CODEXIS INC
Form 424B5
April 09, 2018
Table of Contents

Filed Pursuant to Rule 424(b)(5)
Registration No. 333-215025

PROSPECTUS SUPPLEMENT

(To Prospectus dated January 10, 2017)

3,750,000 Shares

Codexis, Inc.

Common Stock

We are offering 3,750,000 shares of our common stock. Our common stock is listed on the Nasdaq Global Select Market under the symbol CDXS. On April 6, 2018, the last reported sale price of our common stock on the Nasdaq Global Select Market was $10.40 per share.

Investing in our common stock involves a high degree of risk. Before making an investment decision, please read the information under the heading Risk Factors beginning on page S-9 of this prospectus supplement and in the documents incorporated by reference into this prospectus supplement.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the adequacy or accuracy of this prospectus supplement or the accompanying prospectus. Any representation to the contrary is a criminal offense.

	PER SHARE	TOTAL
Public Offering Price	$ 9.250	$ 34,687,500
Underwriting Discounts and Commissions [1]	$ 0.555	$ 2,081,250
Proceeds to Codexis, Inc., before expenses	$ 8.695	$ 32,606,250

[1] The underwriters will also be reimbursed for certain expenses incurred in the offering. See Underwriting for details.

Delivery of the shares of common stock is expected to be made on or about April 10, 2018. We have granted the underwriters an option for a period of 30 days to purchase up to an additional 562,500 shares of our common stock. If the underwriters exercise the option in full, the total underwriting discounts and commissions payable by us will be $2,393,437.50 and the total proceeds to us, before expenses, will be $37,497,187.50.

Joint Book-Running Managers

Jefferies **Cowen**

Lead Manager

H.C. Wainwright & Co.

Co-Manager

Stephens Inc.

Prospectus supplement dated April 5, 2018.

Table of Contents

TABLE OF CONTENTS

Prospectus Supplement

Prospectus

Table of Contents

ABOUT THIS PROSPECTUS SUPPLEMENT

We provide information to you about this offering of shares of our common stock in two separate documents that are bound together: (1) this prospectus supplement, which describes the specific details regarding this offering; and (2) the accompanying base prospectus, which provides general information, some of which may not apply to this offering. Generally, when we refer to this prospectus, we are referring to both documents combined. If information in this prospectus supplement is inconsistent with the accompanying base prospectus, you should rely on this prospectus supplement. However, 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 this prospectus supplement the statement in the document having the later date modifies or supersedes the earlier statement as our business, financial condition, results of operations and prospects may have changed since the earlier dates.

We have not, and the underwriters have not, authorized anyone to provide you with any information or to make any representation, other than those contained or incorporated by reference in this prospectus or in any free writing prospectus we have prepared. We and the underwriters take no responsibility for, and provide no assurance as to the reliability of, any other information that others may give you. Neither we nor the underwriters are making an offer to sell or soliciting an offer to buy our securities in any jurisdiction where an offer or solicitation is not authorized or in which the person making that offer or solicitation is not qualified to do so or to anyone to whom it is unlawful to make an offer or solicitation. You should assume that the information appearing in this prospectus, the documents incorporated by reference into this prospectus, and in any free writing prospectus that we may authorize for use in connection with this offering, is accurate only as of the date of those respective documents. Our business, financial condition, results of operations and prospects may have changed since those dates. You should read this prospectus, the documents incorporated by reference into this prospectus, and any free writing prospectus that we may authorize for use in connection with this offering, in their entirety before making an investment decision. You should also read and consider the information in the documents to which we have referred you in the sections of this prospectus supplement entitled Where You Can Find More Information and Information Incorporated by Reference.

We are offering to sell, and seeking offers to buy, shares of common stock only in jurisdictions where offers and sales are permitted. The distribution of this prospectus and the offering of the common stock in certain jurisdictions may be restricted by law. Persons outside the United States who come into possession of this prospectus must inform themselves about, and observe any restrictions relating to, the offering of the common stock and the distribution of this prospectus outside the United States. This prospectus does not constitute, and may not be used in connection with, an offer to sell, or a solicitation of an offer to buy, any securities offered by this prospectus by any person in any jurisdiction in which it is unlawful for such person to make such an offer or solicitation.

When we refer to Codexis, we, our, us and the Company in this prospectus supplement, we mean Codexis, Inc. a consolidated subsidiaries, unless otherwise specified. When we refer to you, we mean the holders and prospective holders of the Company s common stock.

Our logo, Codexis and other trademarks or service marks of Codexis, Inc. appearing in this prospectus supplement are the property of Codexis, Inc. This prospectus supplement also includes trademarks, trade names and service marks that are the property of other organizations. Solely for convenience, our trademarks and trade names referred to in this prospectus supplement may appear without the ® and symbol, but those 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 right of the applicable licensor to these trademarks and trade names.

Table of Contents

MARKET, INDUSTRY AND OTHER DATA

This prospectus, including the information incorporated by reference, contains estimates, projections and other information concerning our industry, our business and the pharmaceutical, fine chemicals, biotherapeutics and diagnostics markets. Information that is based on estimates, forecasts, projections or similar methodologies is inherently subject to uncertainties, and actual events or circumstances may differ materially from events and circumstances reflected in this information. Unless otherwise expressly stated, we obtained this industry, business, market and other data from reports, research surveys, studies and similar data prepared by third parties, industry, medical/scientific and general publications, government data and similar sources. In some cases, we do not expressly refer to the sources from which these data are derived. When we refer to one or more sources of this type of data in any paragraph, you should assume that other data of this type appearing in the same paragraph are derived from the same sources, unless otherwise expressly stated or the context otherwise requires.

Table of Contents

PROSPECTUS SUPPLEMENT SUMMARY

This summary provides a general overview of selected information and does not contain all of the information you should consider before buying our common stock. Therefore, you should read the entire prospectus and any free writing prospectus that we have authorized for use in connection with this offering carefully, including the information incorporated by reference, before deciding to invest in our common stock. Investors should carefully consider the information set forth under Risk Factors beginning on page S-9 as well as the Risk Factors section and our audited financial statements and related notes thereto included in our Annual Report on Form 10-K for the year ended December 31, 2017 incorporated by reference herein.

Our Company

We discover, develop and sell proteins that deliver value to our clients in a growing set of industries. We view proteins as a vast untapped source of value-creating materials, and we are using our proven technologies, which have been continuously improved over our fifteen year history, to commercialize an increasing number of novel proteins, both as proprietary Codexis products and in partnership with our customers.

Many companies have historically used naturally-occurring proteins to produce or enhance goods used in everyday life. Despite the growing number of commercial applications of naturally-occurring proteins across many industries, the inherent limitations of naturally-occurring proteins frequently restrict their commercial use. Through the application of our proprietary CodeEvolver® protein engineering technology platform, we are able to engineer novel proteins to overcome these restrictions, thereby adding value or opening up new prospects for our potential clients products, processes or businesses. We have developed new proteins that are significantly more stable and/or active in our commercial applications than proteins derived from nature.

We are also a pioneer in the harnessing of computational technologies to drive biology advancements. Over the last fifteen years, we have made substantial investments in the development of our CodeEvolver® protein engineering technology platform, the primary source of our competitive advantage. Our technology platform is powered by proprietary, artificial intelligence-based, computational algorithms that rapidly mine our large and continuously growing library of protein variants performance attributes. These computational outputs enable increasingly reliable predictions for next generation protein variants to be engineered, enabling delivery of targeted performance enhancements in a time-efficient manner. In addition to its computational prowess, our CodeEvolver® protein engineering technology platform integrates additional modular competencies, including robotic high-throughput screening and genomic sequencing, organic chemistry and process development which are all coordinated to create our novel protein innovations.

Our Strategy

Our strategy is to grow our revenues, profits, and stockholder value by leveraging our CodeEvolver® protein engineering technology platform in the following ways:

Licensing our CodeEvolver® protein engineering technology platform. We intend to continue to pursue opportunities to license our CodeEvolver® protein engineering technology platform to third parties so they can create cost-saving protein catalyst solutions utilizing their own in-house protein engineering capability.

Growing our pharmaceutical protein catalysts business. We intend to continue to pursue opportunities in the pharmaceutical market to use our protein catalysis products and services to reduce the costs for manufacturing small molecule drugs. We intend to increase the number of pharmaceutical customers and processes that utilize and benefit from our novel, cost-saving protein catalyst solutions.

Growing our fine chemicals protein catalysts business. We intend to continue to pursue opportunities in the fine chemicals market to use protein catalysis products and services to reduce the costs for

Table of Contents

manufacturing in adjacent markets like food and food ingredients. We intend to increase the number of fine chemical customers and processes who utilize and benefit from our novel, cost-saving protein catalyst solutions.

Creating and advancing novel biotherapeutic drug candidates. We intend to continue to pursue opportunities to apply our protein engineering capabilities to the creation and development of novel biotherapeutic drug candidates, both in partnership with customers and as proprietary Codexis drug candidates. We have also invested in research and development in an effort to generate additional early stage novel biotherapeutic candidates.

Developing high-performance enzymes for use in diagnostic applications. We intend to offer high-performance enzymes to customers using next generation sequencing (NGS) and polymerase chain reaction (PCR/qPCR) for *in vitro* molecular diagnostic applications.

Our Market Opportunities

Pharmaceutical Market

We believe the pharmaceutical industry represents a significant market opportunity for us and is our primary business focus. Pharmaceutical companies are in constant search for new drugs to offer to their customers, and are under significant competitive pressure both to reduce costs and to increase the speed to market for their products. To meet these pressures, pharmaceutical companies are discovering and developing novel protein-based drug products, as well as seeking manufacturing processes for their new and existing drugs that reduce overall costs, simplify production and increase efficiency and product yield, while not affecting drug safety and efficacy. Cost reduction is even more important to developers (known as innovators) of patent-protected pharmaceutical products when the patents for those products expire and such innovators are forced to compete with manufacturers of generic drugs.

The pharmaceutical product lifecycle begins with the discovery of new chemical entities and continues through preclinical and clinical development, regulatory review and approval, commercial scale-up, product launch, and, ultimately, patent expiration and the transition from branded to generic products. As innovators develop, produce and then market products, manufacturing priorities and processes evolve. Historically, innovators have focused on production cost reduction in the later stages of clinical development and have been reluctant to make process changes after a product has been launched. However, as pressures to reduce costs have increased, innovators have pursued cost reduction measures much earlier in the pharmaceutical product lifecycle and are increasingly looking for opportunities to improve their operating margins, including making manufacturing process changes for marketed products after the products have been launched if these changes can result in significant cost reductions. As a result, innovators are investing in new technologies, including our CodeEvolver® protein engineering technology platform, to improve their manufacturing productivity and efficiency or outsourcing the manufacture of their intermediates and active pharmaceutical ingredients (APIs).

Our Solutions for the Pharmaceutical Market

Small Molecule Manufacturing Cost Reduction

Our pharmaceutical customers, which include many large global pharmaceutical companies, use our technology, products and services in their manufacturing processes and process development. Our CodeEvolver® protein engineering technology platform enables us to deliver solutions to our customers in this market by developing and

delivering optimized protein catalysts that perform chemical transformations at a lower cost and improve the efficiency and productivity of manufacturing processes. We provide value throughout the pharmaceutical product lifecycle. Our products and services allow us to provide benefits to our pharmaceutical customers in a number of cost saving ways, including any and sometimes all of the following:

- reducing the use of raw materials and reagents;

- eliminating multiple steps in the manufacturing process;

Table of Contents

improving purity, productivity and yield;

using water as a primary solvent;

eliminating hazardous inputs;

enabling the use of simple equipment and reducing the need for capital expenditure;

reducing energy requirements;

reducing the generation of chemical byproducts or waste; and

reducing the need for late-stage purifications.

Early in a pharmaceutical product s lifecycle, pharmaceutical manufacturers can use our protein catalyst products and services to reduce manufacturing costs. If an innovator incorporates our products or processes into an approved product, we expect the innovator to continue to use our products or processes at least over the patent life of the marketed drug.

Pharmaceutical manufacturers can also use our products and services to reduce manufacturing costs after a product is launched. At this stage, changes in the manufacturing process originally approved by the drug regulator may require additional regulatory review. Typically, pharmaceutical companies will only seek regulatory approval for a manufacturing change if substantial cost savings are realizable. We believe that the cost savings associated with our products may lead our customers to change their manufacturing processes for approved products and, if necessary, seek regulatory approval of the new processes which incorporate our proteins. Moreover, we believe these cost savings are attractive to generics manufacturers, who compete primarily on price.

In addition, manufacturing processes that utilize our protein catalysts can frequently enable processes that are more sustainable and environmentally friendly compared to alternative, traditional manufacturing approaches. This has led us to earn three U.S. EPA Presidential Green Chemistry Challenge awards for improved pharmaceutical manufacturing processes since we were founded. All three of these awards were associated with blockbuster drug products.

Discovery and Development of Biotherapeutic Drug Candidates

We are also targeting new opportunities in the pharmaceutical industry to discover or improve biotherapeutic drug candidates for our customers. We believe that our CodeEvolver® protein engineering platform technology can be used to discover novel biotherapeutic drug candidates that will target human diseases that are in need of improved therapeutic interventions. Similarly, we believe that we can deploy our platform technology to improve specific characteristics of a customer s pre-existing biotherapeutic drug candidate, such as its activity, stability or immunogenicity.

Collaborative Biotherapeutic Product Development

We are using our platform technology to improve characteristics of our customers pre-existing biotherapeutic drug candidates. In July 2016, we successfully completed our obligations under a collaborative research and development agreement with a leading global biopharmaceutical company. Under that agreement, we employed our CodeEvolver® protein engineering platform technology to develop a novel enzyme for use in our partner s preclinical therapeutic development program. During this project, we earned success fees, associated milestone payments and research and development service revenues. We continue to pursue other customers who could benefit by applying our CodeEvolver® protein engineering platform technology to improve the discovery and/or development of other biotherapeutics in partnership with us.

Biotherapeutic Product Development

We are also using our platform technology to develop our own early stage, novel enzyme therapeutic product candidates. Our lead product candidate is CDX-6114, an enzyme which we have engineered to be orally administered and are developing as a potential treatment of phenylketonuria (PKU) disease in humans. PKU is an inborn metabolic disorder in which the enzyme that converts the essential amino acid

phenylalanine into tyrosine is deficient. As a result, phenylalanine accumulates to toxic levels in the brain, causing serious neurological problems including intellectual disability, seizures and cognitive and behavioral problems. To avoid toxic levels of phenylalanine in their blood, individuals with PKU must follow a strict, life-long diet that is low in phenylalanine and supplement their diet with a synthetic phenylalanine-free formula to provide them with sufficient nutrients. Maintaining a strict, life-long diet can be challenging for individuals with PKU. There are an estimated 50,000 people with PKU in the developed world.

In addition to the PKU program, we have previously made, and expect to continue to make, additional investments with the aim of generating additional product candidates targeting other therapeutic areas.

Nestlé Health Science In October 2017, we entered into a Global Development, Option and License Agreement with Nestec Ltd. (Nestlé Health Science), pursuant to which we granted to Nestlé Health Science, under certain of our patent rights and know-how: (i) an option to obtain an exclusive, worldwide, royalty-bearing, sublicensable license to develop and commercialize certain products based on CDX-6114 and our other therapeutic enzyme product candidates covered by specified patent applications for the treatment of hyperphenylalaninemia (HPA), and (ii) an exclusive right of first negotiation for a period of five years to obtain an exclusive worldwide license to develop and commercialize up to two enzymes discovered by us for use in the field of the prevention, diagnosis, treatment and management of inborn errors of amino acid metabolism. Nestlé Health Science has the sole discretion to exercise its option after the effectiveness of an investigational new drug application filed by us for the study of CDX-6114 for the treatment of HPA and the completion of a Phase 1a study by us.

Prior to the earlier to occur of the expiration of the option or the effectiveness of the license, we will be generally responsible for development activities, including a Phase 1a study. Following the effectiveness of the license, Nestlé Health Science will be responsible for development activities.

Nestlé Health Science paid us an upfront cash payment of $14.0 million in the fourth quarter of 2017. Pursuant to the agreement, Nestlé Health Science is obligated to pay us $4.0 million after the commencement of a Phase 1a clinical trial and in the event Nestlé Health Science exercises its option, they will be obligated to pay us an additional $3.0 million. Other potential payments from Nestlé Health Science to us include (i) development and approval milestones of up to $86.0 million, (ii) sales-based milestones of up to $250.0 million in the aggregate, which aggregate amount is achievable if net sales exceed $1.0 billion in a single year, and (iii) tiered royalties, at percentages ranging from the middle single digits to low double-digits, of net sales of products containing an enzyme covered by the agreement as its sole active ingredient.

We currently expect to commence a Phase 1a clinical trial of CDX-6114 in mid-2018.

Fine Chemicals and Industrial Enzyme Markets

Beyond the pharmaceutical industry, our CodeEvolver® protein engineering platform technology has enabled cost-savings for our partners in the fine chemicals markets, and the food industry in particular. In November 2016, we entered into an exclusive agreement with Tate & Lyle, a market-leading food ingredients company, to supply a proprietary enzyme for use in Tate & Lyle s food ingredient production. In March 2017, we announced a second multi-year research and development services agreement with Tate & Lyle for the development of a second ingredient for the food ingredient industry. With respect to the March 2017 collaboration, we are currently scaling up our enzymes for Generally Recognized As Safe (GRAS) affirmations and commercial scale trials with Tate & Lyle.

We are seeking to expand our protein catalyst offerings in the fine chemicals market within and beyond the food industry, including, for example, to the agricultural chemicals and flavors and fragrances markets.

We are also pursuing entering into new partnerships in the industrial enzyme market in 2018.

Table of Contents

Molecular Biology and In Vitro Diagnostic Enzymes

We believe that our protein engineering capability can also be deployed to commercialize novel enzymes as improvements to enzymes consumed by customers in many industrial sectors. As our first effort in this strategy, we have developed an enzyme for customers using NGS and PCR/qPCR for in vitro molecular diagnostic applications. Our first proprietary enzyme for this market targets improved library preparation for NGS users and is currently being beta tested. It is expected to be available commercially in 2018. We are also currently working on a second enzyme which is being engineered and prepped for beta testing.

Licensing Our CodeEvolver® Protein Engineering Technology Platform

Our CodeEvolver® protein engineering technology platform enables rapid development of custom-designed enzymes that are highly optimized for efficient manufacturing processes. We intend to continue to enter into license arrangements with third parties that will allow them to use our CodeEvolver® protein engineering technology platform to discover and develop novel proteins for their internal use. To date, we have entered into platform technology licensing agreements with each of GlaxoSmithKline and Merck.

GlaxoSmithKline

In July 2014, we entered into our first CodeEvolver® protein engineering technology Platform Technology Transfer, Collaboration and License Agreement with GlaxoSmithKline Intellectual Property Development Limited, a subsidiary of GlaxoSmithKline plc (collectively, GSK), pursuant to which we granted GSK a non-exclusive, worldwide license to use our proprietary CodeEvolver® protein engineering technology platform in the field of human healthcare for its internal development purposes.

Under the agreement with GSK, we transferred our CodeEvolver® protein engineering technology platform to GSK over a 21-month period that began in July 2014 and was completed in April 2016. In addition to an upfront payment of $6.0 million, we have subsequently received from GSK technology transfer milestone payments of $5.0 million in 2014, $6.5 million in 2015 and $7.5 million in 2016. We have the potential to receive additional contingent payments that range from $5.75 million to $38.5 million per project based on GSK s successful application of the licensed technology. We are also eligible to receive royalties based on net sales, if any, of a limited set of products developed by GSK using the CodeEvolver® protein engineering technology platform.

Merck

In August 2015, we entered into a second CodeEvolver® platform technology transfer and license agreement with Merck Sharp & Dohme Corp., a subsidiary of Merck & Co., Inc. (collectively, Merck), pursuant to which we granted Merck a non-exclusive worldwide license to use our proprietary CodeEvolver® protein engineering platform technology in the field of human and animal healthcare for its internal development purposes.

Under the terms of the agreement with Merck, Merck paid us $18.0 million in technology transfer up-front and milestone payments over the technology transfer period of 15 months from August 3, 2015, the effective date of the agreement. We also have the potential to receive product-related payments of up to $15.0 million for each API that is manufactured by Merck using one or more enzymes that have been developed or are in development using the CodeEvolver® protein engineering technology platform during the 10-year period that begins on the conclusion of the 15-month technology transfer period. These product-related payments, if any, will be paid by Merck to us for each quarter that Merck manufactures API using a CodeEvolver®-developed enzyme. The payments will be based on the total volume of API produced using the CodeEvolver®-developed enzyme.

In September 2016, we completed the full transfer of the engineering platform technology and earned milestone revenue of $8.0 million. We received the $8.0 million milestone payment in the fourth quarter of 2016.

Table of Contents

Protein Catalyst Products and Services

Our protein catalyst products and services can deliver value to our customers in multiple potential ways:

- manufacture their products at lower cost;
- manufacture their products with lower fixed capital investment;
- reduce the cost of development of complex chemical synthesis processes;
- enable their products to achieve higher product purity;
- reduce the risk of adverse effects arising from product impurities;
- allow the removal of entire steps from chemical production; and
- flexibility to apply at any point across their product s lifecycle.

Our products include protein catalysts, chemical intermediates and Codex® Biocatalyst Panels and Kits. We sell our products worldwide primarily through our directed sales and business development force in the United States and Europe.

In addition to products, we also offer research and development services to our customers. These research and development service agreements often contain service fee payments and intellectual property provisions under which we screen and/or engineer protein catalysts for customers in connection with their process development efforts. In these collaborations, we typically receive consideration in the form of one or more of the following: up-front payments, milestone payments, payments for screening and engineering services, licensing fees and royalties.

Protein Catalysts

We often sell protein catalysts (also referred to as biocatalysts or enzymes), by the gram or kilogram, that have been already been engineered, scaled up, and installed in a customer s commercial process. For example, we sell protein catalysts to Merck for their manufacture of Sitagliptin, the active ingredient in Januvia®. We also sell protein catalysts which are in developmental stages. These are enzymes that are sold in batches or by the gram or kilogram that are in the process of being engineered or scaled up by Codexis, or are in the process of being trialed or approved for use in the customer s process. We may sell batches of specific protein catalysts that are in the middle of our protein engineering efforts to test their performance at a larger customer scale. We also may sell batches of specific protein catalysts for use in customer s developmental products (for example, to trial in a customer s Phase II drug candidate process). Finally, we may sell batches of specific protein catalysts as a customer performs trials for approval in their commercial manufacturing operations.

Chemical Intermediates

In some cases, we sell intermediate chemicals products that are produced in a process that uses our protein catalysts. These chemical intermediates are then used by our customer for further chemical processing.

Codex® Biocatalyst Panels and Kits

We sell kits and panels of our protein catalysts. These kits and panels assemble a relevant subset of our engineered enzymes to enable customers to perform chemistry screening on their own. These kits and panels are organized by specific types of chemical reactions that are widely applicable in the pharmaceutical and fine chemical markets.

Protein Catalyst Screening Services

If a customer prefers, rather than purchasing our Codex® Biocatalyst Panels or Kits to use for its own screening, it may send us its starting materials and desired chemical reaction, and we will test against our existing libraries of enzymes on a research and development service fee basis. If we detect desired activity in a specific enzyme, we can supply the customer with this enzyme or perform engineering services to improve the performance of the enzyme.

Table of Contents

Protein Engineering Services

We work with our customers throughout their product development lifecycle to optimize enzymes that have been engineered specifically to perform a desired process according to a highly selective set of specifications. We typically charge customers on research and development services basis by project or project-month. These are typically larger research and development service fees than screening services.

The protein engineering process starts by identifying genes that code for enzymes known to have the general type of catalytic reactivity for a desired chemical reaction. Typically, we identify gene sequences from our extensive in-house collection or from published databases and then synthesize candidate genes having those sequences. Using a variety of biotechnology tools, we diversify these genes by introducing mutations, giving rise to changes in the enzymes for which they encode. The methods for diversifying these genes, and types of diversity being tested, often vary over the course of a protein engineering program. For finding initial diversity, methods typically include random mutagenesis and site-directed (included computational structure-guided) mutagenesis. We also test mutational variations from related enzymes found in different organisms.

Once we have identified potentially beneficial mutations, we create libraries of thousands of variants with combinations of these mutations. With our proprietary genetic manipulation tools, we generate libraries of genes that have programmed and random combinations of the mutations for testing. The pool of genes is used to transform host cells, which entails introducing the various genes into host cells. These cells are then grown into colonies. Cells from individual colonies are cultured in high throughput to produce the enzyme encoded by the genetic variant in those cells. The enzymes expressed by these cells are then screened in high throughput using test conditions relevant to the desired process. The screening results allow us to identify and catalog individual genes that produce improved enzymes with beneficial mutations as well as enzymes having detrimental ones. Using specifically developed test conditions and analytical methods, we can identify variant enzymes that exhibit various improved performance characteristics, such as stability, activity and selectivity, under conditions relevant to the desired chemical process.

In the next step in our optimization process, we use our proprietary bioinformatics software to analyze protein sequence-activity relationships. Our software and algorithms relate the screening results to the mutations and ranks the individual and interacting protein sequence mutations with regard to their degree of benefit or detriment, relative to the process parameter(s) tested. Using this information, we can create a select pool of mutational diversity in the next iteration to further the accumulation of beneficial diversity and cancel out detrimental diversity in the individual genes in the resulting library. The gene that codes for the best performing enzyme in one iteration is used as the starting gene for the next iteration of recombination and screening. As the enzymes improve over these iterations, the screening conditions are made increasingly more stringent. In this way, the protein catalyst is rapidly optimized until all in-process performance requirements have been achieved and the economic objectives for the desired process have been met.

About Codexis

We were incorporated in Delaware in January 2002 as a wholly-owned subsidiary of Maxygen, Inc. We commenced independent operations in March 2002, after licensing core enabling technology from Maxygen, Inc. Our principal offices are located at 200 Penobscot Drive, Redwood City, California 94063, and our telephone number is (650) 421-8100. Our website address is *http://www.codexis.com*. The information contained in, or that can be accessed through, our website is not part of this prospectus supplement or the accompanying prospectus.

Table of Contents

THE OFFERING

Common stock offered by us	3,750,000 shares
Common stock to be outstanding immediately after the offering	52,114,765 shares (52,677,265 shares if the underwriters exercise their option to purchase additional shares in full).
Option to purchase additional shares	We have granted the underwriters an option to purchase up to an additional 562,500 shares of our common stock. This option is exercisable, in whole or in part, for a period of 30 days from the date of the underwriting agreement between us and Jefferies LLC and Cowen and Company, LLC, as representatives of the underwriters.
Use of proceeds	We estimate that the net proceeds from this offering will be approximately $32.3 million, or approximately $37.2 million if the underwriters exercise their option to purchase additional shares in full, after deducting the underwriting discounts and commissions and estimated offering expenses payable by us. We intend to use the net proceeds from this offering for general corporate purposes, which may include, among other things, supporting the development of our product candidates, funding research and development, increasing our working capital and capital expenditures. See Use of Proceeds on page S-13.
Risk factors	You should read the Risk Factors section of this prospectus supplement and in the documents incorporated by reference in this prospectus supplement and the accompanying base prospectus for a discussion of factors to consider before deciding to purchase shares of our common stock.
Symbol on the Nasdaq Global Select Market	CDXS

The total number of shares of common stock to be outstanding after this offering is based on 48,364,765 shares of common stock outstanding as of December 31, 2017, and excludes the following, in each case as of such date:

- 4,579,038 shares of common stock issuable upon the exercise of outstanding stock options having a weighted-average exercise price of approximately $4.40 per share;

560,446 shares of common stock issuable upon vesting of outstanding restricted stock units;

597,993 shares of common stock issuable pursuant to outstanding performance stock units;

1,154,120 shares of common stock issuable pursuant to outstanding performance-based options having a weighted-average exercise price of approximately $4.60 per share; and

7,325,196 shares of common stock reserved for issuance pursuant to future awards under our 2010 Equity Incentive Award Plan, as well as any automatic increases in the number of shares of our common stock reserved for future issuance under this plan.

Unless otherwise stated, all information contained in this prospectus supplement reflects no exercise of the underwriters option to purchase additional shares.

Table of Contents

RISK FACTORS

Investing in our common stock involves a high degree of risk. You should consider carefully the risks described below and discussed under the section captioned Risk Factors contained in our Annual Report for the year ended December 31, 2017, as updated by our subsequent filings under the Securities Exchange Act of 1934, as amended (the Exchange Act), each of which is incorporated by reference in this prospectus in their entirety, together with other information in this prospectus, and the information and documents incorporated by reference in this prospectus, and any free writing prospectus that we have authorized for use in connection with this offering before you make a decision to invest in our common stock. The occurrence of any of these risks could harm our business, financial condition, results of operations and growth prospects. In such an event, the market price of our common stock could decline and you may lose all or part of your investment. Additional risks not presently known to us or that we currently deem immaterial may also affect our business operations.

Risks Relating to this Offering

Our management team may invest or spend the proceeds of this offering in ways with which you may not agree or in ways which may not yield a significant return.

Our management will have broad discretion over the use of proceeds from this offering. We intend to use the net proceeds from this offering for general corporate purposes, which may include, among other things, supporting the development of our product candidates, funding research and development, increasing our working capital and capital expenditures. However, our management will have considerable discretion in the application of the net proceeds, and you will not have the opportunity, as part of your investment decision, to evaluate the economic, financial or other information upon which we base our decisions, nor to assess whether the proceeds are used appropriately. The net proceeds may be used for corporate purposes that do not increase our operating results or enhance the value of our common stock.

You will experience immediate and substantial dilution in the net tangible book value per share of the common stock you purchase.

The price per share of our common stock being offered is higher than the net tangible book value per share of our common stock outstanding prior to this offering. As a result, investors purchasing shares of common stock in this offering will incur immediate dilution of $8.22 per share, based on the public offering price of $9.25 per share, and our as-adjusted net tangible book value as of December 31, 2017 after giving effect to this offering. For information on how the foregoing amounts were calculated, see Dilution.

This dilution is due in part to the substantially lower price paid by certain of our investors who purchased shares prior to this offering as compared to the price offered to the public in this offering, and the exercise of certain stock options granted to our employees with exercise prices lower than the price offered to the public in this offering. As a result of the dilution to investors purchasing shares in this offering, investors may receive significantly less than the purchase price paid in this offering, if anything, in the event of our liquidation.

You may experience future dilution as a result of future equity offerings.

In order to raise additional capital, we may in the future offer additional shares of our common stock or other securities convertible into or exchangeable for our common stock. We cannot assure you that we will be able to sell shares or other securities in any other offering at a price per share that is equal to or greater than the price per share paid by investors in this offering, and investors purchasing shares or other securities in the future could have rights

superior to existing stockholders. The price per share at which we sell additional shares of our common stock or other securities convertible into or exchangeable for our common stock in future transactions may be higher or lower than the price per share in this offering.

Table of Contents

Sales of a substantial number of shares of our common stock by our existing stockholders in the public market could cause our stock price to fall.

Sales of a substantial number of shares of our common stock in the public market could occur at any time. These sales, or the perception in the market that the holders of a large number of shares intend to sell shares, could reduce the market price of our common stock. We have registered and intend to continue to register shares of common stock that we may issue under our equity compensation plans. Once we register these shares, they can be freely sold in the public market upon issuance, subject to volume limitations applicable to affiliates. As of December 31, 2017, approximately 14.2 million shares of common stock that are either subject to outstanding options, restricted stock units, performance stock units or performance-based options, or reserved for future issuance under our employee benefit plans, are eligible for sale in the public market to the extent permitted by the provisions of various vesting schedules and subject to, in the case of shares issued to directors, executive officers and other affiliates, the volume limitations under Rule 144 under the Securities Act of 1933, as amended.

An active, liquid and orderly market for our common stock may not be maintained.

The trading volume of our common stock on the Nasdaq Global Select Market has been limited since our initial public offering in April 2010, and there can be no assurance that an active and liquid trading market for our common stock will be sustained. It may be difficult for stockholders to sell their shares of common stock at prices that are attractive to them, or at all. Further, an inactive market may also impair our ability to raise capital by selling shares of our common stock and may impair our ability to enter into strategic partnerships or acquire companies or products, product candidates or technologies by using our shares of common stock as consideration.

The price of our common stock may be volatile, and you may not be able to resell your shares at prices that are attractive to you.

Our stock price has been volatile. Stockholders may also be unable to sell their shares of common stock at prices that are attractive to them due to fluctuations in the market price of our common stock. Factors that could cause volatility in the market price of our common stock include, but are not limited to:

- actual or anticipated fluctuations in our financial condition and operating results;
- the position of our cash, cash equivalents and marketable securities;
- actual or anticipated changes in our growth rate relative to our competitors;
- actual or anticipated fluctuations in our competitors operating results or changes in their growth rate;
- announcements of technological innovations by us, our collaborators or our competitors;

announcements by us, our collaborators or our competitors of significant acquisitions or dispositions, strategic partnerships, joint ventures or capital commitments;

additions or losses of one or more significant pharmaceutical products;

announcements or developments regarding pharmaceutical products manufactured using our protein catalysts and intermediates;

the entry into, modification or termination of collaborative arrangements;

additions or losses of customers;

additions or departures of key management or scientific personnel;

competition from existing products or new products that may emerge;

issuance of new or updated research reports by securities or industry analysts;

fluctuations in the valuation of companies perceived by investors to be comparable to us;

disputes or other developments related to proprietary rights, including patent litigation and our ability to obtain patent protection for our technologies;

contractual disputes or litigation with our partners, customers or suppliers;

announcement or expectation of additional financing efforts;

Table of Contents

sales of our common stock by us, our insiders or our other stockholders;

share price and volume fluctuations attributable to inconsistent trading volume levels of our shares;

general market conditions in our industry; and

general economic and market conditions.

Furthermore, the stock markets have experienced extreme price and volume fluctuations that have affected and continue to affect the market prices of equity securities of many companies. These fluctuations often have been unrelated or disproportionate to the operating performance of those companies. These broad market and industry fluctuations, as well as general economic, political and market conditions such as recessions, interest rate changes or international currency fluctuations, may negatively impact the market price of shares of our common stock. In the past, companies that have experienced volatility in the market price of their stock have been subject to securities class action litigation. We may be the target of this type of litigation in the future. Securities litigation against us could result in substantial costs and divert our management s attention from other business concerns, which could seriously harm our business.

If securities or industry analysts do not publish research or reports about our business, or publish negative reports about our business, our stock price and trading volume could decline.

The trading market for our common stock will be influenced by the research and reports that securities or industry analysts publish about us or our business. We do not have any control over these analysts. If one or more of the analysts who cover us downgrade our stock or change their opinion of our stock in a negative manner, our stock price would likely decline. If one or more of these analysts cease coverage of our company or fail to regularly publish reports on us, we could lose visibility in the financial markets, which could cause our stock price or trading volume to decline.

Concentration of ownership among our existing officers, directors and principal stockholders may prevent other stockholders from influencing significant corporate decisions and depress our stock price.

Based on the number of shares outstanding as of December 31, 2017, our officers, directors and stockholders who hold at least 5% of our stock together beneficially own approximately 39% of our outstanding common stock. If these officers, directors and principal stockholders or a group of our principal stockholders act together, they will be able to exert a significant degree of influence over our management and affairs and control matters requiring stockholder approval, including the election of directors and approval of mergers or other business combination transactions. The interests of this concentration of ownership may not always coincide with our interests or the interests of other stockholders. For instance, officers, directors and principal stockholders, acting together, could cause us to enter into transactions or agreements that we would not otherwise consider. Similarly, this concentration of ownership may have the effect of delaying or preventing a change in control of our company otherwise favored by our other stockholders. As of December 31, 2017, one stockholder beneficially owned approximately 14% of our common stock.

We do not anticipate paying any cash dividends on our capital stock in the foreseeable future; therefore capital appreciation, if any, of our common stock will be your sole source of gain for the foreseeable future.

We have never declared or paid cash dividends on our capital stock, and currently do not plan to declare dividends on shares of our common stock in the foreseeable future. We expect to retain our future earnings, if any, for use in the operation and expansion of our business. The payment of cash dividends in the future, if any, will be at the discretion of our board of directors and will depend upon such factors as earnings levels, capital requirements, our overall financial condition and any other factors deemed relevant by our board of directors. In addition, the terms of our credit facility restrict our ability to pay dividends or make any other distributions on our common stock. As a result, capital appreciation, if any, of our common stock will be your sole source of gain for the foreseeable future.

Table of Contents

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus, including the documents incorporated by reference herein, and any free writing prospectus that we have authorized for use in connection with this offering contain forward-looking statements concerning our business, operations and financial performance and condition, as well as our plans, objectives and expectations for our business operations and financial performance and condition. Any statements contained herein that are not statements of historical facts may be deemed to be forward-looking statements. In some cases, you can identify forward-looking statements by terminology such as aim, anticipate, assume, believe, contemplate, continue, could, due, expect, goal, intend, may, objective, plan, predict, potential, positioned, seek, should, target, similar expressions that are predictions or indicate future events and future trends, or the negative of these terms or other comparable terminology. These forward-looking statements include, but are not limited to: any projections of financial information; any statements about historical results that may suggest trends for our business; any statements of the plans, strategies and objectives of management for future operations; any statements of expectation or belief regarding future events, technology developments, our products, product sales, product candidates, partnerships, expenses, liquidity, cash flow, market growth rates or enforceability of our intellectual property rights and related litigation expenses; and any statements of assumptions underlying any of the foregoing. You should read this prospectus and the documents incorporated by reference herein completely and with the understanding that our actual results may differ materially from what we expect as expressed or implied by our forward-looking statements. In light of the significant risks and uncertainties to which our forward-looking statements are subject, you should not place undue reliance on or regard these statements as a representation or warranty by us or any other person that we will achieve our objectives and plans in any specified timeframe, or at all. We discuss many of these risks in greater detail in the documents incorporated by reference herein, including under the heading Risk Factors. These forward-looking statements represent our estimates and assumptions only as of the dates of this prospectus supplement, the accompanying base prospectus and the documents incorporated by reference herein and therein, and any free writing prospectus, as applicable, regardless of the time of delivery of this prospectus or any sale of our common stock and, except as required by law, we undertake no obligation to update or revise publicly any forward-looking statements, whether as a result of new information, future events or otherwise after the date of this prospectus supplement. For all forward-looking statements, we claim the protection of the safe harbor for forward-looking statements contained in the Private Securities Litigation Reform Act of 1995.

Table of Contents

USE OF PROCEEDS

We estimate that the net proceeds from the sale of 3,750,000 shares of common stock in this offering will be approximately $32.3 million, based on the public offering price of $9.25 per share, after deducting the underwriting discounts and commissions and estimated offering expenses payable by us. If the underwriters exercise their option to purchase an additional 562,500 shares in full, we estimate that net proceeds will be approximately $37.2 million after deducting the underwriting discounts and commissions and estimated offering expenses payable by us.

We intend to use the net proceeds from this offering for general corporate purposes, which may include, among other things, supporting the development of our product candidates, funding research and development, increasing our working capital and capital expenditures.

The amounts and timing of our actual expenditures will depend on numerous factors, including our development efforts with respect to our product candidates, as well as the amount of cash used in our operations. We therefore cannot estimate with certainty the amount of net proceeds to be used for the purposes described above. We may find it necessary or advisable to use the net proceeds for other purposes, and we will have broad discretion in the application of the net proceeds. Pending the uses described above, we plan to invest the net proceeds from this offering in short-term, investment-grade, interest-bearing securities.

Table of Contents

CAPITALIZATION

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