

CareDx, Inc.
Form S-1
September 01, 2017
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As filed with the Securities and Exchange Commission on September 1, 2017

Registration No. 333-

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, DC 20549

FORM S-1
REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933

CAREDX, INC.

(Exact name of Registrant as specified in its charter)

Delaware
(State or other jurisdiction of
incorporation or organization)

8071
(Primary Standard Industrial
Classification Code Number)

94-3316839
(I.R.S. Employer
Identification Number)

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3260 Bayshore Boulevard

Brisbane, California 94005

(415) 287-2300

(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

Peter Maag

Chief Executive Officer

CareDx, Inc.

3260 Bayshore Boulevard

Brisbane, California 94005

(415) 287-2300

(Name, address, including zip code, and telephone number, including area code, of agent for service)

Copies to:

Jeffrey T. Hartlin, Esq.

Paul Hastings LLP

1117 S. California Avenue

Palo Alto, California 94304

(650) 320-1804

Approximate date of commencement of proposed sale to the public: As soon as practicable after the effective date of this registration statement.

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, check the following box.

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

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

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

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

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

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

CALCULATION OF REGISTRATION FEE

Title of Each Class of	Amount	Proposed Maximum Offering Price	Proposed Maximum Aggregate Offering Price(2)	Amount of Registration Fee
Securities to be Registered	Registered(1)	Per Share(2)	Offering Price(2)	Registration Fee
Common Stock, par value \$0.001 per share	3,450,000	\$2.72	\$9,384,000	\$1,087.61

- (1) Includes 450,000 shares of common stock that the underwriters have the option to purchase to cover over-allotments.
- (2) Estimated solely for the purpose of calculating the registration fee pursuant to Rule 457(a) under the Securities Act.

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

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The information in this prospectus is not complete and may be changed. These securities may not be sold until the registration statement filed with the Securities and Exchange Commission is effective. This prospectus is not an offer to sell these securities and it is not soliciting an offer to buy these securities in any state where the offer or sale is not permitted.

Subject to Completion, dated September 1, 2017

PROSPECTUS

CareDx, Inc.

3,000,000 Shares of Common Stock

We are offering 3,000,000 shares of our common stock in this offering.

Our common stock is currently listed on the NASDAQ Global Market under the symbol **CDNA**. On August 31, 2017, the last reported sales price for our common stock on the NASDAQ Global Market was \$2.86 per share.

We are an emerging growth company as that term is used in the Jumpstart Our Business Startups Act of 2012, or the JOBS Act, and, as such, we have elected to comply with certain reduced public company reporting requirements for this prospectus and future filings with the Securities and Exchange Commission.

*Investing in our common stock involves a high degree of risk. You should review carefully the risks and uncertainties described under the heading **Risk Factors** contained on page 5 of this prospectus and in any applicable free writing prospectuses, and under similar headings in the documents that are incorporated by reference into this prospectus.*

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

(1) See Underwriting beginning on page 15 of this for a description of the compensation to be received by the underwriters.

We have granted the underwriters a 30-day option to purchase up to 450,000 additional shares of common stock from us at the public offering price, less underwriting discounts and commissions, to cover over-allotments, if any.

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

The underwriters expect to deliver the common stock to the investors in book-entry form through the facilities of The Depository Trust Company on or about _____, 2017.

The date of this prospectus is _____, 2017.

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ABOUT THIS PROSPECTUS

You should rely only on the information we have provided or incorporated by reference into this prospectus and any related free writing prospectus. We have not authorized anyone to provide you with information different from that contained in this prospectus or any related free writing prospectus. No dealer, salesperson or other person is authorized to give any information or to represent anything not contained in this prospectus or any related free writing prospectus. You must not rely on any unauthorized information or representation. This prospectus is an offer to sell only the Shares offered hereby, but only under circumstances and in jurisdictions where it is lawful to do so. You should assume that the information in this prospectus or any related free writing prospectus is accurate only as of the date on the front of the document and that any information we have incorporated by reference is accurate only as of the date of the document incorporated by reference, regardless of the time of delivery of this prospectus or any sale of a security.

We may authorize one or more free writing prospectuses to be provided to you that may contain material information relating to that offering. We may also use any related free writing prospectus to add, update or change any of the information contained in this prospectus or in documents we have incorporated by reference. This prospectus, together with any related free writing prospectuses and the documents incorporated by reference into this prospectus, includes all material information relating to this offering. Please carefully read both this prospectus together with the additional information described below under **Important Information Incorporated by Reference** .

Table of Contents**SUMMARY**

This summary highlights selected information contained elsewhere in this prospectus or incorporated by reference in this prospectus, and does not contain all of the information that you need to consider in making your investment decision. You should carefully read the entire prospectus and any related free writing prospectus, including the risks of investing in our Common Stock discussed under the heading Risk Factors contained in this prospectus and any related free writing prospectus, and under similar headings in the other documents that are incorporated by reference into this prospectus. You should also carefully read the information incorporated by reference into this prospectus, including our financial statements, and the exhibits to the registration statement of which this prospectus forms a part. Unless otherwise mentioned or unless the context requires otherwise, all references in this prospectus to CareDx, the Company, we, us, our or similar references mean CareDx, Inc. and its consolidated subsidiaries.

CareDx, Inc.

We are a global transplant diagnostics company with product offerings along the pre- and post-transplant continuum. We focus on discovery, development and commercialization of clinically differentiated, high-value diagnostic surveillance solutions for transplant patients. In post-transplant diagnostics, we offer AlloMap[®], which is a heart transplant molecular test, or AlloMap. In pre-transplant diagnostics, we offer high quality products that increase the chance of successful transplants by facilitating a better match between a donor and a recipient of stem cells and organs.

AlloMap is a gene expression test that helps clinicians monitor and identify heart transplant recipients with stable graft function who have a low probability of moderate to severe acute cellular rejection. Since 2008, we have sought to expand the adoption and utilization of our AlloMap solution through ongoing studies to substantiate the clinical utility and actionability of AlloMap, secure positive reimbursement decisions for AlloMap from large private and public payers, develop and enhance our relationships with key members of the transplant community, including opinion leaders at major transplant centers, and explore opportunities and technologies for the development of additional solutions for post-transplant surveillance. We believe the use of AlloMap, in conjunction with other clinical indicators, can help healthcare providers and their patients better manage long-term care following a heart transplant. In particular, we believe AlloMap can improve patient care by helping healthcare providers avoid the use of unnecessary, invasive surveillance biopsies and determine the appropriate dosage levels of immunosuppressants. AlloMap has received 510(k) clearance from the U.S. Food and Drug Administration, or the FDA, for marketing and sale as a test to aid in the identification of recipients with a low probability of moderate or severe acute cellular rejection. A 510(k) submission is a premarketing submission made to the FDA. Clearance may be granted by the FDA if it finds the device or test provides satisfactory evidence pertaining to the claimed intended uses and indications for the device or test. We are also pursuing the development of additional products for transplant monitoring using a variety of technologies, including AlloSure[®], our proprietary next-generation sequencing-based test to detect donor-derived cell-free DNA, or dd-cfDNA, after transplantation. Through the acquisition of ImmuMetrix, Inc., a privately held development-stage company working on dd-cfDNA-based solutions in transplantation and other fields, we added to our existing know-how, expertise, and intellectual property the ability to apply dd-cfDNA technology to the surveillance of transplant recipients, which has contributed to the development of AlloSure.

With the acquisition of CareDx International AB, formerly Allenex AB, on April 14, 2016, we develop, manufacture, market and sell high quality products that increase the chance of successful transplants by facilitating a better match between a donor and a recipient of stem cells and organs. Olerup SSP[®] is used to type HLA alleles based on the sequence specific primer technology and has a market in Europe and selected other markets for pre-transplant solutions. We also offer Olerup XM-ONE[®], a standardized test that identifies a patient's antigens against HLA Class I or Class II, as well as antibodies against a donor's endothelium. This cross-match test has primarily been used prior to

kidney transplants. With the acquisition of the business assets of Conexio Genomics Pty Ltd on January 20, 2017, we offer a complete product range for sequence-based typing of HLA alleles. Olerup SBT Resolver™ is a test kit for sequence based HLA typing, while Assign SBT™ is the companion software for sequence analysis. In 2014, Olerup began active development of a new HLA typing product, Olerup QTYPE® that uses real-time polymerase chain reaction methodology. Olerup QTYPE® was commercially launched at the end of September 2016.

For a complete description of our business, financial condition, results of operations and other important information, we refer you to our filings with the Securities and Exchange Commission, or the SEC, that are incorporated by reference in this prospectus, including our Annual Report on Form 10-K for the year ended December 31, 2016. For instructions on how to find copies of these documents, see [Where You Can Find More Information](#) .

Corporate Information

We were originally incorporated in Delaware in December 1998 under the name Hippocratic Engineering, Inc. In April 1999, we changed our name to BioCardia, Inc., and in June 2002, again we changed our name, this time to Expression Diagnostics, Inc. In July 2007, we changed our name to XDx, Inc. and in March 2014, we most recently changed our name to CareDx, Inc. Our principal executive offices are located at 3260 Bayshore Boulevard, Brisbane, California 94005 and our telephone number is (415) 287-2300.

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Implications of Being an Emerging Growth Company

We are an emerging growth company, as defined in the Jumpstart Our Business Startups Act of 2012. We will remain an emerging growth company until the earlier of (1) the beginning of the first fiscal year following the fifth anniversary of our initial public offering, or January 1, 2020, (2) the beginning of the first fiscal year after our annual gross revenue is \$1.07 billion (subject to adjustment for inflation) or more, (3) the date on which we have, during the previous three-year period, issued more than \$1.0 billion in non-convertible debt securities and (4) as of the end of any fiscal year in which the market value of our Common Stock held by non-affiliates exceeded \$700 million as of the end of the second quarter of that fiscal year.

For as long as we remain an emerging growth company, we may take advantage of certain exemptions from various reporting requirements that are applicable to public companies that are not emerging growth companies including, but not limited to, not being required to comply with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act of 2002, as amended, reduced disclosure obligations regarding executive compensation and financial statements in our periodic reports and proxy statements, and exemptions from the requirements of holding a nonbinding advisory vote to approve executive compensation and shareholder approval of any golden parachute payments not previously approved. We will take advantage of these reporting exemptions until we are no longer an emerging growth company.

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THE OFFERING

Common stock offered by us	3,000,000 shares
Common stock to be outstanding after this offering	24,421,016 shares
Option to purchase additional shares	We have granted the underwriters a 30-day option to purchase up to 450,000 additional shares of common stock from us at the public offering price, less underwriting discounts and commissions, to cover over-allotments, if any.
Use of proceeds	We estimate the net proceeds from this offering will be approximately \$ million, after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us. We intend to use the net proceeds from this offering for working capital and general corporate purposes. See the section of this prospectus entitled Use of Proceeds on page 9 for a more complete description of the intended use of the net proceeds from this offering.
Risk Factors	Investing in our securities involves a high degree of risk. You should read the section of this prospectus entitled Risk Factors beginning on page 5 for a discussion of factors to consider carefully before deciding to invest in shares of our common stock.
Dividend Policy	Currently, we do not anticipate paying cash dividends.

NASDAQ Global Market Symbol CDNA

The number of shares of common stock that will be outstanding after this offering is based on 21,421,016 shares of common stock outstanding as of June 30, 2017, and excludes the following:

353,807 shares of our common stock issuable upon the vesting of restricted stock units outstanding under our equity incentive plans as of June 30, 2017, with a weighted-average grant date fair value of \$4.16 per share;

1,898,390 shares of our common stock issuable upon the exercise of stock options outstanding under equity incentive plans as of June 30, 2017, at a weighted-average exercise price of \$5.46 per share;

31,150 shares of our common stock reserved for future issuance under our 2016 Inducement Plan as of June 30, 2017;

413,717 shares of our common stock reserved for future issuance under our 2014 Equity Incentive Plan as of June 30, 2017;

387,017 shares of our common stock reserved for future issuance under our 2014 Employee Stock Purchase Plan as of June 30, 2017;

4,509,926 shares of our common stock issuable upon the exercise of outstanding warrants as of June 30, 2017, at a weighted-average exercise price of \$5.34 per share;

1,791,755 shares of our common stock that we may issue, subject to approval of our stockholders, to Midroc Invest AB, FastPartner AB and Xenella Holding AB, the former majority shareholders of CareDx International AB (formerly Allenex AB), or the Former Majority Shareholders; and

any shares of our common stock issuable upon the conversion or redemption of those certain debentures we issued to certain affiliates of JGB Collateral LLC, or the Debentures, on March 15, 2017.

In addition, under the terms of the warrants to purchase an aggregate of 2,978,087 shares of common stock issued by us in April 2016 and June 2016 and outstanding as of August 9, 2017, upon the closing of this offering, the warrant exercise price will be adjusted to the price to the public paid by investors in this offering if the offering price in this offering is below \$1.12 per share. Notwithstanding any such adjustment to the warrant exercise price, the number of warrants outstanding will not change as a result of this offering.

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Under the terms of the warrants to purchase an aggregate of 1,296,679 shares of common stock issued by us on March 15, 2017 and outstanding as of August 9, 2017, upon the closing of this offering, the warrant exercise price will be adjusted downward and the number of shares issuable upon exercise of the warrants will be adjusted upward based on the aggregate amount paid by investors in this offering if the offering price in this offering is below \$4.82 per share.

Further, under the terms of the Debentures, upon the closing of this offering, the conversion price of the Debentures will be adjusted downward based on the aggregate amount paid by investors in this offering if the offering price in this offering is below \$4.40 per share.

Except as otherwise indicated, all information in this prospectus assumes:

no exercise of options or warrants described above after June 30, 2017;

no redemption or conversion of the Debentures for shares of common stock; and

no exercise by the underwriters of their option to purchase additional shares to cover over-allotments, if any.

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Investing in shares of our common stock involves a high degree of risk. Before making an investment decision, you should carefully consider the risks described below and under **Risk Factors** in our most recent Annual Report on Form 10-K, or any updates in our Quarterly Reports on Form 10-Q, together with all of the other information appearing in or incorporated by reference into this prospectus, before deciding whether to purchase any of the common stock being offered. Our business, financial condition or results of operations could be materially adversely affected by any of these risks. The trading price of shares of our common stock could decline due to any of these risks, and you may lose all or part of your investment.

Risks Related to this Offering

Purchasers of common stock in this offering will experience immediate and substantial dilution in the book value of their investment. You may experience further dilution upon exercise of our outstanding options and warrants.

The public offering price per share of common stock in this offering is substantially higher than the net tangible book value per share of our common stock before giving effect to this offering. Accordingly, if you purchase common stock in this offering, you will incur immediate substantial dilution of approximately \$ per share, representing the difference between the public offering price per share of common stock and our as adjusted net tangible book value as of June 30, 2017. In addition, if outstanding options or warrants are exercised, you could experience further dilution. For a further description of the dilution that you will experience immediately after this offering, see the section in this prospectus entitled **Dilution**.

We will require additional financing.

In connection with the acquisition of CareDx International AB (formerly Allenex AB), or Allenex, we entered into conditional share purchase agreements, as amended, or the Conditional Share Purchase Agreements, with each of Midroc Invest AB, FastPartner AB and Xenella Holding AB, the former majority shareholders of Allenex, or the Former Majority Shareholders. Under the terms of the Conditional Share Purchase Agreements, we are required to pay to the Former Majority Shareholders approximately \$5.7 million in deferred purchase price consideration by no later than March 31, 2017. The date by which the deferred purchase consideration was due to the Former Majority Shareholders was subsequently extended to July 1, 2017. In addition, interest began accruing on our obligations to the Former Majority Shareholders at a rate of 10.0% per year commencing on January 1, 2017 and will continue to accrue until the date the obligations are paid in full.

On July 1, 2017, the Conditional Share Purchase Agreements were amended in order to, among other things, (1) convert approximately \$1.1 million of the deferred obligation into shares of our common stock at a price per share equal to \$1.12, (2) make an immediate cash payment of approximately \$0.5 million to the Former Majority Shareholders, (3) extend the due date for payment of the remainder of the deferred purchase consideration to March 31, 2019; provided that approximately \$2.0 million of the deferred purchase consideration shall become payable at December 31, 2017, unless earlier converted into common stock, and (4) provide that interest will begin to accrue at 10% per annum commencing on July 1, 2017.

On March 15, 2017, we completed a convertible debt financing with institutional investors for net proceeds of \$24.0 million. The proceeds from the convertible debt facility were used to pay off our \$11.2 million debt facility with East West Bank and we are required to maintain restricted cash of \$9.4 million, which is restricted as to withdrawal and is not available to us to fund our operations or repay indebtedness. We intend to use the remaining net proceeds for continuing operations and to fund the commercialization of AlloSure. The Debentures mature on February 28, 2020,

accrue interest at 9.5% per year and are convertible into shares of our common stock at a price of \$4.40 per share, or the Conversion Price, which is subject to change upon the occurrence of certain transactions, at the holder's option. The Debentures include warrants to purchase up to an aggregate of 1,296,679 shares of our common stock. The warrants have an exercise price of \$4.82 (subject to adjustment in certain circumstances), become exercisable commencing on September 16, 2017 and expire on September 15, 2022. After September 1, 2017, upon the satisfaction of certain conditions, including the volume weighted average price of our common stock exceeding 250% of the Conversion Price for twenty consecutive trading days, we can require that the Debentures be converted into shares of our common stock, subject to certain limitations. Commencing on March 1, 2018, each of the holders of the Debentures will have the right, at its option, to require us to redeem up to \$937,500 of the outstanding principal amount of its Debenture per month. We will be required to promptly, but in any event no more than one trading day after the holder delivers a redemption notice to us, pay the applicable redemption amount in cash or, at our election and subject to certain conditions, in shares of our common stock. If we elect to pay the redemption amount in shares of our common stock, then the shares will be delivered based on a price equal to the lowest of (a) 88% of the average of the three lowest volume weighted average prices of our common stock over the prior 20 trading days, (b) 88% of the prior trading day's volume weighted average price, or (c) the Conversion Price.

After either a Change of Control Transaction, as defined in the Debentures, or February 28, 2018, subject to the satisfaction of certain conditions, we may redeem all of the then outstanding principal amount of the Debentures for cash by paying the outstanding principal balance, accrued and unpaid interest, and a payment premium. The payment premium will be calculated by

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multiplying the outstanding balance and the following percentage: (i) 15% if the Debentures are prepaid on or prior to March 1, 2018, (ii) 8% if the Debentures are prepaid after March 1, 2018 but prior to March 1, 2019, and (iii) 5% if the Debentures are prepaid on or after March 1, 2019. We may only opt for payment in shares of our common stock if certain conditions are met, and any repayments made through the issuance of common stock will result in dilution to our existing stockholders. Our obligations under the Debentures can be accelerated upon the occurrence of certain events of default as specified in the agreement, including any failure to deliver cash or shares if any holder of the Debentures elects to require us to redeem a Debenture. In the event of default and acceleration of our obligations, we would be required to pay (i) 115% of all amounts of principal and interest then outstanding under the Debentures in cash if the Debenture is accelerated on or prior to March 1, 2018, (ii) 108% of all amounts of principal and interest then outstanding under the Debentures in cash if the Debenture is accelerated after March 1, 2018, but prior to March 1, 2019, and (iii) 105% of all amounts of principal and interest then outstanding under the Debentures in cash if the Debenture is accelerated on or after March 1, 2019.

Notwithstanding the prior transactions, we will require additional financing and/or refinancing of our current debt obligations to fund working capital, repay debt and to pay our obligations, including our obligations under a term loan facility, or the Term Loan Facility, with Danske Bank A/B, or Danske, and our obligations to FastPartner AB and Mohammed Al Amoudi under our outstanding promissory notes with such parties. Our obligations under the promissory notes are secured by a pledge of shares of Allenex. We may pursue financing and refinancing opportunities in both the private and public debt and equity markets through sales of debt or equity securities. Additional financing might include one or more offerings and one or more of a combination of discounted or at-the-market common stock, securities convertible into or exchangeable for shares of common stock, warrants or other rights to purchase or acquire common stock.

We believe that our cash and cash equivalents of \$9.1 million at June 30, 2017 and expected revenues will not be sufficient to allow us to fund our current operations beyond March 31, 2018. As a result of our obligations and lack of immediately available financial resources, there is uncertainty regarding our ability to maintain liquidity sufficient to operate our business effectively, which raises substantial doubt about our ability to continue as a going concern. If we are unsuccessful in our efforts to raise outside financing, and/or refinance our Allenex indebtedness in the near term, we will be required to significantly reduce or cease operations. The report of our independent registered public accounting firm on our audited financial statements as of December 31, 2016 and 2015 and for each of the three years in the period ended December 31, 2016, included in our Annual Report on Form 10-K for the year ended December 31, 2016, included a going concern explanatory paragraph indicating that our recurring losses from operations and need for additional capital raise substantial doubt about our ability to continue as a going concern.

Our ability to raise additional financing for working capital and to refinance our indebtedness will depend, in part, on the conditions of the capital markets, restrictions on the issuance of securities under the regulations implemented by the SEC and The NASDAQ Stock Market LLC and current stock valuation. Additional capital may not be available on attractive terms, or at all. Raising additional funds by issuing equity securities would result in dilution to our existing stockholders. Any equity securities issued also may provide for rights, preferences or privileges senior to those of holders of our common stock. If we raise additional funds by issuing debt securities, these debt securities would have rights, preferences and privileges senior to those of holders of our common stock. Any refinancing of our indebtedness could be at significantly higher interest rates, require additional restrictive financial and operational covenants, require us to incur significant transaction fees and also require that we issue warrants or other equity securities, or issue convertible securities. Any debt arrangement we enter into may contain restrictive covenants, including restrictions on the ability of us and our subsidiaries to incur additional debt, grant liens, make investments, including acquisitions and pay dividends and distributions. These restrictions and covenants may restrict our ability to finance our operations and engage in, expand, or otherwise pursue our business activities and strategies. Our ability to comply with these covenants and restrictions may be affected by events beyond our control, and breaches of these

covenants and restrictions could result in a default and an acceleration of our obligations under a debt agreement. If we raise additional funds through collaborations and licensing arrangements, we might be required to relinquish significant rights to our technologies or our solutions under development, or grant licenses on terms that are not favorable to us, which could lower the economic value of those programs to us. If adequate funds are not available, we would have to curtail our research and development and other activities and this would adversely affect our business and future prospects.

Future sales of our common stock, or the perception that such future sales may occur, may cause our stock price to decline.

Sales of a substantial number of shares of our common stock in the public market, or the perception that these sales could occur, following this offering could cause the market price of our common stock to decline. A substantial majority of the outstanding shares of our common stock are, and the shares of common stock sold in this offering upon issuance will be, freely tradable without restriction or further registration under the Securities Act of 1933, as amended. We also have filed resale registration statements covering (i) the resale of up to 8,534,261 shares of common stock by selling stockholders, including stockholders who acquired common stock in connection with private placements pursuant to which we financed our acquisition of Allenex, (ii) the resale of up to 2,814,299 shares of common stock by the Former Majority Shareholders, who acquired 1,022,544 of such shares from us on July 3, 2017, and may, subject to approval of our stockholders, acquire 1,791,755 of such shares pursuant to the Third Amendments to Conditional Share Purchase Agreements and Conversion Agreements entered into by and between us and the Former Majority Shareholders, and (iii) the resale of up to 8,250,000 shares of common stock by certain affiliates JGB Collateral LLC, who may acquire such shares pursuant to the terms of the Debentures and associated warrants.

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We have broad discretion to determine how to use the funds raised in this offering, and may use them in ways that may not enhance our operating results or the price of our common stock.

Our management will have broad discretion over the use of proceeds from this offering, and we could spend the proceeds from this offering in ways our stockholders may not agree with or that do not yield a favorable return, if at all. We intend to use the net proceeds from this offering for working capital and general corporate purposes. However, our use of these proceeds may differ substantially from our current plans. If we do not invest or apply the proceeds from this offering in ways that improve our operating results, we may fail to achieve expected financial results, which could cause our stock price to decline.

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DISCLOSURE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus and the documents incorporated by reference into this prospectus may contain forward-looking statements 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, about the Company and its subsidiaries. These forward-looking statements are intended to be covered by the safe harbor for forward-looking statements provided by the Private Securities Litigation Reform Act of 1995. Forward-looking statements are not statements of historical fact, and can be identified by the use of forward-looking terminology such as believes, expects, may, will, could, should, projects, plans, goal, targets, potential, estimates, pro forma, anticipates or the negative thereof or comparable terminology. Forward-looking statements include discussions of strategy, financial projections, guidance and estimates (including their underlying assumptions), statements regarding plans, objectives, expectations or consequences of various transactions, and statements about the future performance, operations, products and services of the Company and its subsidiaries. We caution our stockholders and other readers not to place undue reliance on such statements.

You should read this prospectus and the documents incorporated by reference completely and with the understanding that our actual future results may be materially different from what we currently expect. Our business and operations are and will be subject to a variety of risks, uncertainties and other factors. Consequently, actual results and experience may materially differ from those contained in any forward-looking statements. Such risks, uncertainties and other factors that could cause actual results and experience to differ from those projected include, but are not limited to, the risk factors set forth in Part I Item 1A, Risk Factors, in our Annual Report on Form 10-K for the year ended December 31, 2016, as filed with the SEC on April 21, 2017, and elsewhere in the documents incorporated by reference into this prospectus.

You should assume that the information appearing in this prospectus, any related free writing prospectus and any document incorporated herein by reference is accurate as of its date only. Because the risk factors referred to above could cause actual results or outcomes to differ materially from those expressed in any forward-looking statements made by us or on our behalf, you should not place undue reliance on any forward-looking statements. Further, any forward-looking statement speaks only as of the date on which it is made. New factors emerge from time to time, and it is not possible for us to predict which factors will arise. In addition, we cannot assess the impact of each factor on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements. All written or oral forward-looking statements attributable to us or any person acting on our behalf made after the date of this prospectus are expressly qualified in their entirety by the risk factors and cautionary statements contained in and incorporated by reference into this prospectus. Unless legally required, we do not undertake any obligation to release publicly any revisions to such forward-looking statements to reflect events or circumstances after the date of this prospectus or to reflect the occurrence of unanticipated events.

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USE OF PROCEEDS

We estimate that the net proceeds from the sale of the common stock in this offering will be approximately \$ million, or approximately \$ million if the underwriters exercise their option to purchase additional shares to cover over-allotments, if any, after deducting underwriting discounts and commissions and estimated offering expenses payable by us.

Each \$1.00 increase or decrease in the assumed public offering price of \$ per share of common stock, the last reported sale price of our common stock on the NASDAQ Global Market on , 2017, would increase or decrease the net proceeds from this offering by approximately \$ million, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same, after deducting underwriting discounts and commissions and estimated offering expenses payable by us. We may also increase or decrease the number of shares of common stock we are offering. Each increase (decrease) of 1,000,000 shares in the number of shares of common stock we are offering would increase (decrease) the net proceeds to us from this offering by approximately \$ million, assuming that the assumed public offering price remains the same, after deducting underwriting discounts and commissions and estimated offering expenses payable by us.

We intend to use the net proceeds from this offering for working capital and general corporate purposes.

Our expected use of the net proceeds from this offering represents our current intentions based upon our present plans and business condition. As of the date of this prospectus, we cannot predict with complete certainty all of the particular uses for the net proceeds to be received upon the completion of this offering or the actual amounts that we will spend on the uses set forth above.

Our management will have broad discretion in the application of the net proceeds in the category of other working capital and general corporate purposes. For example, if we identify opportunities that we believe are in the best interests of our stockholders, we may use a portion of the net proceeds from this offering to acquire, invest in or license complementary products, technologies or businesses, although we have no current understandings, agreements or commitments to do so.

Pending use of the proceeds from this offering as described above, we intend to invest the net proceeds of this offering in short-term, interest-bearing, investment-grade securities or certificates of deposit.

Table of Contents**PRICE RANGE OF OUR COMMON STOCK**

Our common stock is traded on the NASDAQ Global Market under the symbol CDNA. The following table sets forth the high and low sales prices per share of our common stock, as reported on the NASDAQ Global Market, for the periods indicated:

2015		
First Quarter	\$ 7.66	\$ 5.35
Second Quarter	\$ 7.10	\$ 4.60
Third Quarter	\$ 8.00	\$ 3.70
Fourth Quarter	\$ 6.87	\$ 3.85
2016		
First Quarter	\$ 6.84	\$ 4.0701
Second Quarter	\$ 6.08	\$ 4.01
Third Quarter	\$ 5.0575	\$ 3.28
Fourth Quarter	\$ 4.076	\$ 2.5
2017		
First Quarter	\$ 2.90	\$ 1.35
Second Quarter	\$ 1.66	\$ 0.76
Third Quarter (through August 31, 2017)	\$ 3.60	\$ 1.05

The last reported sale price for our common stock on the NASDAQ Global Market on August 31, 2017 was \$2.86. As of August 9, 2017, we had approximately 155 holders of record of our common stock. The actual number of stockholders is greater than this number of holders of record and includes stockholders who are beneficial owners but whose shares are held in street name by brokers and other nominees. This number of holders of record also does not include stockholders whose shares may be held in trust by other entities.

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DIVIDEND POLICY

We have never declared or paid cash dividends on our common stock, and currently do not have any plans to do so in the foreseeable future. We expect to retain our future earnings, if any, for use in the operation and expansion of our business. Moreover, our Debentures and related documents with JGB Collateral LLC and certain of its affiliates and our term loan facility with Danske Bank A/S prohibit us from paying dividends without the respective lender's prior consent, and we may in the future become subject to additional contractual restrictions on, or prohibitions against, the payment of dividends. Subject to the foregoing, 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.

Table of Contents**CAPITALIZATION**

The following table sets forth our cash and cash equivalents and our capitalization as of June 30, 2017 on an actual basis and on an as adjusted basis to give effect to our issuance and sale of 3,000,000 shares of common stock at an assumed public offering price of \$ _____ per share of common stock, the last reported sale price of our common stock on the NASDAQ Global Market on 2017, after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us, and the application of the estimated net proceeds of this offering as described under Use of Proceeds. This table should be read in conjunction with Management's Discussion and Analysis of Results of Operations and Financial Condition and the consolidated financial statements and notes thereto included in our Quarterly Report on Form 10-Q for the quarter ended June 30, 2017, which is incorporated by reference into this prospectus.

	As of June 30, 2017	
	Actual	As Adjusted
	(unaudited)	
Cash and cash equivalents	\$ 9,104	\$
Long-term debt, including current portion	33,890	
Stockholders' equity:		
Preferred stock, \$0.001 par value, 10,000,000 shares authorized and no shares issued and outstanding, actual and as adjusted		
Common stock, \$0.001 par value, 100,000,000 shares authorized, actual and as adjusted, 21,421,016 shares issued and outstanding, actual; and 24,421,016 shares issued and outstanding, as adjusted	21	
Additional paid-in capital	236,617	
Accumulated other comprehensive loss	(2,724)	
Accumulated deficit	(222,083)	
Total CareDx, Inc. stockholders' equity	11,831	
Noncontrolling interest	155	
Total stockholders' equity	11,986	
Total capitalization	\$ 45,876	\$

The above table excludes:

353,807 shares of our common stock issuable upon the vesting of restricted stock units outstanding under our equity incentive plans as of June 30, 2017, with a weighted-average grant date fair value of \$4.16 per

share;

1,898,390 shares of our common stock issuable upon the exercise of stock options outstanding under equity incentive plans as of June 30, 2017, at a weighted-average exercise price of \$5.46 per share;

31,150 shares of our common stock reserved for future issuance under our 2016 Inducement Plan as of June 30, 2017;

413,717 shares of our common stock reserved for future issuance under our 2014 Equity Incentive Plan as of June 30, 2017;

387,017 shares of our common stock reserved for future issuance under our 2014 Employee Stock Purchase Plan as of June 30, 2017;

4,509,926 shares of our common stock issuable upon the exercise of outstanding warrants as of June 30, 2017, at a weighted-average exercise price of \$5.34 per share;

1,791,755 shares of our common stock that we may issue, subject to approval of our stockholders, to the Former Majority Shareholders; and

any shares of our common stock issuable upon the conversion or redemption of the Debentures.

In addition, under the terms of the warrants to purchase an aggregate of 2,978,087 shares of common stock issued by us in April 2016 and June 2016 and outstanding as of August 9, 2017, upon the closing of this offering, the warrant exercise price will be adjusted to the price to the public paid by investors in this offering if the offering price in this offering is below \$1.12 per share. Notwithstanding any such adjustment to the warrant exercise price, the number of warrants outstanding will not change as a result of this offering.

Under the terms of the warrants to purchase an aggregate of 1,296,679 shares of common stock issued by us on March 15, 2017 and outstanding as of August 9, 2017, upon the closing of this offering, the warrant exercise price will be adjusted downward and the number of shares issuable upon exercise of the warrants will be adjusted upward based on the aggregate amount paid by investors in this offering if the offering price in this offering is below \$4.82 per share.

Further, under the terms of the Debentures, upon the closing of this offering, the conversion price of the Debentures will be adjusted downward based on the aggregate amount paid by investors in this offering if the offering price in this offering is below \$4.40 per share.

Table of Contents**DILUTION**

Purchasers of common stock in this offering will experience immediate dilution to the extent of the difference between the public offering price per share of common stock and the net tangible book value per share of common stock immediately after this offering.

Our net tangible book value as of June 30, 2017 was approximately \$(33.8) million, or \$(1.58) per share of common stock. Net tangible book value per share is determined by dividing the net of total tangible assets less total liabilities, by the aggregate number of shares of common stock outstanding as of June 30, 2017. After giving effect to the sale by us of 3,000,000 shares of common stock at an assumed public offering price of \$ per share of common stock, the last reported sale price of our common stock on the NASDAQ Global Market on 2017, and after deducting the underwriting discounts and commissions and estimated offering expenses, our net tangible book value as of June 30, 2017 would have been approximately \$ million, or \$ per share of common stock. This represents an immediate increase in net tangible book value of \$ per share to our existing stockholders and an immediate dilution of \$ per share of common stock issued to the new investors purchasing securities in this offering.

The following table illustrates this per share dilution:

Public offering price per share of common stock		\$
Net tangible book value per share as of June 30, 2017		\$(1.58)
Increase in net tangible book value per share attributable to this offering		\$
Net tangible book value per share after this offering		\$
Dilution per share to investors participating in this offering		\$

Each \$1.00 increase or decrease in the assumed public offering price of \$ per share of common stock, the last reported sale price of our common stock on the NASDAQ Global Market on , 2017, would increase or decrease the dilution per common share to new investors purchasing shares of common stock in this offering by \$ per share, assuming that the number of shares of common stock offered by us, as set forth on the cover page of this prospectus, remains the same, and after deducting underwriting discounts and commissions and estimated offering expenses payable by us. An increase or decrease of 1.0 million in the number of shares offered by us would increase or decrease the dilution to new investors by \$ and \$ per share, respectively, assuming a public offering price of \$ per share of common stock, the last reported sale price of our common stock on the Nasdaq Global Market on , 2017, after deducting underwriting discounts and commissions and estimated offering expenses payable by us.

We may also increase or decrease the number of shares of common stock we are offering. An increase of 1,000,000 shares in the number of shares of common stock we are offering would increase our as adjusted net tangible book value by \$ per share and decrease the dilution to new investors in this offering by \$ per share, assuming that the assumed public offering price remains the same, and after deducting the estimated underwriting discounts and commissions and the estimated offering expenses payable by us. Similarly, a decrease of 1,000,000 shares in the number of shares of common stock we are offering would decrease our as adjusted net tangible book value by \$ per share and increase the dilution to new investors in this offering by \$ per share, assuming that the public offering price remains the same, and after deducting the underwriting discounts and commissions and estimated offering expenses.

If the underwriters exercise their option in full to purchase _____ additional shares of common stock in this offering at the public offering price of \$ _____ per share, the net tangible book value per share after this offering would be \$ _____ per share, the increase in the net tangible book value per share to existing stockholders would be \$ _____ per share and the dilution to new investors purchasing securities in this offering would be \$ _____ per share.

The above table excludes:

353,807 shares of our common stock issuable upon the vesting of restricted stock units outstanding under our equity incentive plans as of June 30, 2017, with a weighted-average grant date fair value of \$4.16 per share;

1,898,390 shares of our common stock issuable upon the exercise of stock options outstanding under equity incentive plans as of June 30, 2017, at a weighted-average exercise price of \$5.46 per share;

31,150 shares of our common stock reserved for future issuance under our 2016 Inducement Plan as of June 30, 2017;

413,717 shares of our common stock reserved for future issuance under our 2014 Equity Incentive Plan as of June 30, 2017;

387,017 shares of our common stock reserved for future issuance under our 2014 Employee Stock Purchase Plan as of June 30, 2017;

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4,509,926 shares of our common stock issuable upon the exercise of outstanding warrants as of June 30, 2017, at a weighted-average exercise price of \$5.34 per share;

1,791,755 shares of our common stock that we may issue, subject to approval of our stockholders, to the Former Majority Shareholders; and

any shares of our common stock issuable upon the conversion or redemption of the Debentures.

To the extent that options or warrants are exercised, new options are issued under our equity incentive plans, or we issue additional shares of common stock in the future, there may be further dilution to investors participating in this offering. In addition, under the terms of the warrants to purchase an aggregate of 2,978,087 shares of common stock issued by us in April 2016 and June 2016 and outstanding as of August 9, 2017, upon the closing of this offering, the warrant exercise price will be adjusted to the price to the public paid by investors in this offering if the offering price in this offering is below \$1.12 per share. Notwithstanding any such adjustment to the warrant exercise price, the number of warrants outstanding will not change as a result of this offering. Under the terms of the warrants to purchase an aggregate of 1,296,679 shares of common stock issued by us on March 15, 2017 and outstanding as of August 9, 2017, upon the closing of this offering, the warrant exercise price will be adjusted downward and the number of shares issuable upon exercise of the warrants will be adjusted upward based on the aggregate amount paid by investors in this offering if the offering price in this offering is below \$4.82 per share. Further, under the terms of the Debentures, upon the closing of this offering, the conversion price of the Debentures will be adjusted downward based on the aggregate amount paid by investors in this offering if the offering price in this offering is below \$4.40 per share. Moreover, we may choose to raise additional capital because of market conditions or strategic considerations, even if we believe that we have sufficient funds for our current or future operating plans. If we raise additional capital through the sale of equity or convertible debt securities, the issuance of these securities could result in further dilution to our stockholders.

Table of Contents**UNDERWRITING**

We are offering the shares of common stock described in this prospectus through the underwriters listed below.

_____ is acting as the sole book-running manager of this offering and representative of the underwriters. The underwriters named below have agreed to buy, subject to the terms of the underwriting agreement, the number of shares of common stock listed opposite their names below. The underwriters are committed to purchase and pay for all of the shares if any are purchased, other than those shares covered by the over-allotment option described below.

Underwriter	Number of Shares

Total

The underwriters have advised us that they propose to offer the shares of common stock to the public at a price of \$ _____ per share. The underwriters propose to offer the shares of common stock to certain dealers at the same price less a concession of not more than \$ _____ per share. After the offering, these figures may be changed by the underwriters.

The shares sold in this offering are expected to be ready for delivery on or about _____, 2017, against payment in immediately available funds. The underwriters may reject all or part of any order.

We have granted to the underwriters an option to purchase up to an _____ additional shares of common stock from us at the same price to the public, and with the same underwriting discount, as set forth in the table below. The underwriters may exercise this option any time during the 30-day period after the date of this prospectus, but only to cover over-allotments, if any. To the extent the underwriters exercise the option, the underwriters will become obligated, subject to certain conditions, to purchase the shares for which they exercise the option.

The table below summarizes the underwriting discounts that we will pay to the underwriters. These amounts are shown assuming both no exercise and full exercise of the over-allotment option. In addition to the underwriting discount, we have agreed to pay up to \$ _____ of the fees and expenses of the underwriters, which may include the fees and expenses of counsel to the underwriters. The fees and expenses of the underwriters that we have agreed to reimburse are not included in the underwriting discounts set forth in the table below. The underwriting discount and reimbursable expenses the underwriters will receive were determined through arms length negotiations between us and the underwriters.

	Per Share	Total with no Over- Allotment	Total with Over- Allotment
Underwriting discount to be paid by us	\$ _____	\$ _____	\$ _____

We estimate that the total expenses of this offering, excluding underwriting discounts, will be \$ _____. This includes \$ _____ of fees and expenses of the underwriters. These expenses are payable by us.

We also have agreed to indemnify the underwriters against certain liabilities, including civil liabilities under the Securities Act of 1933, as amended, or to contribute to payments that the underwriters may be required to make in respect of those liabilities.

We and each of our directors and officers have agreed not to offer, sell, agree to sell, directly or indirectly, or otherwise dispose of any shares of common stock or any securities convertible into or exchangeable for shares of common stock without the prior written consent of _____ for a period of 90 days after the date of this prospectus. These lock-up agreements provide limited exceptions and their restrictions may be waived at any time by _____.

Price Stabilization, Short Positions and Penalty Bids

To facilitate this offering, the underwriters may engage in transactions that stabilize, maintain or otherwise affect the price of our common stock during and after the offering. Specifically, the underwriters may over-allot or otherwise create a short position in our common stock for their own account by selling more shares of common stock than we have sold to the underwriters. The underwriters may close out any short position by either exercising their option to purchase additional shares or purchasing shares in the open market.

In addition, the underwriters may stabilize or maintain the price of our common stock by bidding for or purchasing shares in the open market and may impose penalty bids. If penalty bids are imposed, selling concessions allowed to broker-dealers participating in this offering are reclaimed if shares previously distributed in this offering are repurchased, whether in connection with stabilization

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transactions or otherwise. The effect of these transactions may be to stabilize or maintain the market price of our common stock at a level above that which might otherwise prevail in the open market. The imposition of a penalty bid may also affect the price of our common stock to the extent that it discourages resales of our common stock. The magnitude or effect of any stabilization or other transactions is uncertain. These transactions may be effected on the NASDAQ Global Market or otherwise and, if commenced, may be discontinued at any time.

In connection with this offering, the underwriters and selling group members may also engage in passive market making transactions in our common stock on the NASDAQ Global Market. Passive market making consists of displaying bids on the NASDAQ Global Market limited by the prices of independent market makers and effecting purchases limited by those prices in response to order flow. Rule 103 of Regulation M promulgated by the SEC limits the amount of net purchases that each passive market maker may make and the displayed size of each bid. Passive market making may stabilize the market price of our common stock at a level above that which might otherwise prevail in the open market and, if commenced, may be discontinued at any time.

Neither we nor the underwriters make any representation or prediction as to the direction or magnitude of any effect that the transactions described above may have on the price of our common stock. In addition, neither we nor the underwriters make any representation that the underwriters will engage in these transactions or that any transaction, if commenced, will not be discontinued without notice.

Affiliations

The underwriters and their affiliates are full service financial institutions engaged in various activities, which may include securities trading, commercial and investment banking, financial advisory, investment management, investment research, principal investment, hedging, financing and brokerage activities. The underwriters may in the future engage in investment banking and other commercial dealings in the ordinary course of business with us or our affiliates. The underwriters may in the future receive customary fees and commissions for these transactions.

In the ordinary course of their various business activities, the underwriters and their affiliates may make or hold a broad array of investments and actively trade debt and equity securities (or related derivative securities) and financial instruments (including bank loans) for their own account and for the accounts of their customers, and such investment and securities activities may involve securities and/or instruments of the issuer. The underwriters and their affiliates may also make investment recommendations and/or publish or express independent research views in respect of such securities or instruments and may at any time hold, or recommend to clients that they acquire, long and/or short positions in such securities and instruments.

The underwriters may facilitate the marketing of this offering online directly or through one of their affiliates. In those cases, prospective investors may view offering terms and a prospectus online and place orders online or through their financial advisors.

Selling Restrictions

Canada. The securities may be sold in Canada only to purchasers purchasing, or deemed to be purchasing, as principal that are accredited investors, as defined in National Instrument 45-106 *Prospectus Exemptions* or subsection 73.3(1) of the Securities Act (Ontario), and are permitted clients, as defined in National Instrument 31-103 *Registration Requirements, Exemptions and Ongoing Registrant Obligations*. Any resale of the securities must be made in accordance with an exemption from, or in a transaction not subject to, the prospectus requirements of applicable securities laws.

Securities legislation in certain provinces or territories of Canada may provide a purchaser with remedies for rescission or damages if this prospectus (including any amendment thereto) contains a misrepresentation, provided that the remedies for rescission or damages are exercised by the purchaser within the time limit prescribed by the securities legislation of the purchaser's province or territory. The purchaser should refer to any applicable provisions of the securities legislation of the purchaser's province or territory for particulars of these rights or consult with a legal advisor.

Pursuant to section 3A.3 of National Instrument 33-105 *Underwriting Conflicts* (NI 33-105), the underwriter is not required to comply with the disclosure requirements of NI 33-105 regarding underwriter conflicts of interest in connection with this offering.

European Economic Area. In relation to each Member State of the European Economic Area which has implemented the Prospectus Directive (each, a Relevant Member State) an offer to the public of any shares of our common stock may not be made in that Relevant Member State, except that an offer to the public in that Relevant Member State of any shares of our common stock may be made at any time under the following exemptions under the Prospectus Directive, if they have been implemented in that Relevant Member State:

to any legal entity which is a qualified investor as defined in the Prospectus Directive;

to fewer than 100 or, if the Relevant Member State has implemented the relevant provision of the 2010 PD Amending Directive, 150, natural or legal persons (other than qualified investors as defined in the Prospectus Directive), as permitted under the Prospectus Directive, subject to obtaining the prior consent of the representatives for any such offer; or

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in any other circumstances falling within Article 3(2) of the Prospectus Directive, provided that no such offer of shares of our common stock shall result in a requirement for the publication by us or any underwriter of a prospectus pursuant to Article 3 of the Prospectus Directive.

For the purposes of this provision, the expression an offer to the public in relation to any shares of our common stock in any Relevant Member State means the communication in any form and by any means of sufficient information on the terms of the offer and any shares of our common stock to be offered so as to enable an investor to decide to purchase any shares of our common stock, as the same may be varied in that Member State by any measure implementing the Prospectus Directive in that Member State, the expression Prospectus Directive means Directive 2003/71/EC (and amendments thereto, including the 2010 PD Amending Directive, to the extent implemented in the Relevant Member State), and includes any relevant implementing measure in the Relevant Member State, and the expression 2010 PD Amending Directive means Directive 2010/73/EU.

United Kingdom. The underwriter has represented and agreed that:

it has only communicated or caused to be communicated and will only communicate or cause to be communicated an invitation or inducement to engage in investment activity (within the meaning of Section 21 of the Financial Services and Markets Act 2000 (the FSMA)) received by it in connection with the issue or sale of the shares of our common stock in circumstances in which Section 21(1) of the FSMA does not apply to us; and

it has complied and will comply with all applicable provisions of the FSMA with respect to anything done by it in relation to the shares of our common stock in, from or otherwise involving the United Kingdom.

Switzerland. The shares may not be publicly offered in Switzerland and will not be listed on the SIX Swiss Exchange (the SIX) or on any other stock exchange or regulated trading facility in Switzerland. This document has been prepared without regard to the disclosure standards for issuance prospectuses under art. 652a or art. 1156 of the Swiss Code of Obligations or the disclosure standards for listing prospectuses under art. 27 ff. of the SIX Listing Rules or the listing rules of any other stock exchange or regulated trading facility in Switzerland. Neither this document nor any other offering or marketing material relating to the shares or the offering may be publicly distributed or otherwise made publicly available in Switzerland.

Neither this document nor any other offering or marketing material relating to the offering, or the shares have been or will be filed with or approved by any Swiss regulatory authority. In particular, this document will not be filed with, and the offer of shares will not be supervised by, the Swiss Financial Market Supervisory Authority FINMA, and the offer of shares has not been and will not be authorized under the Swiss Federal Act on Collective Investment Schemes (CISA). Accordingly, no public distribution, offering or advertising, as defined in CISA, its implementing ordinances and notices, and no distribution to any non-qualified investor, as defined in CISA, its implementing ordinances and notices, shall be undertaken in or from Switzerland, and the investor protection afforded to acquirers of interests in collective investment schemes under CISA does not extend to acquirers of shares.

Australia. No placement document, prospectus, product disclosure statement or other disclosure document has been lodged with the Australian Securities and Investments Commission (ASIC), in relation to the offering.

This prospectus does not constitute a prospectus, product disclosure statement or other disclosure document under the Corporations Act 2001 (the Corporations Act), and does not purport to include the information required for a prospectus, product disclosure statement or other disclosure document under the Corporations Act.

Any offer in Australia of the shares may only be made to persons (the Exempt Investors) who are sophisticated investors (within the meaning of section 708(8) of the Corporations Act), professional investors (within the meaning of section 708(11) of the Corporations Act) or otherwise pursuant to one or more exemptions contained in section 708 of the Corporations Act so that it is lawful to offer the shares without disclosure to investors under Chapter 6D of the Corporations Act.

The shares applied for by Exempt Investors in Australia must not be offered for sale in Australia in the period of 12 months after the date of allotment under the offering, except in circumstances where disclosure to investors under Chapter 6D of the Corporations Act would not be required pursuant to an exemption under section 708 of the Corporations Act or otherwise or where the offer is pursuant to a disclosure document which complies with Chapter 6D of the Corporations Act. Any person acquiring shares must observe such Australian on-sale restrictions.

This prospectus contains general information only and does not take account of the investment objectives, financial situation or particular needs of any particular person. It does not contain any securities recommendations or financial product advice. Before making an investment decision, investors need to consider whether the information in this prospectus is appropriate to their needs, objectives and circumstances, and, if necessary, seek expert advice on those matters.

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DESCRIPTION OF CAPITAL STOCK

The following is a description of the material terms of our capital stock as provided in our (i) amended and restated certificate of incorporation, and (ii) amended and restated bylaws. We also refer you to our amended and restated certificate of incorporation (including our amendment to our amended and restated certificate of incorporation) and our amended and restated bylaws, copies of which are incorporated by reference as exhibits to the registration statement of which this prospectus forms a part.

Authorized Capitalization

Our authorized capital stock consists of 100,000,000 shares of common stock with a \$0.001 par value per share, and 10,000,000 shares of preferred stock with a \$0.001 par value per share. Our board of directors may establish the rights and preferences of the preferred stock from time to time. As of August 9, 2017, there were 22,541,668 shares of our common stock issued and outstanding and no shares of preferred stock outstanding.

The following is a summary of the material provisions of the common stock provided for in our amended and restated certificate of incorporation and amended and restated bylaws. For additional detail about our capital stock, please refer to our amended and restated certificate of incorporation and amended and restated bylaws.

Listing

Our common stock is listed on the NASDAQ Global Market under the symbol CDNA.

Transfer Agent and Registrar

The transfer agent and registrar for the common stock is Computershare Trust Company, N.A. Its address is 250 Royall Street, Canton, MA 02021, and its telephone number is 1-800-962-4284.

Common Stock

Each holder of our common stock is entitled to one vote for each share on all matters to be voted upon by the stockholders. Subject to any preferential rights of any outstanding preferred stock, holders of our common stock are entitled to receive ratably the dividends, if any, as may be declared from time to time by the board of directors out of funds legally available therefor. We have never declared or paid any cash dividend on our capital stock and do not anticipate paying any cash dividends in the foreseeable future. The Debentures restrict our ability to pay cash dividends on our common stock, and we may also enter into credit agreements or other borrowing arrangements in the future that will further restrict our ability to declare or pay cash dividends on our common stock. In the event of our liquidation, dissolution or winding up, holders of our common stock are entitled to share ratably in our assets remaining after the payment of liabilities and any preferential rights of any outstanding preferred stock.

Holders of our common stock have no preemptive or conversion rights or other subscription rights, and there are no redemption or sinking fund provisions applicable to the common stock. The outstanding shares of common stock are fully paid and non-assessable. The rights, preferences and privileges of the holders of our common stock are subject to, and may be adversely affected by, the rights of the holders of shares of any series of preferred stock that we may designate and issue in the future.

Voting Rights

Each share of our common stock entitles its holder to one vote in the election of each director. No share of our common stock affords any cumulative voting rights. This means that the holders of a majority of the voting power of the shares voting for the election of directors can elect all directors to be elected if they choose to do so, subject to any voting rights granted to holders of any outstanding preferred stock. Generally, except as discussed in *Effects of Certain Provisions of our Amended and Restated Certificate of Incorporation and Amended and Restated Bylaws and the Delaware Anti-Takeover Statute* below, all matters to be voted on by stockholders must be approved by a majority of the total voting power of the common stock present in person or represented by proxy at a meeting at which a quorum exists, subject to any voting rights granted to holders of any outstanding preferred stock. Except as otherwise provided by law or in the amended and restated certificate of incorporation (as further discussed in *Effects of Certain Provisions of our Amended and Restated Certificate of Incorporation and Amended and Restated Bylaws and the Delaware Anti-Takeover Statute*), and subject to any voting rights granted to holders of any outstanding preferred stock, amendments to the amended and restated certificate of incorporation must be approved by a majority of the votes entitled to be cast by the holders of common stock.

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Dividends

Subject to the rights of holders of any outstanding preferred stock, holders of our common stock are entitled to dividends in such amounts and at such times as our board of directors in its discretion may declare out of funds legally available for the payment of dividends. Dividends on our common stock will be paid at the discretion of our board of directors after taking into account various factors, including:

our financial condition;

our results of operations;

our capital requirements and development expenditures;

our future business prospects; and

any restrictions imposed by future debt instruments.

Other Rights

On our liquidation, dissolution or winding up, after payment in full of the amounts required to be paid to holders of any outstanding preferred stock, all holders of common stock are entitled to receive the same amount per share with respect to any distribution of assets to holders of shares of common stock.

No shares of common stock are subject to redemption or have preemptive rights to purchase additional shares of our common stock or other securities.

Preferred Stock

Our board of directors is authorized, subject to limitations prescribed by Delaware law, to issue up to 10,000,000 shares of our preferred stock in one or more series, to establish from time to time the number of shares to be included in each series, and to fix the designation, powers, preferences, and rights of the shares of each series and any of its qualifications, limitations or restrictions, in each case without further vote or action by our stockholders. Our board of directors can also increase or decrease the number of shares of any series of preferred stock, but not below the number of shares of that series then outstanding, without any further vote or action by our stockholders. Our board of directors may authorize the issuance of preferred stock with voting or conversion rights that could adversely affect the voting power or other rights of the holders of our common stock. The issuance of preferred stock, while providing flexibility in connection with possible acquisitions and other corporate purposes, could, among other things, have the effect of delaying, deferring or preventing a change in control of our company and might adversely affect the market price of our common stock and the voting and other rights of the holders of our common stock.

Equity Awards

As of August 9, 2017, options to purchase 1,903,916 shares of our common stock with a weighted-average exercise price of \$5.31 per share were outstanding and restricted stock units with respect to 351,193 shares of our common stock, with a weighted-average grant date fair value of \$3.90 per share, were outstanding.

Warrants

As of August 9, 2017, warrants to purchase an aggregate of 4,529,605 shares of common stock with a weighted-average exercise price of \$4.04 per share were outstanding. Of such warrants, warrants to purchase an aggregate of 1,296,679 shares of common stock will become exercisable on September 16, 2017, and are subject to a blocker provision, which restricts the exercise of a warrant if, as a result of such exercise, the warrant holder, together with its affiliates and any other person whose beneficial ownership of common stock would be aggregated with the warrant holder's for purposes of Section 13(d) of the Exchange Act, would beneficially own in excess of 4.9% or 9.9% of our then issued and outstanding shares of common stock (including the shares of common stock issuable upon such exercise), as such percentage ownership is determined in accordance with the terms of such warrant, or the Warrant Blocker, and contain provisions for the adjustment of the exercise price in the event of stock dividends, stock splits or similar transactions, or the JGB Warrants. All of our other outstanding warrants are currently exercisable, except to the extent that certain of them may be subject to a blocker provision similar to the Warrant Blocker and contain provisions for the adjustment of the exercise price in the event of stock dividends, stock splits or similar transactions. Warrants to purchase an aggregate of 4,274,766 shares of common stock, including the JGB Warrants, also provide for the adjustment of the exercise price in the event of stock dividends or certain dilutive issuances.

Table of Contents**Debentures**

As of August 9, 2017, we had outstanding Debentures with an aggregate principal amount of \$27.8 million, which mature on February 28, 2020, accrue interest at 9.5% per year and are convertible, at the holder's option, into shares of common stock at a price of \$4.40 per share, or the Conversion Price, which is subject to adjustment for accrued and unpaid interest and upon the occurrence of certain transactions. Additionally, after September 1, 2017, upon the satisfaction of certain conditions, including the volume weighted average price of the common stock exceeding 250% of the Conversion Price for twenty consecutive trading days, we can require that the Debentures be converted into shares of our common stock, subject to certain limitations. Commencing on March 1, 2018, the holders of the Debentures will have the right, at their option, to require us to redeem up to an aggregate of \$937,500 of the outstanding principal amount of the Debentures per month. We will be required to promptly, but in any event no more than one trading day after a holder delivers a redemption notice to us, pay the applicable redemption amount in cash or, at our election and subject to certain conditions, in shares of common stock. If we elect to pay the redemption amount in shares of common stock, then the shares will be delivered based on a price equal to the lesser of (a) a 12% discount to the average of the three lowest volume weighted average prices of the common stock over the prior 20 trading days, (b) a 12% discount to the prior trading day's volume weighted average price, or (c) the Conversion Price. We may only opt for payment in shares of common stock if certain conditions are met.

Pursuant to the terms of the Debentures, we may not engage in a Change of Control Transaction, which is defined as (a) the acquisition by a third party of greater than 50% of our voting securities, (b) a merger, after which our stockholders immediately prior to such merger own less than 50% of our aggregate voting power of the aggregate voting power of the successor entity, or (c) the disposition of all or substantially all of our assets, without the consent of the holders of the Debentures, subject to certain exceptions. Further, in the event that we seek the approval of our stockholders of a Change of Control Transaction, we must provide the holders of the Debentures with notice and permit such holders to convert the Debentures for a period of 20 days following delivery of such notice.

Registration Rights

On July 3, 2017, we entered into a registration rights agreement, pursuant to which we agreed, among other things, that we would file with the SEC a Registration Statement under the Securities Act that covers the resale of the shares issued and issuable pursuant to the Third Amendments to Conditional Share Purchase Agreements and Conversion Agreements, dated July 1, 2017 that we entered into with each of Midroc Invest AB, FastPartner AB and Xenella Holding AB. We filed such registration statement on August 25, 2017.

On March 15, 2017, we entered into a registration rights agreement with certain accredited investors in connection with the sale of the Debentures and warrants to purchase 1,250,000 shares of common stock, pursuant to which we agreed, among other things, that we would file with the SEC a Registration Statement under the Securities Act that covers the resale of (i) the shares of common stock issuable upon conversion or redemption of the Debentures and (ii) the shares of common stock issuable upon exercise of the warrants. Pursuant to the anti-dilution adjustments in the warrants issued on March 15, 2017, the number of shares subject to the warrants was adjusted on July 3, 2017 and the warrants are currently exercisable for an aggregate of 1,296,679 shares of common stock.

On April 12, 2016, we entered into a securities purchase agreement, or the April SPA with certain accredited investors in connection with the sale and issuance of approximately \$14.1 million worth of units, or Units, each Unit comprised of: (i) one share of common stock, (ii) five shares of Series A Mandatorily Convertible Preferred Stock of the Company, par value \$0.001 per share, or the Series A Preferred, and (iii) three warrants, each to purchase one share of common stock upon exercise of such warrants. The April SPA also provided that we file with the SEC, by no later than May 30, 2016, a Registration Statement under the Securities Act that covers the resale of (A) the shares of

common stock, (B) the shares of common stock into which the Series A Preferred is convertible, and (C) the shares of common stock issuable upon exercise of the warrants, in each case as issued pursuant to the April SPA.

On June 15, 2016, we entered into a securities purchase agreement, or the June SPA, with certain accredited investors in connection with the sale and issuance of an additional approximately \$8.0 million worth of Units. The June SPA also provided that we file with the SEC, by no later than August 1, 2016, a Registration Statement under the Securities Act that covers the resale of (i) the shares of common stock, (ii) the shares of common stock into which the Series A Preferred is convertible and (iii) the shares of common stock issuable upon exercise of the warrants, in each case as issued pursuant to the June SPA. On June 16, 2016, each share of Series A Preferred was converted into one share of the common stock. We filed a Registration Statement registering the shares of common stock issued and issuable pursuant to the April SPA and the June SPA for resale on May 27, 2016, as amended on June 15, 2016 and June 30, 2016, and the Registration Statement was declared effective on July 12, 2016.

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Effect of Certain Provisions of our Amended and Restated Certificate of Incorporation and Bylaws and the Delaware Anti-Takeover Statute

Certain provisions of Delaware law, along with certain provisions of our amended and restated certificate of incorporation and our amended and restated bylaws, may have the effect of delaying, deferring or discouraging another person from acquiring control of our company and could make the following transactions more difficult:

acquisition of us by means of a tender offer;

acquisition of us by means of a proxy contest or otherwise; or

removal of our incumbent officers and directors.

These provisions, summarized below, are expected to discourage coercive takeover practices and inadequate takeover bids and to promote stability in our management. These provisions are also designed, in part, to encourage persons seeking to acquire control of our company to first negotiate with our board of directors. However, these provisions could have the effect of deferring hostile takeovers or delaying, discouraging or preventing attempts to acquire us, which could deprive our stockholders of opportunities to sell their shares of common stock at prices higher than prevailing market prices.

Amended and Restated Certificate of Incorporation and Amended and Restated Bylaws

Our amended and restated certificate of incorporation and our amended and restated bylaws include a number of provisions that could deter hostile takeovers or delay or prevent changes relating to the control of our board of directors or management team, including the following:

Board of Directors Vacancies. Our amended and restated certificate of incorporation and amended and restated bylaws authorize only our board of directors to fill vacant directorships, including newly created seats. In addition, the number of directors constituting our board of directors can be set only by a resolution adopted by a majority vote of our entire board of directors. These provisions would prevent a stockholder from increasing the size of our board of directors and then gaining control of our board of directors by filling the resulting vacancies with its own nominees. This makes it more difficult to change the composition of our board of directors and promotes continuity of management.

Classified Board. Our amended and restated certificate of incorporation provides that our board of directors is classified into three classes of directors. A third party may be discouraged from making a tender offer or otherwise attempting to obtain control of our company as it is more difficult and time consuming for stockholders to replace a majority of the directors on a classified board of directors.

Stockholder Action; Special Meeting of Stockholders. Our amended and restated certificate of incorporation provides that our stockholders may not take action by written consent, but may only take action at annual or

special meetings of our stockholders. As a result, a holder controlling a majority of our capital stock would not be able to amend our amended and restated bylaws or remove directors without holding a meeting of our stockholders called in accordance with our amended and restated bylaws. Our amended and restated bylaws further provide that special meetings of our stockholders may be called only by a majority of our board of directors, the Chairperson of our board of directors, our Chief Executive Officer or our President, thus prohibiting a stockholder (in the capacity as a stockholder) from calling a special meeting. These provisions might delay the ability of our stockholders to force consideration of a proposal or for stockholders controlling a majority of our capital stock to take any action, including the removal of directors.

Advance Notice Requirements for Stockholder Proposals and Director Nominations. Our amended and restated bylaws provide advance notice procedures for stockholders seeking to bring business before our annual meeting of stockholders or to nominate candidates for election as directors at our annual meeting of stockholders. Our amended and restated bylaws also specify certain requirements regarding the form and content of a stockholder's notice. These provisions might preclude our stockholders from bringing matters before our annual meeting of stockholders or from making nominations for directors at our annual meeting of stockholders if the proper procedures are not followed. We expect that these provisions may also discourage or deter a potential acquirer from conducting a solicitation of proxies to elect the acquirer's own slate of directors or otherwise attempting to obtain control of our company.

No Cumulative Voting. The DGCL provides that stockholders may cumulate votes in the election of directors if the corporation's certificate of incorporation allows for such mechanism. Our amended and restated certificate of incorporation does not provide for cumulative voting.

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Directors Removed Only for Cause. Our amended and restated certificate of incorporation provides that stockholders may remove directors only for cause and only by the affirmative vote of the holders of at least 66 2/3% in voting power of our stock entitled to vote thereon.

Amendment of Charter Provisions. Any amendment of the above provisions in our amended and restated certificate of incorporation, with the exception of the ability of our board of directors to issue shares of preferred stock and designate any rights, preferences and privileges thereto, would require approval by the affirmative vote of the holders of at least 66 2/3% of our then outstanding common stock.

Issuance of Undesignated Preferred Stock. Our board of directors has the authority, without further action by the stockholders, to issue up to 10,000,000 shares of preferred stock with rights and preferences, including voting rights, designated from time to time by our board of directors. The existence of authorized but unissued shares of preferred stock would enable our board of directors to render more difficult or to discourage an attempt to obtain control of our company by means of a merger, tender offer, proxy contest or other means.

Delaware Anti-Takeover Statute

We are subject to the provisions of Section 203 of the General Corporation Law of the State of Delaware, or the DGCL, regulating corporate takeovers. In general, those provisions prohibit a public Delaware corporation from engaging in any business combination with any interested stockholder for a period of three years following the date that the stockholder became an interested stockholder, unless:

the transaction is approved by the board of directors before the date the interested stockholder attained that status;

upon consummation of the transaction which resulted in the stockholder becoming an interested stockholder, the interested stockholder owned at least 85% of the voting stock of the corporation outstanding at the time the transaction commenced; or

on or after the date of the transaction, the transaction is approved by the board of directors and authorized at a meeting of stockholders, and not by written consent, by the affirmative vote of at least 66 2/3% of the outstanding voting stock that is not owned by the interested stockholder.

In general, Section 203 of the DGCL defines a business combination to include the following:

any merger or consolidation involving the corporation and the interested stockholder;

any sale, transfer, pledge or other disposition of 10% or more of the assets of the corporation involving the interested stockholder;

subject to certain exceptions, any transaction that results in the issuance or transfer by the corporation of any stock of the corporation to the interested stockholder;

any transaction involving the corporation that has the effect of increasing the proportionate share of the stock of any class or series of the corporation beneficially owned by the interested stockholder; or

the receipt by the interested stockholder of the benefit of any loans, advances, guarantees, pledges or other financial benefits provided by or through the corporation.

In general, Section 203 of the DGCL defines an interested stockholder as any entity or person beneficially owning, or who within three years prior to the time of determination of interested stockholder status did own, 15% or more of the outstanding voting stock of the corporation and any entity or person affiliated with or controlling or controlled by any such entity or person.

A Delaware corporation may opt out of this provision by express provision in its original certificate of incorporation or by amendment to its certificate of incorporation or bylaws approved by its stockholders. However, we have not opted out of, and do not currently intend to opt out of, this provision. The statute could prohibit or delay mergers or other takeover or change in control attempts and, accordingly, may discourage attempts to acquire our company.

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LEGAL MATTERS

The validity of the securities offered by this prospectus will be passed upon for us by Paul Hastings LLP, Palo Alto, California. _____, _____, is counsel to the underwriters in connection with this offering.

EXPERTS

Ernst & Young LLP, independent registered public accounting firm, has audited our consolidated financial statements included in our Annual Report on Form 10-K for the year ended December 31, 2016, as set forth in their report (which contains an explanatory paragraph describing conditions that raise substantial doubt about the Company's ability to continue as a going concern as described in Note 1 to the consolidated financial statements), which is incorporated by reference in this prospectus and elsewhere in the registration statement. Our financial statements are incorporated by reference in reliance on Ernst & Young LLP's report, given on their authority as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

We are a reporting company and file annual, quarterly and current reports, proxy statements and other information with the SEC. We have filed with the SEC a registration statement on Form S-1 under the Securities Act with respect to the common stock being offered under this prospectus. This prospectus does not contain all of the information set forth in the registration statement and the exhibits to the registration statement. For further information with respect to us and the shares of common stock being offered under this prospectus, we refer you to the registration statement and the exhibits and schedules filed as a part of the registration statement. You may read and copy the registration statement, as well as our reports, proxy statements and other information, at the SEC's Public Reference Room at 100 F Street, N.E., Washington, D.C. 20549. Please call the SEC at 1-800-SEC-0330 for more information about the operation of the Public Reference Room. The SEC maintains an Internet site that contains reports, proxy and information statements, and other information regarding issuers that file electronically with the SEC, including CareDx, Inc. The SEC's Internet site can be found at <http://www.sec.gov>.

DISCLOSURE OF COMMISSION POSITION ON INDEMNIFICATION FOR SECURITIES ACT LIABILITIES

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to our directors, officers, and persons controlling us pursuant to the provisions described in Item 14 of the registration statement of which this prospectus forms a part or otherwise, we have been advised that in the opinion of the SEC such indemnification is against public policy as expressed in the Securities Act and is therefore unenforceable. In the event that a claim for indemnification against such liabilities (other than our payment of expenses incurred or paid by our directors, officers, or controlling persons in the successful defense of any action, suit, or proceeding) is asserted by our directors, officers, or controlling persons in connection with the common stock being registered, we will, unless in the opinion of our counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by us is against public policy as expressed in the Securities Act and will be governed by the final adjudication of the issue.

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IMPORTANT INFORMATION INCORPORATED BY REFERENCE

The SEC allows us to incorporate by reference information into this prospectus, which means that we can disclose important information to you by referring you to another document filed separately with the SEC. The documents incorporated by reference into this prospectus contain important information that you should read about us.

The following documents are incorporated by reference into this prospectus:

- (a) The Registrant's Annual Report on Form 10-K for the fiscal year ended December 31, 2016, filed with the SEC on April 21, 2017;
- (b) The Registrant's Amendment No. 1 to Annual Report on Form 10-K/A, filed with the SEC on May 1, 2017;
- (c) The Registrant's Quarterly Reports on Form 10-Q filed with the SEC on (i) June 9, 2017, and (ii) August 11, 2017; and
- (d) The Registrant's Current Reports on Form 8-K filed with the SEC on (i) January 23, 2017, filed at 8:49 a.m. Eastern Time, (ii) January 23, 2017, filed at 8:56 a.m. Eastern Time (other than information furnished under Item 7.01 therein), (iii) March 15, 2017, (iv) April 21, 2017, filed at 3:14 p.m. Eastern Time (other than information furnished under Item 7.01 or Item 9.01 therein), (v) May 22, 2017 (other than information furnished under Item 7.01 or Item 9.01 therein), (vi) July 3, 2017 (other than information furnished under Item 2.02, Item 7.01 or Item 9.01 therein), and (vii) July 14, 2017; and
- (e) The description of the Registrant's common stock set forth in the Registrant's Registration Statement on Form 8-A (File No. 001-36536), filed with the SEC on July 11, 2014, including any amendments or reports filed for the purpose of updating such description.

We also incorporate by reference any future filings (other than current reports furnished under Item 2.02 or Item 7.01 of Form 8-K and exhibits filed on such form that are related to such items unless such Form 8-K expressly provides to the contrary) made with the SEC pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act, including those made after the date of the initial filing of the registration statement of which this prospectus forms a part and prior to effectiveness of such registration statement, until we file a post-effective amendment that indicates the termination of the offering of the common stock made by this prospectus and such future filings will become a part of this prospectus from the respective dates that such documents are filed with the SEC. Any statement contained herein or in a document incorporated or deemed to be incorporated by reference herein shall be deemed to be modified or superseded for purposes hereof to the extent that a statement contained herein or in any other subsequently filed document which is also incorporated or deemed to be incorporated herein modifies or supersedes such statement. Any such statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this prospectus.

The documents incorporated by reference into this prospectus are also available on our corporate website at www.caredx.com under the heading Investors. Information contained on, or that can be accessed through, our website is not part of this prospectus, and you should not consider information on our website to be part of this report unless

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specifically incorporated herein by reference You may obtain copies of the documents incorporated by reference in this prospectus from us free of charge by requesting them in writing or by telephone at the following address:

CareDx, Inc.

3260 Bayshore Boulevard

Brisbane, California 94005

Attn: Investor Relations

Telephone: (415) 287-2300

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CAREDX, INC.
3,000,000 SHARES OF COMMON STOCK

PROSPECTUS

, 2017

We have not authorized any dealer, salesperson or other person to give any information or to make any representations not contained in this prospectus. You must not rely on any unauthorized information. This prospectus is not an offer to sell these securities in any jurisdiction where an offer or sale is not permitted. The information in this prospectus is current as of the date of this prospectus. You should not assume that this prospectus is accurate as of any other date.

Table of Contents**PART II****INFORMATION NOT REQUIRED IN PROSPECTUS*****Item 13. Other Expenses of Issuance and Distribution***

The following table sets forth all expenses payable by the Registrant, other than underwriting discounts and commissions, in connection with the offering. All the amounts shown are estimates except for the SEC registration fee and the Financial Industry Regulatory Authority, Inc. filing fee.

SEC registration fee	\$ 1,088
Financial Industry Regulatory Authority, Inc. fee	*
Legal fees and expenses	*
Accounting fees and expenses	*
Blue sky fees	*
Printing, transfer agent fees and miscellaneous expenses	*
Total	\$ *

* To be provided by amendment.

Item 14. Indemnification of Directors and Officers

Section 145 of the General Corporation Law of the State of Delaware, or the DGCL, authorizes a corporation's board of directors to grant, and authorizes a court to award, indemnity to officers, directors and other corporate agents.

As permitted by Section 102(b)(7) of the DGCL, the Registrant's amended and restated certificate of incorporation includes provisions that eliminate the personal liability of its directors and officers for monetary damages for breach of their fiduciary duty as directors and officers.

In addition, as permitted by Section 145 of the DGCL, the amended and restated certificate of incorporation and amended and restated bylaws of the Registrant provide that:

The Registrant shall indemnify its directors and officers for serving the Registrant in those capacities or for serving other business enterprises at the Registrant's request, to the fullest extent permitted by Delaware law. Delaware law provides that a corporation may indemnify such person if such person acted in good faith and in a manner such person reasonably believed to be in or not opposed to the best interests of the Registrant and, with respect to any criminal proceeding, had no reasonable cause to believe such person's conduct was unlawful.

The Registrant may, in its discretion, indemnify employees and agents in those circumstances where indemnification is permitted by applicable law.

The Registrant is required to advance expenses, as incurred, to its directors and officers in connection with defending a proceeding, except that such director or officer shall undertake to repay such advances if it is ultimately determined that such person is not entitled to indemnification.

The Registrant is not obligated pursuant to the amended and restated certificate of incorporation and amended and restated bylaws to indemnify a person with respect to proceedings initiated by that person, except with respect to proceedings authorized by the Registrant's board of directors or brought to enforce a right to indemnification.

The rights conferred in the amended and restated certificate of incorporation and amended and restated bylaws are not exclusive, and the Registrant is authorized to enter into indemnification agreements with its directors, officers, employees and agents and to obtain insurance to indemnify such persons.

The Registrant may not retroactively amend the bylaw provisions to reduce its indemnification obligations to directors, officers, employees and agents.

The Registrant has entered into separate indemnification agreements with each of its directors and executive officers that provide the maximum indemnity allowed to directors and executive officers by Section 145 of the DGCL and also to provide for certain additional procedural protections. The Registrant also maintains directors and officers insurance to insure such persons against certain liabilities.

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These indemnification provisions and the indemnification agreements entered into between the Registrant and its executive officers and directors may be sufficiently broad to permit indemnification of the Registrant's executive officers and directors for liabilities (including reimbursement of expenses incurred) arising under the Securities Act.

See also the undertakings set out in response to Item 17 herein.

Item 15. Recent Sales of Unregistered Securities

Since September 1, 2014, the Registrant has issued the following securities that were not registered under the Securities Act of 1933, as amended, or the Securities Act:

(1) On January 30, 2015, in connection with the Loan and Security Agreement between the Registrant and East West Bank, the Registrant issued to East West Bank a warrant to purchase an aggregate of 34,483 shares of common.

(2) On April 12, 2016, pursuant to the Securities Purchase Agreement between the Registrant and the accredited investors named therein, the Registrant issued and sold approximately \$14.1 million worth of units. Each unit was comprised of: (i) one share of common stock of the Registrant; (ii) five shares of Series A Mandatorily Convertible Preferred Stock of the Registrant; and (iii) three warrants, each to purchase one share of common stock of the Registrant upon exercise, at a purchase price of \$23.94 per unit, which is the equivalent of \$3.99 per share of common stock, assuming conversion of the Series A Mandatorily Convertible Preferred Stock.

(3) On April 12 2016, the Registrant issued warrants to purchase an aggregate of 200,000 shares of common stock to certain placement agents who acted as the Registrant's lead financial advisors in connection with a private placement.

(4) On June 15, 2016, pursuant to the Securities Purchase Agreement between the Registrant and the accredited investors named therein, the Registrant issued and sold approximately \$8.0 million worth of units. Each unit was comprised of: (i) one share of common stock of the Registrant; (ii) five shares of Series A Mandatorily Convertible Preferred Stock of the Registrant; and (iii) three warrants, each to purchase one share of common stock of the Registrant upon exercise, at a purchase price of \$23.94 per unit, which is the equivalent of \$3.99 per share of common stock, assuming conversion of the Series A Mandatorily Convertible Preferred Stock.

(5) On May 15, 2017, pursuant to the Securities Purchase Agreement between the Registrant and the accredited investors named therein, the Registrant issued and sold for an aggregate purchase price of \$25 million, \$27.78 million in aggregate principal amount of Senior Secured Debentures and warrants to purchase up to an aggregate of 1.25 million shares of the common stock of the Registrant.

(6) On July 3, 2017, pursuant to those certain Third Amendments to Conditional Share Purchase Agreements and Conversion Agreements entered into between the Registrant and each of the accredited investors named therein on July 1, 2017, the Registrant issued 1,022,544 shares of the common stock of the Registrant and may issue an additional 1,791,755 shares of common stock if the Registrant obtains the approval of its stockholders to issue such shares in accordance with the requirements of Nasdaq.

The offers, sales and issuances of the securities described in each of the paragraphs above were deemed to be exempt from registration under the Securities Act in reliance upon Section 4(a)(2) of the Securities Act as transactions by an issuer not involving any public offering. Appropriate legends were affixed to the securities issued in these transactions. Each of the recipients of securities in these transactions had adequate access, through employment, business or other relationships, to information about the Registrant.

All purchasers of securities in transactions exempt from registration pursuant to Section 4(a)(2) of the Securities Act represented to the Registrant that they were accredited investors and were acquiring the shares for investment purposes only and not with a view to, or for sale in connection with, any distribution thereof and that they could bear the risks of the investment and could hold the securities for an indefinite period of time. The purchasers received written disclosures that the securities had not been registered under the Securities Act and that any resale must be made pursuant to a registration statement or an available exemption from the registration requirements of the Securities Act.

(7) On April 14, 2016, in connection with a tender offer to acquire all shares of CareDx International AB (formerly Allenex AB), or Allenex, the Registrant issued 1,375,026 shares of the Registrant's common stock to the shareholders of Allenex, in exchange for approximately 98.37% of the outstanding shares of Allenex. The shares of the Registrant's common stock issued to the shareholders of Allenex was deemed to be exempt from registration under the Securities Act in reliance upon the exemption from registration provided by Rule 802 thereunder for exchange offers for a class of securities of a foreign private issuer where U.S. holders of foreign subject company hold no more than 10% of the securities that are the subject of the exchange offer.

All of the foregoing securities are deemed restricted securities for purposes of the Securities Act. The certificates representing the issued shares of capital stock described in this Item 15 included appropriate legends setting forth that the applicable securities have not been registered and reciting the applicable restrictions on transfer. There were no underwriters employed in connection with any of the transactions set forth in this Item 15.

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Item 16. Exhibits and Financial Statement Schedules

(a) Exhibits

The exhibits to the registration statement are listed in the Exhibit Index attached hereto and incorporated by reference herein.

(b) Financial Statement Schedules

All financial statement schedules are omitted because they are not applicable, the required information is not present in amounts sufficient to require submission of such schedules or the information is included in the Registrant's financial statements or notes thereto.

Item 17. Undertakings

The undersigned Registrant hereby undertakes that:

(1) For purposes of determining any liability under the Securities Act of 1933, the information omitted from the form of prospectus filed as part of this registration statement in reliance upon Rule 430A and contained in a form of prospectus filed by the registrant pursuant to Rule 424(b) (1) or (4) or 497(h) under the Securities Act shall be deemed to be part of this registration statement as of the time it was declared effective.

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

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

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

Table of Contents**SIGNATURES**

Pursuant to the requirements of the Securities Act of 1933, as amended, the Registrant has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized in the City of Brisbane, State of California, on September 1, 2017.

CAREDX, INC.

By: /s/ Peter Maag
Peter Maag

President and Chief Executive Officer

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Peter Maag and Michael Bell, and each or any one of them, his true and lawful attorney-in-fact and agent, with full power of substitution and resubstitution, for him and in his name, place and stead, in any and all capacities, to sign any and all amendments (including post-effective amendments) to this Registration Statement and any new registration statement with respect to the offering contemplated thereby filed pursuant to Rule 462(b) of the Securities Act of 1933, as amended, and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection therewith, as fully to all intents and purposes as he might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents, or any of them, or their or his substitutes or substitute, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, this Registration Statement has been signed by the following persons in the capacities and on the dates indicated.

Signature	Title	Date
/s/ Peter Maag	President, Chief Executive Officer and Director	September 1, 2017
Peter Maag	<i>(Principal Executive Officer)</i>	
/s/ Michael Bell	Chief Financial Officer	September 1, 2017
Michael Bell	<i>(Principal Financial and Accounting Officer)</i>	
/s/ George W. Bickerstaff	Director	September 1, 2017
George W. Bickerstaff		
/s/ Fred E. Cohen	Director	September 1, 2017

Fred E. Cohen		
/s/ Michael Golberg	Director	September 1, 2017
Michael Goldberg		
/s/ William Hagstrom	Director	September 1, 2017
William Hagstrom		
/s/ Ralph Snyderman	Director	September 1, 2017
Ralph Snyderman		

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Exhibit Number	Description	Registrant s Form	Date Filed with the SEC	Exhibit Number
1.1+	Form of Underwriting Agreement.			
2.1	<u>Agreement and Plan of Merger, dated May 17, 2014, by and between Registrant, Monitor Acquisition Corporation, ImmuMetrix, Inc. and Mattias Westman, as Holders Agent.</u>	S-1/A	7/15/2014	2.1
2.1	<u>Amendment No. 1 to Agreement and Plan of Merger, dated June 9, 2014, by and between the Registrant, Monitor Acquisition Corporation, ImmuMetrix, Inc. and Mattias Westman, as Holders Agent.</u>	S-1/A	6/25/2014	2.2
3.1	<u>Amended and Restated Certificate of Incorporation.</u>	10-Q	8/28/2014	3.1
3.2	<u>Amended and Restated Bylaws.</u>	10-Q	8/28/2014	3.4
4.1	<u>Form of Registrant s Common Stock Certificate.</u>	10-K	3/31/2015	4.1
4.2	<u>Sixth Amended and Restated Investors Rights Agreement, dated July 1, 2009, as amended on March 29, 2012, June 10, 2014, and July 14, 2014, between the Registrant and certain holders of the Registrant s capital stock named therein.</u>	10-K	3/31/2015	4.2
4.3#	<u>1998 Equity Incentive Plan and forms of agreements thereunder.</u>	S-1	6/3/2014	10.2
4.4#	<u>2008 Equity Incentive Plan and forms of agreements thereunder.</u>	S-1	6/3/2014	10.3
4.5#	<u>2014 Equity Incentive Plan and forms of agreements thereunder.</u>	S-8	7/18/2014	4.4
4.6#	<u>2014 Employee Stock Purchase Plan and forms of agreements thereunder.</u>	S-8	7/18/2014	4.5
4.7#	<u>ImmuMetrix, Inc. 2013 Equity Incentive Plan.</u>	S-1	6/3/2014	10.19
4.8	<u>Form of Warrant.</u>	8-K	4/14/2016	10.3
4.9#	<u>2016 Inducement Equity Incentive Plan.</u>	S-8	5/23/2016	4.1
4.10	<u>Form of 9.5% Original Issue Discount Senior Secured Debenture issued to the Purchasers on March 15, 2017.</u>	8-K	3/15/2017	4.1
4.11	<u>Form of Common Stock Purchase Warrant issued to the Purchasers on March 15, 2017.</u>	8-K	3/15/2017	4.2
4.12	<u>Registration Rights Agreement dated March 15, 2017, between the Registrant and the Purchasers.</u>	8-K	3/15/2017	4.3

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Exhibit Number	Description	Registrant s Form	Date Filed with the SEC	Exhibit Number
4.13	<u>Registration Rights Agreement, dated July 3, 2017, among the Registrant, FastPartner AB, Midroc Invest AB and Xenella Holding AB.</u>	10-Q	8/11/2017	4.7
5.1+	Opinion of Paul Hastings LLP.			
10.1#	<u>Chief Executive Employment Agreement, dated September 19, 2012, by and between the Registrant and Peter Maag.</u>	S-1	6/3/2014	10.6
10.2#	<u>Offer Letter, dated July 31, 2006, by and between the Registrant and James Yee.</u>	S-1	6/3/2014	10.7
10.3#	<u>Offer Letter, dated November 21, 2006, by and between the Registrant and Mitchell Nelles.</u>	S-1	6/3/2014	10.10
10.4#	<u>Form of Change of Control and Severance Agreement between the Registrant and each of its executive officers.</u>	S-1	6/3/2014	10.11
10.5#	<u>Form of Indemnification Agreement between the Registrant and each of its directors and executive officers.</u>	S-1	6/3/2014	10.1
10.6	<u>Lease, dated April 27, 2006, as amended on November 10, 2010, by and between the Registrant and BMR-Bayshore Boulevard LLC, for office and laboratory space located at 3260 Bayshore Boulevard, Brisbane, California 94005.</u>	S-1	6/3/2014	10.12
10.7	<u>PCR Patent License Agreement, dated November 16, 2004, by and between the Registrant and Roche Molecular Systems, Inc., and amendments thereto.</u>	S-1	6/3/2014	10.14
10.8	<u>Distribution and Licensing Agreement, dated June 20, 2013, by and between the Registrant and Diaxonhit SA.</u>	S-1/A	6/25/2014	10.15
10.9	<u>Amended and Restated Exclusive Agreement, dated January 27, 2014, by and between the Board of Trustees of the Leland Stanford Junior University and ImmuMetrix, Inc.</u>	S-1/A	7/15/2014	10.17
10.10	<u>Settlement Agreement and Mutual Release, dated September 11, 2014, by and between the Registrant and Roche Molecular Systems, Inc.</u>	10-Q	11/14/2014	10.14.1
10.11	<u>Loan and Security Agreement, dated as of January 30, 2015, by and between the Registrant and East West Bank.</u>	8-K	2/4/2015	10.1
10.12#	<u>Offer Letter, dated April 8, 2014, by and between the Registrant and George Bickerstaff.</u>	10-K	3/31/2015	10.14
10.13#	<u>Offer Letter, dated October 18, 2011, by and between the Registrant and Michael Goldberg.</u>	10-K	3/31/2015	10.15
10.14#	<u>Offer Letter, dated December 3, 2014, by and between the Registrant and John Sninsky.</u>	10-K	3/31/2015	10.16

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Exhibit Number	Description	Registrant s		Exhibit Number
		Form	Date Filed with the SEC	
10.15#	<u>Outside Director Compensation Policy.</u>	8-K	7/19/2016	10.1
10.16#	<u>Executive Incentive Compensation Plan.</u>	10-K	3/31/2015	10.19
10.17	<u>Conditional Share Purchase Agreement between the Registrant and Midroc Invest AB, dated as of December 16, 2015.</u>	8-K	12/22/2015	99.1
10.18	<u>Conditional Share Purchase Agreement between the Registrant and FastPartner AB, dated as of December 16, 2015.</u>	8-K	12/22/2015	99.2
10.19	<u>Conditional Share Purchase Agreement between the Registrant and Xenella Holding AB, dated as of December 16, 2015.</u>	8-K	12/22/2015	99.3
10.20	<u>Amendment to Conditional Share Purchase Agreement between the Registrant and Midroc Invest AB, dated as of February 8, 2016.</u>	8-K	2/12/2016	99.1
10.21	<u>Amendment to Conditional Share Purchase Agreement between the Registrant and FastPartner AB, dated as of February 8, 2016.</u>	8-K	2/12/2016	99.2
10.22	<u>Amendment to Conditional Share Purchase Agreement between the Registrant and Xenella Holding AB, dated as of February 8, 2016.</u>	8-K	2/12/2016	99.3
10.23#	<u>Offer Letter, between the Registrant and Charles Constanti, dated as of April 6, 2016.</u>	8-K	4/7/2016	10.1
10.24	<u>Securities Purchase Agreement, among the Registrant and the investors named therein, dated as of April 12, 2016.</u>	8-K	4/14/2016	10.1
10.25	<u>First Amendment to Loan and Security Agreement, between the Registrant and East West Bank, dated as of May 12, 2016.</u>	8-K	5/17/2016	10.1
10.26	<u>Securities Purchase Agreement, among the Registrant and the investors named therein, dated as of June 15, 2016.</u>	8-K	6/15/2016	10.1
10.27	<u>Second Amendment to Loan and Security Agreement, between the Registrant and East West Bank, dated as of June 27, 2016.</u>	8-K	6/29/2016	10.1
10.28	<u>Form of Commitment Agreement.</u>	10-Q	8/22/2016	10.1
10.29	<u>Second Amendment to Conditional Share Purchase Agreement, between the Registrant and Midroc Invest AB, effective as of December 31, 2016.</u>	8-K	1/23/2017	10.1
10.30		8-K	1/23/2017	10.2

Second Amendment to Conditional Share Purchase
Agreement, between the Registrant and FastPartner AB,
effective as of December 31, 2016

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Exhibit Number	Description	Registrant s		Exhibit Number
		Form	Date Filed with the SEC	
10.31	<u>Second Amendment to Conditional Share Purchase Agreement, between the Registrant and Xenella Holding AB, effective as of December 31, 2016.</u>	8-K	1/23/2017	10.3
10.32	<u>Securities Purchase Agreement dated March 15, 2017 between the Registrant and the Purchasers.</u>	8-K	3/15/2017	10.1
10.33	<u>Security Agreement dated March 15, 2017 between the Registrant and JGB Collateral LLC.</u>	8-K	3/15/2017	10.2
10.34#	<u>Offer Letter, between the Registrant and Michael Bell, dated as of April 21, 2017.</u>	10-K	4/21/2017	10.43
10.35	<u>Business Sale Agreement, between CareDx Pty Ltd and Conexio Genomics Pty Ltd., dated as of January 12, 2017.</u>	10-Q	6/9/2017	10.6
10.36	<u>Third Amendment to Conditional Share Purchase Agreement and Conversion Agreement, dated July 1, 2017, between the Registrant and Midroc Invest AB.</u>	10-Q	8/11/2017	10.1
10.37	<u>Third Amendment to Conditional Share Purchase Agreement and Conversion Agreement, dated July 1, 2017, between the Registrant and FastPartner AB.</u>	10-Q	8/11/2017	10.2
10.38	<u>Third Amendment to Conditional Share Purchase Agreement and Conversion Agreement, dated July 1, 2017, between the Registrant and Xenella Holding AB.</u>	10-Q	8/11/2017	10.3
23.1*	<u>Consent of Ernst & Young LLP.</u>			
23.2+	Consent of Paul Hastings LLP (included in Exhibit 5.1).			
24.1*	<u>Power of Attorney (included on the signature page to this Registration Statement).</u>			

+ To be filed by amendment.

Confidential treatment has been granted with respect to certain portions of this Exhibit. Omitted portions have been filed separately with the SEC.

Indicates management contract or compensatory plan or arrangement.

* Filed herewith.