REPLIGEN CORP
Form 424B5
May 18, 2016
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Filed Pursuant to Rule 424(b)5
Registration No. 333-211436

The information in this preliminary prospectus supplement is not complete and may be changed. A registration statement relating to the notes has become effective under the Securities Act of 1933, as amended. This preliminary prospectus supplement and the accompanying prospectus do not constitute an offer to sell the notes and it is not soliciting an offer to buy the notes in any jurisdiction where the offer or sale is not permitted.

SUBJECT TO COMPLETION, DATED MAY 18, 2016

Prospectus Supplement

(to Prospectus Dated May 18, 2016)

REPLIGEN CORPORATION

$100,000,000

% Convertible Senior Notes due 2021

Interest payable June 1 and December 1

We are offering $100,000,000 principal amount of our % Convertible Senior Notes due 2021. The notes will bear interest at a rate of % per year, payable semiannually in arrears on June 1 and December 1 of each year, beginning on December 1, 2016. The notes will mature on June 1, 2021.

Holders may convert their notes at their option at any time prior to the close of business on the business day immediately preceding March 1, 2021 only under the following circumstances: (1) during any calendar quarter commencing after the calendar quarter ending on June 30, 2016 (and only during such calendar quarter), if the last reported sale price of our common stock for at least 20 trading days (whether or not consecutive) during a period of 30 consecutive trading days ending on the last trading day of the immediately preceding calendar quarter is greater than or equal to 130% of the conversion price on each applicable trading day; (2) during the five business day period after any five consecutive trading day period (the measurement period) in which the trading price (as defined below) per $1,000 principal amount of notes for each trading day of the measurement period was less than 98% of the product of the last reported sale price of our common stock and the conversion rate on each such trading day; or (3) upon the occurrence of specified corporate events. On or after March 1, 2021 until the close of business on the second scheduled trading day immediately preceding the maturity date, holders may convert their notes at any time, regardless of the foregoing circumstances. Additionally, if we call any or all of the notes for redemption, holders may

convert their notes called for redemption at any time prior to the close of business on the second scheduled trading day preceding the redemption date. Upon conversion, we will pay or deliver, as the case may be, cash, shares of our common stock or a combination of cash and shares of our common stock, at our election, as described in this prospectus supplement.

The conversion rate will initially be shares of common stock per $1,000 principal amount of notes (equivalent to an initial conversion price of approximately $ per share of common stock). The conversion rate will be subject to adjustment in some events but will not be adjusted for any accrued and unpaid interest. In addition, following certain corporate events that occur prior to the maturity date or upon our issuance of a notice of redemption, we will, in certain circumstances, increase the conversion rate for a holder who elects to convert its notes in connection with such a corporate event or during the related redemption period, as applicable.

We may not redeem the notes prior to June 5, 2019. We may redeem the notes, at our option, in whole or in part, on any business day on or after June 5, 2019 and prior to the maturity date if the last reported sale price of our common stock has been at least 130% of the conversion price then in effect for at least 20 trading days (whether or not consecutive) during any 30 consecutive trading day period ending within five trading days prior to the date on which we provide written notice of redemption. The redemption price will be equal to 100% of the principal amount of the principal amount of notes to be redeemed *plus* accrued and unpaid interest to, but excluding, the redemption date, as set forth under Description of notes Optional redemption. No sinking fund is provided for the notes.

If we undergo a fundamental change, holders may require us to repurchase for cash all or any portion of their notes at a fundamental change repurchase price equal to 100% of the principal amount of the notes to be repurchased, *plus* accrued and unpaid interest to, but excluding, the fundamental change repurchase date.

The notes will be our senior unsecured obligations and will rank senior in right of payment to any of our indebtedness that is expressly subordinated in right of payment to the notes; equal in right of payment to any of our unsecured indebtedness that is not so subordinated; effectively junior in right of payment to any of our secured indebtedness to the extent of the value of the assets securing such indebtedness; and structurally junior to all indebtedness and other liabilities (including trade payables) and preferred stock of our subsidiaries.

We do not intend to apply to list the notes on any securities exchange or any automated dealer quotation system. Our common stock is listed on the NASDAQ Global Select Market under the symbol RGEN. The last reported sale price of our common stock on the NASDAQ Global Select Market on May 17, 2016 was $25.36 per share.

Investing in the notes involves a high degree of risk. See Risk Factors beginning on page S-17 of this prospectus supplement.

	Per Note	Total
Public offering price (1)	$	$
Underwriting discounts and commissions (2)	$	$
Proceeds, before expenses, to us	$	$

(1) Plus accrued interest, if any, from May , 2016.
(2) See Underwriting
We have granted the underwriters the right to purchase, exercisable within a 30-day period, up to an additional $15,000,000 principal amount of notes.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of the notes or determined if this prospectus supplement or the accompanying prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

We expect that delivery of the notes will be made to investors in book-entry form through the Depository Trust Company on or about May , 2016.

Sole Book-Running Manager

Jefferies

The date of this prospectus is May , 2016

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ABOUT THIS PROSPECTUS SUPPLEMENT

This document is part of the registration statement that we filed with the Securities and Exchange Commission, or the SEC, using a shelf registration process and consists of two parts. The first part is this prospectus supplement, including the documents incorporated by reference, which describes the specific terms of this offering. The second part, the accompanying prospectus, including the documents incorporated by reference, gives more general information, some of which may not apply to this offering. Generally, when we refer to the prospectus, we are referring to both parts combined. This prospectus supplement and any free writing prospectus we authorize for use in connection with this offering may add to, update or change information in the accompanying prospectus and the documents incorporated by reference into this prospectus supplement or the accompanying prospectus.

If information in this prospectus supplement is inconsistent with the accompanying prospectus or with any document incorporated by reference that was filed with the SEC before the date of this prospectus supplement, you should rely on this prospectus supplement. This prospectus supplement, the accompanying prospectus, the documents incorporated by reference into each and any free writing prospectus we authorize for use in connection with this offering include important information about us, the notes and other information should you consider before investing in the notes. See Incorporation of Certain Information by Reference.

We further note that the representations, warranties and covenants made by us in any agreement that is filed as an exhibit to any document that is incorporated by reference herein were made solely for the benefit of the parties to such agreement, including, in some cases, for the purpose of allocating risk among the parties to such agreements, and should not be deemed to be a representation, warranty or covenant to you. Moreover, such representations, warranties and covenants were accurate only as of the date when made. Accordingly, such representations, warranties and covenants should not be relied on as accurately representing the current state of our affairs.

We take no responsibility for, and can provide no assurances as to the reliability of, any information that is in addition to or different from that contained or incorporated by reference in this prospectus supplement and the accompanying prospectus. We are not offering to sell these notes in any jurisdiction where the offer or sale is not permitted. You should not assume that the information contained or incorporated by reference in this prospectus supplement or the accompanying prospectus is accurate as of any date other than as of the date of this prospectus supplement or the accompanying prospectus, as the case may be, or in the case of the documents incorporated by reference, the date of such documents regardless of the time of delivery of this prospectus supplement and the accompanying prospectus or any sale of our securities. Our business, financial condition, liquidity, results of operations and prospects may have changed since those dates.

All references in this prospectus supplement or the accompanying prospectus to Repligen, the Company, we, us, or our mean Repligen Corporation and our subsidiaries, unless we state otherwise or the context otherwise requires. This prospectus supplement, the accompanying prospectus and the information incorporated herein and therein by reference contain references to trademarks, service marks and trade names owned by us or other companies. Solely for convenience, trademarks, service marks and trade names referred to in this prospectus supplement, the accompanying prospectus and the information incorporated herein and therein, including logos, artwork, and other visual displays, may appear without the ® or symbols, but such references are not intended to indicate, in any way, that we will not assert, to the fullest extent under applicable law, our rights or the rights of the applicable licensor to these trademarks, service marks and trade names. We do not intend our use or display of other companies trade names, service marks or trademarks to imply a relationship with, or endorsement or sponsorship of us by, any other companies. All trademarks, service marks and trade names included or incorporated by reference into this prospectus supplement, the accompanying prospectus or any related free writing prospectus are the property of their respective owners.

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PRESENTATION OF NON-GAAP FINANCIAL INFORMATION

Non-GAAP Adjusted Income From Operations, Non-GAAP Adjusted Net Income, Non-GAAP Adjusted EBITDA, and Non-GAAP Adjusted Net Income Per Share (Diluted) which are presented in this prospectus supplement, are not required by, or presented in accordance with, generally accepted accounting principles in the United States (GAAP). We include this non-GAAP financial information because we believe these measures provide a useful comparison of our financial results between periods and reflect how management reviews its financial results. These financial measures exclude the impact of certain acquisition-related items because we believe that the resulting charges do not accurately reflect the performance of our ongoing operations for the period in which such charges were incurred.

We define Non-GAAP Adjusted Income from Operations as income from operations as reported in accordance with GAAP and excluding acquisition costs and contingent consideration expenses booked through our condensed consolidated statements of comprehensive income. Similarly, we define Non-GAAP Adjusted Net Income as net income as reported in accordance with GAAP excluding acquisition costs and contingent consideration expenses booked through our condensed consolidated statements of comprehensive income. We define Non-GAAP Adjusted EBITDA as net income as reported in accordance with GAAP, excluding investment income, interest expense, taxes, depreciation and amortization, and excluding acquisition costs and contingent consideration expenses booked through our condensed consolidated statements of comprehensive income. Finally, we define Non-GAAP Adjusted Net Income Per Share (Diluted) as net income per share, excluding acquisition costs and contingent consideration expenses booked through our condensed consolidated statements of comprehensive income.

Non-GAAP Adjusted Income from Operations, Adjusted Net Income, Adjusted EBITDA, and Non-GAAP Adjusted Net Income Per Share (Diluted) are not recognized terms under GAAP. Because certain companies do not calculate Non-GAAP Adjusted Income From Operations, Adjusted Net Income, Non-GAAP Adjusted EBITDA, and Non-GAAP Adjusted Net Income Per Share (Diluted) in the same way and certain other companies may not perform such calculations, those measures as used by other companies may not be consistent with the way we calculate such measures and should not be considered as alternative measures of operating profit or net income. Our presentation of these measures does not replace the presentation of our financial results in accordance with GAAP.

For reconciliations of our income and net income, as applicable, to Non-GAAP Adjusted Income from Operations, Non-GAAP Adjusted Net Income, Non-GAAP Adjusted EBITDA and Non-GAAP Adjusted Net Income Per Share (Diluted), see Summary Consolidated Financial Data Reconciliation of Non-GAAP Financial Measures.

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SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus supplement, the accompanying prospectus and the information incorporated by reference herein and therein contain and any free writing prospects we authorize for use in connection with this offering may contain statements that are not historical facts and are considered forward-looking within the meaning of Section 27A of the Securities Act of 1933, as amended, or the Securities Act, and Section 21E of the Securities Exchange Act of 1934, as amended, or the Exchange Act. These forward-looking statements contain projections of our future results of operations or of our financial position or state other forward-looking information. In some cases you can identify these statements by forward-looking words such as anticipate, believe, could, continue, estimate, expect, intend, should, will, would, plan, projected or the negative of such words or other similar words or phrases. We believe is important to communicate our future expectations to our investors. However, there may be events in the future that we are not able to accurately predict or control and that may cause our actual results to differ materially from the expectations we describe in our forward-looking statements.

Investors are cautioned not to unduly rely on forward-looking statements because they involve risks and uncertainties, and statements relate to future events or our future financial performance, and involve known and unknown risks, uncertainties and other factors that may cause our actual results, levels of activity, performance or achievements to be materially different from any future results, levels of activity, performance or achievements expressed or implied by these forward-looking statements. Forward-looking statements include, but are not limited to, statements about:

- the acceptance by the market of our products;
- the implementation of our business model, strategic plans for our business, products and technology;
- our ability to complete and successfully integrate acquisitions;
- our ability to maintain and establish key customer relationships;
- estimates of our expenses, future revenues and capital requirements;
- our financial performance;
- the scope of protection we are able to establish and maintain for intellectual property rights covering our products and technology;
- developments relating to our competitors and our industry; and

other risks and uncertainties, including those listed under the caption Risk Factors below and in any documents incorporated by reference herein.

Given these uncertainties, readers should not place undue reliance on our forward-looking statements. These forward-looking statements speak only as of the date on which the statements were made and are not guarantees of future performance. Except as may be required by applicable law, we do not undertake or intend to update any forward-looking statements after the date of this prospectus supplement or the accompanying prospectus or the respective dates of documents incorporated by reference herein or therein that include forward-looking statements.

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PROSPECTUS SUPPLEMENT SUMMARY

This summary highlights selected information contained elsewhere or incorporated by reference in this prospectus supplement and the accompanying prospectus. This summary may not contain all the information that you should consider before making your investment decision. You should read this entire prospectus supplement and the accompanying prospectus carefully, especially the risks of investing in our securities discussed under Risk Factors beginning on page S-17 of this prospectus supplement, along with our consolidated financial statements and notes to those consolidated financial statements, the other information incorporated by reference in this prospectus supplement and the accompanying prospectus and any free writing prospectus we authorize for use in connection with this offering, before making an investment decision. This prospectus supplement may add to, update or change information in the accompanying prospectus.

Overview

Our Business

We are a bioprocessing company focused on the development, production, and commercialization of innovative products and solutions used to manufacture biologic drugs. Biologics principally monoclonal antibodies, recombinant proteins, and vaccines are produced through a complex process involving the use of live cells to produce the drug, followed by multiple separation and purification processes. Our products enable biologics manufacturers to enhance production yields while retaining the highest quality and safety standards, and delivering cost and time savings.

For over twenty years, we have been a global market leader in the supply of native and recombinant forms of Protein A, a critical reagent used in the downstream purification of therapeutic monoclonal antibodies, or mAbs, one of the largest and fastest-growing class of biologic drugs on the market. Our Protein A reagents are currently used in the commercial production of over 50 mAbs, and in clinical stage production of over 300 investigational mAbs.

Through strategic acquisitions and internal product development, we have expanded our portfolio of products that we sell directly to end users (biopharmaceutical companies and contract manufacturing organizations). This expansion includes our acquisition of the MediaScout pre-packed chromatography column manufacturing business from Atoll GmbH, our acquisition of the ATF System, a best-in-class device for generating extremely high cell concentrations (allowing improved drug yield and more robust, large scale manufacturing) from Refine Technologies LLC, and our development of OPUS®, our single-use pre-packed chromatography columns for the capture and purification of biologic drugs in clinical development.

We market our products globally through a direct commercial organization in the United States, Europe and Asia, as well as through strategic partners in select markets. In 2014 and 2015, we invested in expanding our global commercial organization, adding sales, marketing and applications personnel who interact directly with our end users. Our customer base is comprised of leading life sciences companies, major contract manufacturers and 20 of the top biopharmaceutical companies.

Customers use our products to produce initial quantities of drug for clinical studies, then scale-up to larger volumes as the drug progresses to commercial production following regulatory approval. Detailed specifications for a drug s manufacturing process are included in applications that must be approved by regulators, such as the U.S. Food and Drug Administration, or FDA, and the European Medicines Agency, throughout the clinical trial process and prior to final commercial approval. As a result, products that become part of the manufacturing specifications of a late-stage clinical or commercial process can be very sticky due to the costs and uncertainties associated with displacing them.

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Our dedicated team of professionals has substantial experience in biomanufacturing. We work closely with industry leaders and our customers to develop innovative solutions that address pressure points in the production process. Our team has a track record of successfully launching new products and applications, as well as building new markets for acquired technologies. For example we engineered and introduced OPUS line extensions in 2012, 2014 and 2015, and since acquiring the ATF System line in 2014, we have rapidly expanded its market penetration through increased customer interactions and new applications.

Many of our products are early in their adoption cycle, and together with the expansion of our commercial organization and strategic acquisitions, have contributed to product revenue expansion from $41.8 million in 2012, to $83.5 million in 2015 and $25.1 million during the first quarter of 2016. To meet increased demand for our products, we have increased and continue to increase the volume and scale of manufacturing at our two manufacturing facilities in the United States and Sweden and plan to expand manufacturing capacity at our newly acquired manufacturing facility in Germany.

Our Market Opportunity

The global biologics drug market is estimated to be over $200 billion. This market includes therapeutic mAbs, proteins and vaccines. MAb-based biologics alone accounted for approximately $80 billion of revenue and represented six of the top 10 best-selling drugs across the pharmaceutical industry in 2014. Industry sources project the biologics market to grow at a rate of 8%-10% annually over the next five years, driven by strength in the mAb class of biologics, as evidenced by the rate of new approvals, expanded labels for marketed mAbs and the emergence of biosimilar versions of originator mAbs. For example, in 2015, a record nine therapeutic mAbs were approved by the FDA to treat a diverse range of diseases, including the approvals of mAbs to control LDL cholesterol or bad cholesterol. There are currently more than 300 mAbs in various stages of clinical development addressing a wide range of medical conditions including asthma, migraines and Alzheimer s disease.

In addition to investments in the discovery and development of novel biologic drugs, there has been substantial investment in follow-on products (biosimilars) by generic and specialty pharmaceutical as well as large biopharmaceutical companies. We believe development of follow-on products is accelerating as the first major mAbs begin to come off patent in the European Union and United States. For example, there are at least 12 companies attempting to market the first Humira® (adalimumab) biosimilar, which faces patent expiration in the United States at the end of 2016. Also, due to the high cost of biologic drugs, many countries in the developing and emerging markets have been aggressively investing in biomanufacturing capabilities to supply lower cost alternatives or biosimilars for the local markets. We believe they are focused on innovative technologies that offer greater manufacturing flexibility, production yields and lower-costs through improved process efficiencies.

The Biologics Manufacturing Process

Manufacturing biologic drugs requires three fundamental steps. First, upstream manufacturing involves the production of the biologic by living cells that are grown in a bioreactor under controlled conditions. These cells, or factories, are highly sensitive to the conditions under which they grow, including the composition of the cell culture media and the growth factors used to stimulate increased cell growth and protein production, or titre. In the second, downstream step, the biologic must be separated and purified, typically through various filtration and chromatography steps. Biologics drugs tend to be large molecules with complex, three-dimensional shapes or structures that confer therapeutic function. The types of purification methods (for example, form of filtration membrane or chromatography resins or buffers/solutions) can affect these highly specific shapes or structures and consequently impact the amount of active drug ultimately captured or lost in the process. In the third stage of the process, the purified biologic drug is formulated, quality controlled and packaged into its final injectable form.

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Biologics are generally high value therapies. Given the inherent complexities of the process and drug product, we have observed that manufacturers are seeking and investing in innovative technologies that address pressure points in the production process in order to improve yields. We see that manufacturers are also seeking technologies that reduce cost of goods as the biologic drug moves through clinical stages and into commercial processes, by adopting single-use technologies as well as other products that confer more flexibility and efficiency.

Our Strategy

We are focused on the development, production and commercialization of differentiated, technology-leading solutions or products that address pressure points in the biologics manufacturing process and deliver substantial value to our customers. We are committed to supporting our customers with strong customer service and applications expertise.

We intend to build on our recent history of developing market leading solutions and delivering strong financial performance through the following strategies.

Continued innovation. We plan to capitalize on our internal technological expertise to develop products that address unmet needs in upstream and downstream bioprocessing. We intend to invest further in our core ligands business while developing platform and derivative products to support our growth factor, ATF System and OPUS franchises.

Platforming our products. A key strategy for accelerating market adoption of our products is delivery of enabling technologies that become the standard, or platform, technology in markets where we compete. We focus our efforts on winning early-stage technology evaluations through direct interaction with the key biomanufacturing decision makers in process development labs. This strategy is designed to establish both early adoption of our enabling technologies at key accounts and accelerate the implementation of our products as platform products, thereby strengthening our competitive advantage and contributing to long-term growth.

Targeted acquisitions. We will selectively pursue acquisitions of innovative technologies and products. We intend to leverage our balance sheet to acquire technologies and products that improve our overall financial performance by improving our competiveness and/or moving us into adjacent markets with common commercial call points.

Geographical expansion. We intend to expand our commercial presence by continuing to build out our global sales, marketing, field applications and services infrastructure.

Operational efficiency. We seek to expand operating margins through capacity utilization and process optimization strategies designed to increase our manufacturing yields. We plan to invest in systems to support our global operations, optimizing resources across our global footprint to maximize productivity.

Our Products Downstream Products Protein A

We are the leading provider of Protein A ligands, an essential component of Protein A chromatography resins (media) used in the purification of virtually all mAbs on the market (more than 50) or in development (more than 300). We manufacture multiple forms of Protein A ligands under long-term supply agreements for major life sciences companies including GE Healthcare and MilliporeSigma, who in turn sell their Protein A chromatography media to end users (biopharmaceutical manufacturers). We have two manufacturing sites, one in Lund, Sweden and another in Waltham, MA, collectively supporting overall global demand for our Protein A ligands. On February 22, 2016, we amended our long term supply agreements with GE Healthcare to, among other things, extend the terms of the supply agreement relating to our Lund, Sweden facility through 2019. The

supply agreement relating to our Waltham, MA facility runs through 2021. This dual manufacturing capability gives us strong business continuity and reduces overall supply risk for our major customers.

Protein A chromatography media is considered the industry standard for purification of mAbs, due to the ability of Protein A to selectively bind to, or capture, mAbs from crude protein mixtures. Protein A media is packed into chromatography columns as the standard first step in a purification process. As a result of Protein A s high affinity for antibodies, the mAb product is highly purified and concentrated during this first capture step before moving to polishing steps. The global Protein A media market that we supply generates annual revenues of $350-$400 million. We expect continued growth for our Protein A ligands as new drugs are approved and biosimilar manufacturing accelerates.

Chromatography products

Our chromatography portfolio includes a number of products used in the downstream purification and quality control of biologic drugs. The main driver of growth in this portfolio is our OPUS pre-packed chromatography column line. Our other products include Protein A chromatography resins used in a small number of commercial drug processes and ELISA test kits used by quality control departments to detect and measure the presence of leached Protein A in the final product. In April 2016, we completed our acquisition of the MediaScout pre-packed chromatography column manufacturing business from Atoll GmbH, expanding our chromatography portfolio into high throughput process development screening.

Chromatography columns, packed with chromatography media, are used in biomanufacturing to purify the contents of a bioreactor. For late-stage clinical and large commercial processes, stainless steel columns are standard, and are packed in-house by the biomanufacturer. For clinical stage manufacturing, we believe biomanufacturers value the quick turnover, cost savings and convenience of using pre-packed columns such as OPUS versus traditional glass columns.

OPUS columns are pre-packed with purification media and are an efficient plug-and-play solution for our customers, and is a growing area of our business. As biomanufacturers have become acutely focused on improving the drug development process, they are moving toward flexible manufacturing and disposable solutions such as OPUS. Over the past three years we have observed customers moving away from in-house solutions (self-packed glass columns). They are starting to adopt the OPUS ready-to-use format, we believe due to convenience, flexibility and consistent product performance. OPUS columns save labor time, reduce overall costs and improve overall manufacturing efficiency, allowing biomanufacturers to reassign resources to higher value-add processes.

Our OPUS line is distinctly open platform, providing significant opportunities for customization. For example, most biopharmaceutical manufacturers utilize three different chromatography media in a given process and our flexible columns are designed to meet these needs. We differentiate ourselves in the pre-packed column space by packing any brand of chromatography media in OPUS to any bed height, ensuring a convenient and efficient process for end users. The plug-and-play nature of our OPUS columns make them ideal for purification of antibodies and recombinant proteins. With the launch of OPUS 45 cm diameter columns in 2014 and 60 cm columns in 2015, we have further differentiated ourselves from our competitors who offer a limited number of column diameter and resin (media) options. By offering these larger columns, we are making inroads in the glass column market where customers typically self-pack.

Pre-packed chromatography columns are at the early stages of adoption; we estimate that currently, we and our competitors collectively capture approximately 30% of a $165 million addressable market. As our sales force expands and we increase the number of call points, we are seeing more multi-site adoption of our OPUS pre-

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packed columns, including increased use by contract manufacturers, where quick turnover of multiple production runs is critical to profitability. We expect continued growth for this product line as we aim to expand geographically and provide best-in-class service and support.

Upstream Products

Growth factors

Most biopharmaceuticals are produced through a mammalian cell fermentation process. In order to stimulate increased cell growth and maximize overall yield from a bioreactor, manufacturers often add growth factors, such as insulin, to the cell culture fermentation media. As part of the Novozymes acquisition, we acquired several cell culture growth factor additives. Among those products is LONG® R3 IGF-1, our insulin-like growth factor that has been shown to be 100x more biologically potent than insulin (the industry standard), thereby increasing recombinant protein production in cell culture fermentation applications. LONG® R3 IGF-1 is currently used in the manufacture of several commercial biopharmaceutical products and is sold through a distribution partnership with MilliporeSigma. Our goal over the last few years with MilliporeSigma has been to focus on pipeline product development and work with customers already familiar with the product to more broadly adopt LONG® R3 IGF-1 as a platform product.

We estimate that the current market for cell culture growth factors is $75-$80 million. We are gaining share of this market as customers displace insulin with LONG® R3 IGF-1. We anticipate continued growth for this product group as our pipeline of opportunities advances from early-stage clinical to late-stage clinical and commercial manufacturing processes.

ATF System

The ATF System is a technologically advanced filtration device used to continuously remove cellular metabolic waste products during the course of a fermentation run, freeing healthy cells to continue producing the biologic drug of interest. The ATF System is designed to both increase the density of cells in a bioreactor and extend the production run, resulting in significantly greater product yield of up to two- to three-fold as well as reduced costs. This is important to biomanufacturers who seek to maximize output from their existing facilities. ATF Systems consist of a stainless steel housing that contains a consumable filter and an associated pump and controller. We sell the ATF System in a variety of sizes suitable for use in laboratory scale-up all the way to production bioreactors as large as 2,000 liters. ATF Systems are used in the production of several FDA-approved mAbs.

Following our acquisition of the ATF System from Refine Technology in 2014, we integrated the production of ATF Systems into our operations in Waltham, MA.

We estimate that the current market for cell retention devices is approximately $125-150 million. Within this market, we expect continued growth for our ATF Systems franchise over the next several years, as biologics manufacturing accelerates globally and as large pharmaceutical customers who have evaluated the system adopt the technology as platform. The ATF System strengthens our upstream fermentation business and significantly broadens our technology base.

Risks Related to Our Business

Our ability to execute our business strategy is subject to a number of risks of which you should be aware before you decide to invest in our notes. In particular, you should consider the following risks, which are discussed more fully in the section entitled Risk Factors in this prospectus supplement and in our Annual Report on Form 10-K

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for the fiscal year ended December 31, 2015 and our Quarterly Report on Form 10-Q for the quarter ended March 31, 2016, which are each incorporated herein by reference:

Although we generate revenue from product sales, our product revenue may be negatively impacted by a number of factors, including without limitation, competition in the bioprocessing market, our reliance on a limited number of customers, our ability to develop or acquire additional bioprocessing products in the future, our ability to manufacture our bioprocessing products sufficiently and timely, and our ability to effectively penetrate the bioprocessing products market.

We may not be able to achieve sufficient market acceptance for our bioprocessing products, and our results of operations and competitive positions could suffer.

If our products do not perform as expected, we could experience lost revenue, delayed or reduced market acceptance, increased cost and damage to our reputation.

If we are unable to manufacture our products in sufficient quantities and in a timely manner, our operating results will be harmed, our ability to generate revenue could be diminished and our gross margin may be negatively impacted.

Our acquisitions expose us to risks that could adversely affect our business, and we may not achieve the anticipated benefits of acquisitions of businesses or technologies.

Our results of operations could be negatively affected by potential fluctuations in foreign currency exchange rates.

We have limited sales and marketing capabilities, and such capabilities are becoming increasingly important for our business as we began to sell directly to more end-users, so the buildout of such capabilities is critical to our anticipated revenue growth.

If we are unable to hire and retain skilled personnel, including sales and marketing personnel, then we will have trouble developing and marketing our products.

We rely on certain suppliers for our ATF System business, and any interruption in the operations of these suppliers could result in significant delays and disruptions in our supply chain related to these products.

If we are unable to obtain or maintain our intellectual property rights related to our products, we may not be able to compete effectively or succeed commercially.

Company Information

We were incorporated in May 1981 under the laws of the State of Delaware. Our mailing address and executive offices are located at 41 Seyon Street, Waltham, MA 02453 and our telephone number at that address is (781) 250-0111. We maintain an Internet website at the following address: www.repligen.com. The information on, or that can be accessed through, our website does not constitute part of this prospectus supplement, and you should not rely on any such information in making the decision whether to invest in our notes. Our common stock trades on the NASDAQ Global Select Market under the symbol RGEN.

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THE OFFERING

The summary below describes the principal terms of the notes. This summary does not contain all of the information that is important relating to an investment in the notes and any shares of our common stock issuable upon conversion thereof. Certain of the terms and conditions described below are subject to important limitations and exceptions. The Description of Securities section of the accompanying prospectus, as supplemented by the Description of Notes section of this prospectus supplement, contains a more detailed description of the terms and conditions of the notes. As used in this section, we, our and us refer only to Repligen Corporation and not to any of its subsidiaries.

Issuer	Repligen Corporation, a Delaware corporation.
Securities	$100,000,000 principal amount of % Convertible Senior Notes due 2021 (*plus* up to an additional $15,000,000 principal amount at the option of the underwriters).
Maturity	June 1, 2021, unless earlier repurchased, redeemed or converted.
Interest	% per year. Interest will accrue from May , 2016 and will be payable semiannually in arrears on June 1 and December 1 of each year, beginning on December 1, 2016. We will pay additional interest, if any, at our election as the sole remedy relating to the failure to comply with our reporting obligations as described under Description of Notes Events of Default.
Conversion rights	Holders may convert all or any portion of their notes, in multiples of $1,000 principal amount, at their option at any time prior to the close of business on the business day immediately preceding March 1, 2021 only under the following circumstances: during any calendar quarter commencing after the calendar quarter ending on June 30, 2016 (and only during such calendar quarter), if the last reported sale price of our common stock for at least 20 trading days (whether or not consecutive) during a period of 30 consecutive trading days ending on the last trading day of the immediately preceding calendar quarter is greater than or equal to 130% of the conversion price on each applicable trading day; during the five business day period after any five consecutive trading day period (the measurement period) in which the trading price (as defined under Description of Notes Conversion Rights Conversion

Upon Satisfaction of Trading Price Condition) per $1,000 principal amount of notes for each trading day of the measurement period was less than 98% of the product of the last reported sale price of our common stock and the conversion rate on each such trading day; or

upon the occurrence of specified corporate events described under Description of Notes Conversion Rights Conversion Upon Specified Corporate Events.

On or after March 1, 2021 until the close of business on the second scheduled trading day immediately preceding the maturity date,

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holders may convert all or any portion of their notes, in multiples of $1,000 principal amount, at the option of the holder regardless of the foregoing circumstances. Additionally, if we call any or all of the notes for redemption, holders may convert their notes called for redemption at any time prior to the close of business on the second scheduled trading day preceding the redemption date.

The conversion rate for the notes is initially shares of common stock per $1,000 principal amount of notes (equivalent to an initial conversion price of approximately $ per share of common stock), subject to adjustment as described in this prospectus supplement.

Upon conversion, we will pay or deliver, as the case may be, cash, shares of our common stock or a combination of cash and shares of our common stock, at our election. If we satisfy our conversion obligation solely in cash or through payment and delivery, as the case may be, of a combination of cash and shares of our common stock, the amount of cash and shares of common stock, if any, due upon conversion will be based on a daily conversion value (as described herein) calculated on a proportionate basis for each trading day in a 40 trading day observation period (as described herein). See Description of Notes Conversion Rights Settlement Upon Conversion.

In addition, if certain specified corporate events occur prior to the maturity date or upon our issuance of a notice of redemption, we will, in certain circumstances, increase the conversion rate for a holder who elects to convert its notes in connection with such a corporate event or during the related redemption period, as described under Description of Notes Conversion Rights Increase in Conversion Rate Upon Conversion Upon a Make-Whole Fundamental Change or During a Redemption Period.

You will not receive any additional cash payment or additional shares representing accrued and unpaid interest, if any, upon conversion of a note, except in limited circumstances. Instead, interest will be deemed to be paid by the cash, shares of our common stock or a combination of cash and shares of our common stock paid or delivered, as the case may be, to you upon conversion of a note.

Redemption at our option

We may not redeem the notes prior to June 5, 2019. We may redeem the notes, at our option, in whole or in part, on any business day on or after June 5, 2019 and prior to the maturity date if the last reported sale price per share of our common stock has been at least 130% of the conversion

price then in effect for at least 20 trading days (whether or not consecutive) during any 30 consecutive trading day period ending within five trading days prior to the date on which we provide written notice of redemption. The redemption price will be equal to 100% of the principal amount of the notes to be purchased,

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plus accrued and unpaid interest to, but excluding, the redemption date. No sinking fund is provided for the notes, and except as described below in connection with a fundamental change, we are not required to redeem or repurchase the notes periodically.

Fundamental change

If we undergo a fundamental change (as defined in this prospectus supplement under Description of Notes Fundamental Change Permits Holders to Require Us to Repurchase Notes), subject to certain conditions, holders may require us to repurchase for cash all or part of their notes in principal amounts of $1,000 or an integral multiple thereof. The fundamental change repurchase price will be equal to 100% of the principal amount of the notes to be repurchased, *plus* accrued and unpaid interest to, but excluding, the fundamental change repurchase date. See Description of Notes Fundamental Change Permits Holders to Require Us to Repurchase Notes.

Ranking

The notes will be our senior unsecured obligations and will rank:

- senior in right of payment to any of our indebtedness that is expressly subordinated in right of payment to the notes;
- equal in right of payment to any of our unsecured indebtedness that is not so subordinated;
- effectively junior in right of payment to any of our secured indebtedness to the extent of the value of the assets securing such indebtedness; and
- structurally junior to all indebtedness and other liabilities (including trade payables) and preferred stock of our subsidiaries.

As of March 31, 2106, we had no consolidated indebtedness, and our subsidiaries had no liabilities (excluding intercompany obligations, trade payables, and liabilities of a type not required to be reflected on a balance sheet of such subsidiaries in accordance with GAAP).

The indenture governing the notes will not limit the amount of debt that we or our subsidiaries may incur.

Use of proceeds	We estimate that the proceeds from this offering will be approximately $ million (or $ million if the underwriters exercise their option to purchase additional notes in full), after deducting fees and estimated expenses payable by us. We intend to use the net proceeds of the this offering for working capital and other general corporate purposes, including to fund possible acquisitions of, or investments in, complementary businesses, products, services and technologies. See Use of Proceeds.
Book-entry form	The notes will be issued in book-entry form and will be represented by permanent global certificates deposited with, or on behalf of, the Depository Trust Company (DTC) and registered in the name of a nominee of DTC. Beneficial interests in any of the notes will be shown on, and transfers will be effected only through, records

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	maintained by DTC or its nominee and any such interest may not be exchanged for certificated securities, except in limited circumstances.
Absence of a public market for the notes	The notes are new securities and there is currently no established market for the notes. Accordingly, we cannot assure you as to the development or liquidity of any market for the notes. The underwriters have advised us that they currently intend to make a market in the notes. However, they are not obligated to do so, and they may discontinue any market making with respect to the notes without notice. We do not intend to apply for a listing of the notes on any securities exchange or any automated dealer quotation system.
U.S. federal income tax consequences	For the U.S. federal income tax consequences of the holding, disposition and conversion of the notes, and the holding and disposition of shares of our common stock, see Material U.S. Federal Income Tax Considerations.
NASDAQ Global Select Market symbol for our common stock	Our common stock is listed on the NASDAQ Global Select Market under the symbol RGEN.
Trustee, paying agent and conversion agent	Wilmington Trust, National Association

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SUMMARY CONSOLIDATED FINANCIAL DATA

The following table sets forth summary consolidated financial data. The summary consolidated financial data as of December 31, 2015 and 2014 and for the years ended December 31, 2015 and 2014 are derived from our audited condensed consolidated financial statements, which are incorporated by reference herein. The summary consolidated financial data as of March 31, 2016 and for the three months ended March 31, 2016, and 2015 are derived from our unaudited condensed consolidated financial statements, which are incorporated by reference herein. These unaudited condensed consolidated financial statements have been prepared on a basis consistent with our audited consolidated financial statements. The unaudited consolidated financial statements include, all adjustments, consisting of normal recurring accruals, which we consider necessary for a fair presentation of the financial position and the results of operations for these periods. Our historical results are not necessarily indicative of the results that may be expected in the future. The following summary consolidated financial data should be read in conjunction with Management s Discussion and Analysis of Financial Condition and Results of Operations and our consolidated financial statements and the related notes thereto, all of which is incorporated by reference herein.

	Year ended December 31,		Three months ended March 31,	
	2015(1)	2014	2016	2015
	(in thousands, except per share data)		(unaudited)	
Consolidated Statement of Operations Data:				
Revenue:				
Product revenue	$ 83,537	$ 60,431	$ 25,094	$ 20,816
Royalty and other revenue		3,117		
Total revenue	83,537	63,548	25,094	20,816
Operating expenses:				
Cost of product revenue	35,251	28,022	11,069	8,073
Cost of royalty and other revenue				
Research and development	5,740	5,609	1,539	1,568
Selling, general and administrative	24,699	17,154	7,018	6,026
Contingent consideration fair value adjustments	4,083	2,072	2,005	1,111
Total operating expenses	69,773	52,857	21,631	16,778
Income from operations	13,764	10,691	3,463	4,038
Investment income	136	309	61	37
Interest expense	&nbs			