Stock or Preferred Stock (the "Rights"), and (vi) units comprised of two or more of the foregoing securities (the "Units"); and, in addition, up to 625,000 shares of the Common Stock offered by Frazier Life Sciences IX, L.P. (the "Selling Stockholder" and, the shares offered by such Selling Stockholder, the "Secondary Shares"). The Common Stock, Preferred Stock, Debt Securities, Warrants, Rights, Units and Secondary Shares are collectively referred to herein as the "Securities."

The Securities are to be sold from time to time, together or separately and in one or more offerings, as set forth in the Registration Statement, the prospectus contained in the Registration Statement (the "Prospectus") and any supplements to the Prospectus (collectively, the "Prospectus Supplements," and each, a "Prospectus Supplement"). The Securities are to be sold pursuant to any purchase, underwriting or similar agreement in substantially the form to be filed under a Current Report on Form 8-K. The Debt Securities are to be issued pursuant to an indenture between the Company and a trustee to be named in the applicable Prospectus Supplement (the

"Trustee") in the form filed as an exhibit to the Registration Statement and as amended or supplemented from time to time in accordance with its terms (the "Indenture"). The Indenture may be supplemented, as applicable, in connection with the issuance of each such series of Debt Securities, by a supplemental indenture or other appropriate action of the Company creating such series of Debt Securities. The Debt Securities are to be issued in the forms set forth in the Indentures.

As counsel for the Company, we have examined the Registration Statement and originals or copies, certified or otherwise identified to our satisfaction, of such agreements, instruments, documents, certificates and records as we have deemed relevant and necessary for the basis of our opinions hereinafter expressed. In such examination, we have assumed: (i) the authenticity of original documents and the genuineness of all signatures; (ii) the conformity to the originals of all documents submitted to us as copies; (iii) the truth, accuracy and completeness of the information, representations and warranties contained in the agreements, instruments, documents, certificates and records that we have reviewed; and (iv) the legal capacity of all natural persons. As to all matters of fact, we have relied on the representations and statements of fact made in the documents so reviewed, and we have not independently established or verified the facts so relied on. This opinion letter is given, and all statements herein are made, in the context of the foregoing.

For purposes of this opinion letter, we have assumed that: (i) at the time of offer, issuance and sale of any Securities, the Registration Statement, and any amendments thereto (including post-effective amendments), will have been declared effective under the Act, and no stop order suspending its effectiveness will have been issued and remain in effect; (ii) the Prospectus and any Prospectus Supplements will have been filed with the Commission describing the Securities offered thereby and will comply with all applicable laws at the time the securities are offered, issued and sold as contemplated by the Registration Statement; (iii) all Securities will be issued and sold in compliance with applicable U.S. federal and state securities laws and in the manner stated in the Registration Statement, the Prospectus and any Prospectus Supplements; (iv) prior to the issuance of any Securities, a definitive purchase, underwriting or similar agreement with respect to any Securities offered will have been duly authorized and validly executed and delivered by the parties thereto, and that each party thereto (other than the Company) has the corporate or other power and authority to execute, deliver and perform each such document and that each document is the legal, valid and binding obligation of such party (other than the Company) enforceable against such party in accordance with its terms; (v) any Securities issuable upon conversion, exchange, redemption or exercise of any Securities being offered will be duly authorized, created and, if appropriate, reserved for issuance upon such conversion, exchange, redemption or exercise; (vi) with respect to shares of Common Stock or Preferred Stock offered, that there will be sufficient shares of Common Stock or Preferred Stock authorized under the Company's organizational documents that are not otherwise reserved for issuance; (vii) with respect to any Debt Securities, the related Indenture and any supplemental indenture thereto will be duly authorized, executed and delivered by the parties thereto in the form that has been filed as an exhibit to the Registration Statement; (viii) all Debt Securities will be issued and sold in compliance with the Trust Indenture Act of 1939, as amended (the "Trust Indenture Act"), and the securities or blue sky laws of various states and in the manner stated in the Registration Statement and the applicable Prospectus Supplement; (ix) the Trustee will be qualified pursuant to the Trust Indenture Act at the time the Debt Securities are offered or issued (or such later time as may be permitted pursuant to the rules, regulations, interpretations or positions of the Commission) as

contemplated by the Registration Statement; (x) with respect to any Warrants, Rights and Units under the Registration Statement, the related warrant, rights or unit agreement or agreements, as applicable, will be duly authorized, executed and delivered by the parties thereto in the forms that will be filed as exhibits to the Registration Statement or incorporated by reference therein; (xi) the terms of the Securities will conform in all material respects to the respective descriptions thereof in the prospectus which is part of the Registration Statement; and (xii) certificates, if required, representing the Securities will be duly executed and delivered and, to the extent required by any applicable agreement, duly authenticated and countersigned.

Based on such examination, we are of the opinion that:

1. With respect to shares of Common Stock, when: (a) the Board of Directors of the Company or a duly constituted and acting committee thereof (such Board of Directors or committee being hereinafter referred to as the "Board") has taken all necessary corporate action to approve the issuance and the terms of the offering of the shares of Common Stock and related matters; (b) the issuance and sale of the Common Stock do not violate any applicable law or the charter, by-laws or similar organizational documents of the Company, result in a default under or breach of any agreement or instrument binding upon the Company or violate any requirement or restriction imposed by any court or governmental body having jurisdiction over the Company; and (c) certificates representing the shares of Common Stock have been duly executed, countersigned, registered and delivered either (i) in accordance with the applicable definitive purchase, underwriting or similar agreement approved by the Board, or upon the exercise of Warrants to purchase Common Stock, upon payment of the consideration therefor (not less than the par value of the Common Stock) provided for therein or (ii) upon conversion or exercise of any other Security, in accordance with the terms of such Security or the instrument governing such Security providing for such conversion or exercise as approved by the Board, for the consideration approved by the Board, then the shares of Common Stock will be validly issued, fully paid and nonassessable;

2. With respect to any particular series of shares of Preferred Stock, when: (a) the Board has taken all necessary corporate action to approve the issuance and terms of the shares of Preferred Stock, the terms of the offering thereof, and related matters, including the adoption of a certificate of designation relating to such Preferred Stock conforming to the Delaware General Corporation Law (a "Certificate") and the filing of the Certificate with the Secretary of State of the State of Delaware; (b) the terms, issuance and sale of the Preferred Stock do not violate any applicable law or the charter, by-laws or similar organizational documents of the Company, result in a default under or breach of any agreement or instrument binding upon the Company or violate any requirement or restriction imposed by any court or governmental body having jurisdiction over the Company; and (c) certificates representing the shares of Preferred Stock have been duly executed, countersigned, registered and delivered either (i) in accordance with the applicable definitive purchase, underwriting or similar agreement approved by the Board, or upon the exercise of Warrants to purchase Preferred Stock, upon payment of the consideration therefor (not less than the par value of the Preferred Stock) provided for therein or (ii) upon conversion or exercise of such Security or the instrument governing such Security providing for such conversion or exercise as approved by the Board, for the consideration approved by the Board, then the shares of Preferred Stock will be validly issued, fully paid and nonassessable;

3. With respect to Debt Securities to be issued under the Indenture, when: (a) the Trustee is qualified to act as Trustee under the Indenture and the Company has filed a Form T-1 for the Trustee with the Commission; (b) the Trustee has duly executed and delivered the Indenture; (c) the Indenture has been duly authorized and validly executed and delivered by the Company to the Trustee; (d) the Indenture has been duly qualified under the Trust Indenture Act; (e) the Board has taken all necessary corporate action to approve the issuance and terms of such Debt Securities, the terms of the offering thereof and related matters; (f) the terms, issuance and sale of the Debt Securities do not violate any applicable law or the charter, by-laws or similar organizational documents of the Company, result in a default under or breach of any agreement or instrument binding upon the Company or violate any requirement or restriction imposed by any court or governmental body having jurisdiction over the Company; and (g) such Debt Securities have been duly executed, authenticated, issued and delivered in accordance with the provisions of the Indenture and the applicable definitive purchase, underwriting or similar agreement approved by the Board, or upon the exercise of Warrants to purchase Debt Securities, upon payment of the consideration therefor provided for therein, such Debt Securities will be validly issued and will constitute valid and binding obligations of the Company, enforceable against the Company in accordance with their terms, and entitled to the benefits of the applicable Indenture;

4. With respect to the Warrants, when: (a) the Board has taken all necessary corporate action to approve the issuance and terms of the Warrants and related matters; (b) the terms, issuance and sale of the Warrants do not violate any applicable law or the charter, by-laws or similar organizational documents of the Company, result in a default under or breach of any agreement or instrument binding upon the Company or violate any requirement or restriction imposed by any court or governmental body having jurisdiction over the Company; and (c) the Warrants have been duly executed and delivered against payment therefor, pursuant to the applicable definitive purchase, underwriting, warrant or similar agreement duly authorized, executed and delivered by the Company and a warrant agent, and the certificates for the Warrants have been duly executed and delivered by the Company and such warrant agent, then the Warrants will be validly issued and will constitute valid and binding obligations of the Company, enforceable against the Company in accordance with their terms; and

5. With respect to the Rights, when: (a) the Board has taken all necessary corporate action to approve the issuance and terms of the Rights and related matters; (b) the terms, issuance and sale of the Rights do not violate any applicable law or the charter, by-laws or similar organizational documents of the Company, result in a default under or breach of any agreement or instrument binding upon the Company or violate any requirement or restriction imposed by any court or governmental body having jurisdiction over the Company; and (c) the Rights have been duly executed and delivered against payment therefor, pursuant to the applicable definitive purchase, underwriting, rights or similar agreement duly authorized, executed and delivered by the Company and a rights agent, and the certificates for the Rights have been duly executed and delivered by the Company and such rights agent, then the Rights will be validly issued and will constitute valid and binding obligations of the Company, enforceable against the Company in accordance with their terms; and

6. With respect to the Units to be issued under a unit agreement and offered under the Registration Statement, provided that (i) the Registration Statement and any required post-effective amendment thereto have all become effective under the Act and the Prospectus and any and all Prospectus Supplement(s) required by applicable laws have been delivered and filed as required by such laws; (ii) the unit agreement has been duly authorized by the Company and the unit agent by all necessary corporate action; (iii) the unit agreement has been duly executed and delivered by the Company and the unit agent; (iv) the issuance and terms of the Units have been duly authorized by the Company by all necessary corporate action; (v) the terms of the Units and of their issuance and sale have been duly established in conformity with the unit agreement and as described in the Registration Statement, the Prospectus and the related Prospectus Supplement(s), so as not to violate any applicable law or result in a default under or breach of any agreement or instrument binding upon the Company, so as to be in conformity with the Certificate of Incorporation and Bylaws, and so as to comply with any requirement or restriction imposed by any court or governmental body having jurisdiction over the Company; and (vi) the Units have been duly executed and delivered by the Company and authenticated by the unit agent pursuant to the unit agreement and delivered against payment therefor, then the Units, when issued and sold in accordance with the unit agreement and a duly authorized, executed and delivered purchase, underwriting or similar agreement, will be valid and legally binding obligations of the Company, enforceable against the Company in accordance with their terms.

7. The Secondary Shares to be offered by the Selling Stockholder pursuant to the Registration Statement have been duly authorized, validly issued, fully paid and are nonassessable.

Our opinion that any document is legal, valid and binding is qualified as to:

(a) limitations imposed by bankruptcy, insolvency, reorganization, arrangement, fraudulent conveyance, moratorium or other laws relating to or affecting the rights of creditors generally;

(b) rights to indemnification and contribution, which may be limited by applicable law or equitable principles; and

(c) general principles of equity, including without limitation concepts of materiality, reasonableness, good faith and fair dealing, and the possible unavailability of specific performance or injunctive relief and limitation of rights of acceleration, regardless of whether such enforceability is considered in a proceeding in equity or at law.

Our opinion herein is expressed solely with respect to U.S. federal securities laws, the Delaware General Corporation Law and, as to the Debt Securities constituting valid and legally binding obligations of the Company, solely with respect to the laws of the State of New York.

Our opinion is based on these laws as in effect on the date hereof. We express no opinion as to whether the laws of any jurisdiction are applicable to the subject matter hereof. We are not rendering any opinion as to compliance with any federal law or state law, rule or regulation relating to securities, or to the sale or issuance thereof.

We hereby consent to the filing of this opinion as an exhibit to the above-referenced Registration Statement and to the use of our name wherever it appears in the Registration Statement, the Prospectus and any Prospectus Supplements, and in any amendment or supplement thereto. In giving such consent, we do not believe that we are "experts" within the meaning of such term as used in the Act or the rules and regulations of the Commission issued thereunder with respect to any part of the Registration Statement, including this opinion as an exhibit.

Sincerely,

/s/ Morrison & Foerster LLP

Exhibit 23.1

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in this Registration Statement on Form S-3 and related Prospectus dated October 1, 2018, of our report dated March 12, 2018, with respect to the financial statements of Krystal Biotech, Inc. as of December 31, 2017 and 2016, and the related statements of operations, convertible preferred stock and stockholders' and members' equity and cash flows for each of the two years in the period ended December 31, 2017, and to the reference to us under the heading "Experts" in this Prospectus which is part of this Registration Statement.

/s/ Mayer Hoffman McCann P.C.

San Diego, California
October 1, 2018