

CAREDX, INC.

FORM S-1/A (Securities Registration Statement)

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**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, DC 20549**

**AMENDMENT NO. 1
TO
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)

**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:

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Approximate date of commencement of proposed sale to the public : From time to time after this registration statement becomes effective.

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 Securities to be Registered	Amount to be Registered ⁽¹⁾	Proposed Maximum Offering Price Per Share ⁽²⁾	Proposed Maximum Aggregate Offering Price	Amount of Registration Fee ⁽³⁾
Common Stock, par value \$0.001 per share	1,022,544 ⁽⁴⁾	\$6.605	\$6,753,903.12	\$840.86

- (1) Pursuant to Rule 416(a) under the Securities Act of 1933, as amended, this Registration Statement shall also cover any additional shares of the Registrant’s Common Stock that become issuable by reason of any stock dividend, stock split, recapitalization or other similar transaction effected without receipt of consideration.
- (2) Estimated solely for the purpose of calculating the amount of the registration fee pursuant to Rule 457(c) under the Securities Act of 1933, as amended. The offering price per share and aggregate offering price are based upon the average of the high and low prices for the Registrant’s Common Stock as reported on the NASDAQ Global Market on November 24, 2017, a date within five business days prior to the filing of this Registration Statement.
- (3) The Registrant previously paid \$615.19 of the registration fee in connection with the initial filing of this Registration Statement on August 25, 2017.
- (4) All 1,022,544 shares of Common Stock are to be offered by the selling stockholders named herein, which shares were issued to the selling stockholders pursuant to those certain Third Amendments to Conditional Share Purchase Agreements and Conversion Agreements, dated July 1, 2017, by and between the Registrant and the party signatory thereto, as amended.

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.

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 November 30, 2017



PROSPECTUS

CareDx, Inc.

1,022,544 Shares of Common Stock

This prospectus relates to the resale by the investors listed in the section of this prospectus entitled “Selling Stockholders” (the “Selling Stockholders”), of up to 1,022,544 shares (the “Shares”) of our common stock, par value \$0.001 per share (the “Common Stock”). The Shares consist of 1,022,544 shares of Common Stock issued on July 3, 2017 pursuant to those certain Third Amendments to Conditional Share Purchase Agreements and Conversion Agreements, dated July 1, 2017, as amended (collectively, the “Conversion Agreements”), that we entered into with each of Midroc Invest AB, FastPartner AB and Xenella Holding AB (collectively, the “Former Majority Shareholders”). We are registering the resale of the Shares as required by the Registration Rights Agreement we entered into with the Former Majority Shareholders on July 3, 2017, as amended (the “Registration Rights Agreement”).

Our registration of the Shares covered by this prospectus does not mean that the Selling Stockholders will offer or sell any of the Shares. The Selling Stockholders may sell the Shares covered by this prospectus in a number of different ways and at varying prices. For additional information on the possible methods of sale that may be used by the Selling Stockholders, you should refer to the section of this prospectus entitled “Plan of Distribution” beginning on page 8 of this prospectus. We will not receive any of the proceeds from the Shares sold by the Selling Stockholders.

No underwriter or other person has been engaged to facilitate the sale of the Shares in this offering. We will bear all costs, expenses and fees in connection with the registration of the Shares. The Selling Stockholders will bear all commissions and discounts, if any, attributable to their respective sales of the Shares.

You should read this prospectus, any applicable prospectus supplement and any related free writing prospectus carefully before you invest.

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 3 of this prospectus, any applicable prospectus supplement and in any applicable free writing prospectuses, and under similar headings in the documents that are incorporated by reference into this prospectus.

Our Common Stock is currently listed on the NASDAQ Global Market under the symbol “CDNA”. On November 29, 2017, the last reported sales price for our Common Stock was \$7.14 per share.

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

The date of this prospectus is _____, 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, any applicable prospectus supplement and any related free writing prospectus. We have not authorized anyone to provide you with information different from that contained in this prospectus, any applicable prospectus supplement 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, any applicable prospectus supplement 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, any applicable prospectus supplement 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.

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

This prospectus is part of a registration statement that we filed with the Securities and Exchange Commission (the “SEC”), under which the Selling Stockholders may offer from time to time up to an aggregate of 1,022,544 shares of our Common Stock in one or more offerings. If required, each time a Selling Stockholder offers Common Stock, in addition to this prospectus, we will provide you with a prospectus supplement that will contain specific information about the terms of that offering. We may also 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 a prospectus supplement and 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 applicable prospectus supplements, any related free writing prospectuses and the documents incorporated by reference into this prospectus, includes all material information relating to this offering. To the extent that any statement that we make in a prospectus supplement is inconsistent with statements made in this prospectus, the statements made in this prospectus will be deemed modified or superseded by those made in a prospectus supplement. Please carefully read both this prospectus and any prospectus supplement together with the additional information described below under “Important Information Incorporated by Reference”.

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, any applicable prospectus supplement 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, any applicable prospectus supplement and any related free writing prospectus, and under similar headings in the other documents that are incorporated by reference into this prospectus. You should also carefully read the information incorporated by reference into this prospectus, including our financial statements, and the exhibits to the registration statement of which this prospectus 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 (“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 (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 (“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 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 and our telephone number is (415) 287-2300.

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, 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.”

RISK FACTORS

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 under “Risk Factors” in any applicable prospectus supplement and 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 and any applicable prospectus supplement, 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.

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 (the “Securities Act”), and Section 21E of the Securities Exchange Act of 1934, as amended (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”, “seeks”, “intends” or “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 accompanying prospectus supplement, 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.

USE OF PROCEEDS

We will receive no proceeds from the sale of the Shares by the Selling Stockholders.

The Selling Stockholders will pay any underwriting discounts and commissions and any similar expenses they incur in disposing of the Shares. We will bear all other costs, fees and expenses incurred in effecting the registration of the Shares covered by this prospectus. These may include, without limitation, all registration and filing fees, printing fees and fees and expenses of our counsel and accountants.

SELLING STOCKHOLDERS

Unless the context otherwise requires, as used in this prospectus, “Selling Stockholders” includes the selling stockholders listed below and donees, pledgees, transferees or other successors-in-interest selling shares received after the date of this prospectus from a selling stockholder as a gift, pledge or other non-sale related transfer.

We have prepared this prospectus to allow the Selling Stockholders or their successors, assignees or other permitted transferees to sell or otherwise dispose of, from time to time, up to 1,022,544 shares of our Common Stock. The 1,022,544 shares of Common Stock to be offered hereby consist of 1,022,544 shares of Common Stock issued to the Selling Stockholders on July 3, 2017 pursuant to the Conversion Agreements. Pursuant to the Registration Rights Agreement, we agreed to register the shares of Common Stock issued pursuant to the Conversion Agreements.

All of the 1,022,544 shares of Common Stock to be offered hereby were issued in reliance on the exemption from securities registration in Section 4(a)(2) under the Securities Act and Rule 506 promulgated thereunder.

The shares of Common Stock to be offered by the Selling Stockholders are “restricted” securities under applicable federal and state securities laws and are being registered under the Securities Act to give the Selling Stockholders the opportunity to sell these shares publicly. The registration of these shares does not require that any of the shares be offered or sold by the Selling Stockholders. Subject to these resale restrictions, the Selling Stockholders may from time to time offer and sell all or a portion of their shares indicated below in privately negotiated transactions or on the NASDAQ Global Market or any other market on which our Common Stock may subsequently be listed.

The registered shares may be sold directly or through brokers or dealers, or in a distribution by one or more underwriters on a firm commitment or best effort basis. To the extent required, the names of any agent or broker-dealer and applicable commissions or discounts and any other required information with respect to any particular offering will be set forth in a prospectus supplement. See the section of this prospectus entitled “Plan of Distribution”.

No estimate can be given as to the amount or percentage of Common Stock that will be held by the Selling Stockholders after any sales made pursuant to this prospectus because the Selling Stockholders are not required to sell any of the Shares being registered under this prospectus. The following table assumes that the Selling Stockholders will sell all of the Shares listed in this prospectus.

Unless otherwise indicated in the footnotes below, no Selling Stockholder has had any material relationship with us or any of our affiliates within the past three years other than as a security holder.

We have prepared this table based on written representations and information furnished to us by or on behalf of the Selling Stockholders. Since the date on which the Selling Stockholders provided this information, the Selling Stockholders may have sold, transferred or otherwise disposed of all or a portion of the shares of Common Stock in a transaction exempt from the registration requirements of the Securities Act. Unless otherwise indicated in the footnotes below, we believe that: (1) none of the Selling Stockholders are broker-dealers or affiliates of broker-dealers, (2) no Selling Stockholder has direct or indirect agreements or understandings with any person to distribute their Shares, and (3) the Selling Stockholders have sole voting and investment power with respect to all Shares beneficially owned, subject to applicable community property laws. To the extent any Selling Stockholder identified below is, or is affiliated with, a broker-dealer, it could be deemed, individually but not severally, to be an “underwriter” within the meaning of the Securities Act. Information about the Selling Stockholders may change over time. Any changed information will be set forth in supplements to this prospectus, if required.

The following table sets forth information with respect to the beneficial ownership of our Common Stock held, as of November 20, 2017, by the Selling Stockholders and the number of Shares being registered hereby and information with respect to shares to be beneficially owned by the Selling Stockholders after completion of the offering of the shares for resale. The percentages in the column “Shares Beneficially Owned Prior to the Offering of Shares for Resale” in the following table reflect the shares beneficially owned by the Selling Stockholders as a percentage of the 28,603,602 shares of Common Stock outstanding as of November 20, 2017, adjusted as required by rules promulgated by the SEC. These rules attribute beneficial ownership of shares of Common Stock issuable upon conversion of convertible securities or upon exercise of warrants that are convertible or exercisable, as applicable, either immediately or on or before January 19, 2018, which is 60 days after November 20, 2017. These shares are deemed to be outstanding and beneficially owned by the person holding such convertible securities or warrants for the purpose of computing the percentage ownership of that person, but they are not treated as outstanding for the purpose of computing the percentage ownership of any other person. Additionally, the percentages in the column “Shares Beneficially Owned After the Offering of Shares for Resale” in the following table reflect the shares beneficially owned by the Selling Stockholders as a percentage of the 28,603,602 shares of Common Stock outstanding as of November 20, 2017, adjusted as required by rules promulgated by the SEC and described above in this paragraph.

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Name	Shares Beneficially Owned Prior to the Offering of Shares for Resale (1)		Maximum Number of Shares of Common Stock to be Offered for Resale Pursuant to this Prospectus (2)	Shares Beneficially Owned After the Offering of Shares for Resale (1)(2)	
	Number	Percentage		Number	Percentage
FastPartner AB	2,130,996(3)	7.4%	424,184	1,706,812	5.9%
Midroc Invest AB	2,394,504(4)	8.2%	476,463	1,918,041	6.6%
Xenella Holding AB	871,291(5)	3.0%	121,897	749,394	2.6%
TOTAL	5,396,791	—	1,022,544	4,374,247	—

- (1) Beneficial ownership is determined in accordance with Rule 13d-3 under the Exchange Act. In computing the number of shares beneficially owned by a person and the percentage ownership of that person, shares of Common Stock subject to warrants, options and other convertible securities held by that person that are currently exercisable or exercisable within 60 days (of November 20, 2017) are deemed outstanding. Does not take into account any limitations on exercise contained in any warrants. Shares subject to warrants, options and other convertible securities, however, are not deemed outstanding for the purpose of computing the percentage ownership of any other person.
- (2) Assumes that the Selling Stockholders dispose of all of the shares of Common Stock covered by this prospectus and that the Selling Stockholders do not acquire beneficial ownership of any additional shares.
- (3) Consists of (i) 1,751,046 shares of Common Stock held by the Selling Stockholder, including 424,184 shares of Common Stock issued to the Selling Stockholder on July 3, 2017 pursuant to the Conversion Agreement between ourselves and FastPartner AB; and (ii) 379,950 shares of Common Stock issuable upon exercise of warrants held by the Selling Stockholder. Mr. Sven Olof Johansson has sole voting and investment power with respect to the shares owned by the Selling Stockholder. The address for the Selling Stockholder is Post Office Box 55625, 102 14 Stockholm, Sweden.
- (4) Consists of (i) 1,967,436 shares of Common Stock held by the Selling Stockholder, including 476,463 shares of Common Stock issued to the Selling Stockholder on July 3, 2017 pursuant to the Conversion Agreement between ourselves and Midroc Invest AB; and (ii) 427,068 shares of Common Stock issuable upon exercise of warrants held by the Selling Stockholder. Mr. Mohammed Al Amoudi has sole voting and investment power with respect to the shares owned by the Selling Stockholder. The address for the Selling Stockholder is Post Office Box 3002, 169 03 Solna, Sweden.
- (5) Consists of (i) 675,802 shares of Common Stock held by the Selling Stockholder, including 121,897 shares of Common Stock issued to the Selling Stockholder on July 3, 2017 pursuant to the Conversion Agreement between ourselves and Xenella Holding AB; and (ii) 195,489 shares of Common Stock issuable upon exercise of warrants held by the Selling Stockholder. Messrs. Sven Olof Johansson and Mohammed Al Amoudi have shared voting and investment power with respect to the shares owned by the Selling Stockholder. The address for the Selling Stockholder is C/O Västra Hamnen Corporate Finance AB, 211 19 Malmö, Sweden.

Indemnification

Under the Registration Rights Agreement, we have agreed to indemnify the Selling Stockholders of the Shares against certain losses, claims, damages, liabilities, settlement costs and expenses, including liabilities under the Securities Act.

PLAN OF DISTRIBUTION

The Selling Stockholders may, from time to time, sell any or all of their shares of common stock on any stock exchange, market or trading facility on which the shares are traded or in private transactions. These sales may be at fixed or negotiated prices. The Selling Stockholders may use any one or more of the following methods when selling shares:

- ordinary brokerage transactions and transactions in which the broker-dealer solicits purchasers;
- block trades in which the broker-dealer will attempt to sell the shares as agent but may position and resell a portion of the block as principal to facilitate the transaction;
- purchases by a broker-dealer as principal and resale by the broker-dealer for its account;
- an exchange distribution in accordance with the rules of the applicable exchange;
- privately negotiated transactions;
- short sales;
- broker-dealers may agree with the Selling Stockholders to sell a specified number of such shares at a stipulated price per share;
- a combination of any such methods of sale; and
- any other method permitted pursuant to applicable law.

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

Broker-dealers engaged by the Selling Stockholders may arrange for other brokers-dealers to participate in sales. Broker-dealers may receive commissions or discounts from the Selling Stockholders (or, if any broker-dealer acts as agent for the purchaser of shares, from the purchaser) in amounts to be negotiated. The Selling Stockholders do not expect these commissions and discounts to exceed what is customary in the types of transactions involved. Any profits on the resale of shares of common stock by a broker-dealer acting as principal might be deemed to be underwriting discounts or commissions under the Securities Act. Discounts, concessions, commissions and similar selling expenses, if any, attributable to the sale of shares will be borne by a Selling Stockholder. The Selling Stockholders may agree to indemnify any agent, dealer or broker-dealer that participates in transactions involving sales of the shares if liabilities are imposed on that person under the Securities Act.

The Selling Stockholders may from time to time pledge or grant a security interest in some or all of the shares of common stock owned by them and, if they default in the performance of their secured obligations, the pledgees or secured parties may offer and sell the shares of common stock from time to time under this prospectus after we have filed a supplement to this prospectus under Rule 424(b)(3) or other applicable provision of the Securities Act supplementing or amending the list of Selling Stockholders to include the pledgee, transferee or other successors in interest as Selling Stockholders under this prospectus.

The Selling Stockholders also may transfer the shares of common stock in other circumstances, in which case the transferees, pledgees or other successors in interest will be the selling beneficial owners for purposes of this prospectus and may sell the shares of common stock from time to time under this prospectus after we have filed a supplement to this prospectus under Rule 424(b)(3) or other applicable provision of the Securities Act supplementing or amending the list of Selling Stockholders to include the pledgee, transferee or other successors in interest as Selling Stockholders under this prospectus.

The Selling Stockholders and any broker-dealers or agents that are involved in selling the shares of common stock may be deemed to be “underwriters” within the meaning of the Securities Act in connection with such sales. In such event, any commissions received by such broker-dealers or agents and any profit on the resale of the shares of common stock purchased by them may be deemed to be underwriting commissions or discounts under the Securities Act.

We are required to pay all fees and expenses incident to the registration of the shares of common stock. We have agreed to indemnify the Selling Stockholders against certain losses, claims, damages and liabilities, including liabilities under the Securities Act.

The Selling Stockholders have advised us that they have not entered into any agreements, understandings or arrangements with any underwriters or broker-dealers regarding the sale of their shares of common stock, nor is there an underwriter or coordinating broker acting in connection with a proposed sale of shares of common stock by any Selling Stockholder. If we are notified by any Selling Stockholder that any material arrangement has been entered into with a broker-dealer for the sale of shares of common stock, if required, we will file a supplement to this prospectus. If the Selling Stockholders use this prospectus for any sale of the shares of common stock, they will be subject to the prospectus delivery requirements of the Securities Act.

The anti-manipulation rules of Regulation M under the Securities Exchange Act of 1934, as amended, may apply to sales of our common stock and activities of the Selling Stockholders.

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 November 20, 2017, there were 28,603,602 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.

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 November 20, 2017, options to purchase 2,129,677 shares of our Common Stock with a weighted-average exercise price of \$5.22 per share were outstanding and restricted stock units with respect to 438,288 shares of our Common Stock were outstanding.

Warrants

As of November 20, 2017, warrants to purchase an aggregate of 3,862,082 shares of Common Stock with a weighted-average exercise price of \$4.55 per share were outstanding. All of such warrants to purchase shares of Common Stock are currently exercisable, except to the extent that they 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 (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 certain dilutive issuances.

Debentures

As of November 20, 2017, we had outstanding debentures with an aggregate principal amount of \$26.5 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 \$4.33 per share (the "Conversion Price"), which is subject to adjustment for accrued and unpaid interest and upon the occurrence of certain transactions (the "Debentures"). Additionally, 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.

Registration Rights

On July 3, 2017, we entered into the 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 Conversion Agreements. We are registering 1,022,544 shares of Common Stock for resale pursuant to the registration statement of which this prospectus forms a part as required by the Registration Rights Agreement.

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 again on October 10, 2017 and the warrants are currently exercisable for an aggregate of 1,338,326 shares of Common Stock.

On April 12, 2016, we entered into a securities purchase agreement (the "April SPA") with certain accredited investors in connection with the sale and issuance of approximately \$14.1 million worth of units ("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 (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 (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 April SPA.

On June 15, 2016, we entered into a securities purchase agreement (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.

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.
- **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 undesignated preferred stock with rights and preferences, including voting rights,

designated from time to time by our board of directors. The existence of authorized but unissued shares of preferred stock 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 (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.

LEGAL MATTERS

Unless otherwise indicated in the applicable prospectus supplement, the validity of the Common Stock offered by this prospectus, and any supplement thereto, will be passed upon for us by Paul Hastings LLP, Palo Alto, California.

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.

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, (ii) August 11, 2017, and (iii) November 9, 2017;
- (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), (vii) July 14, 2017, (viii) October 5, 2017, (ix) October 10, 2017, and (x) November 15, 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 or of the related prospectus supplement 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 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



CAREDX, INC.

1,022,544 SHARES OF COMMON STOCK

PROSPECTUS

, 2017

Neither we nor the Selling Stockholders have authorized any dealer, salesperson or other person to give any information or to make any representations not contained in this prospectus or any prospectus supplement. 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.

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 in connection with the sale of the common stock being registered. The security holders will not bear any portion of such expenses. All the amounts shown are estimates except for the registration fee.

SEC registration fee	\$ 840.86
Legal fees and expenses	125,000
Accounting fees and expenses	25,000
Printing, transfer agent fees and miscellaneous expenses	5,000
Total	\$ 155,840.86

Item 14. Indemnification of Directors and Officers

Section 145 of the General Corporation Law of the State of Delaware (“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.

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 August 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.

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 Allenex AB, the Registrant issued 1,375,026 shares of the Registrant's common stock to the shareholders of Allenex AB, in exchange for approximately 98.37% of the outstanding shares of Allenex AB. The shares of the Registrant's common stock issued to the shareholders of Allenex AB 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.

[Table of Contents](#)**Item 16. Exhibits and Financial Statement Schedules****(a) Exhibits**

Exhibit Number	Description	Registrant's Form	Date Filed with the SEC	Exhibit Number
2.1†	Agreement and Plan of Merger, dated May 17, 2014, by and between Registrant, Monitor Acquisition Corporation, ImmuMetrix, Inc. and Mattias Westman, as Holders' Agent.	S-1/A	7/15/2014	2.1
2.1	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.	S-1/A	6/25/2014	2.2
3.1	Amended and Restated Certificate of Incorporation.	10-Q	8/28/2014	3.1
3.2	Amended and Restated Bylaws.	10-Q	8/28/2014	3.4
4.1	Form of Registrant's Common Stock Certificate.	10-K	3/31/2015	4.1
4.2	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.	10-K	3/31/2015	4.2
4.3#	1998 Equity Incentive Plan and forms of agreements thereunder.	S-1	6/3/2014	10.2
4.4#	2008 Equity Incentive Plan and forms of agreements thereunder.	S-1	6/3/2014	10.3
4.5#	2014 Equity Incentive Plan and forms of agreements thereunder.	S-8	7/18/2014	4.4
4.6#	2014 Employee Stock Purchase Plan and forms of agreements thereunder.	S-8	7/18/2014	4.5
4.7#	ImmuMetrix, Inc. 2013 Equity Incentive Plan.	S-1	6/3/2014	10.19
4.8	Form of Warrant.	8-K	4/14/2016	10.3
4.9#	2016 Inducement Equity Incentive Plan.	S-8	5/23/2016	4.1
4.10	Form of 9.5% Original Issue Discount Senior Secured Debenture issued to the Purchasers on March 15, 2017.	8-K	3/15/2017	4.1
4.11	Form of Common Stock Purchase Warrant issued to the Purchasers on March 15, 2017.	8-K	3/15/2017	4.2
4.12	Registration Rights Agreement dated March 15, 2017, between the Registrant and the Purchasers.	8-K	3/15/2017	4.3
4.13	Registration Rights Agreement, dated July 3, 2017, among the Registrant, FastPartner AB, Midroc Invest AB and Xenella Holding AB.	10-Q	8/11/2017	4.7
4.14	Amendment No. 1 to Registration Rights Agreement, dated November 14, 2017, among the Registrant, FastPartner AB, Midroc Invest AB and Xenella Holding AB.	8-K	11/14/2017	4.1
5.1*	Opinion of Paul Hastings LLP.			
10.1#	Chief Executive Employment Agreement, dated September 19, 2012, by and between the Registrant and Peter Maag.	S-1	6/3/2014	10.6
10.2#	Offer Letter, dated July 31, 2006, by and between the Registrant and James Yee.	S-1	6/3/2014	10.7
10.3#	Offer Letter, dated November 21, 2006, by and between the Registrant and Mitchell Nelles.	S-1	6/3/2014	10.10
10.4#	Form of Change of Control and Severance Agreement between the Registrant and each of its executive officers.	S-1	6/3/2014	10.11
10.5#	Form of Indemnification Agreement between the Registrant and each of its directors and executive officers.	S-1	6/3/2014	10.1
10.6	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.	S-1	6/3/2014	10.12
10.7†	PCR Patent License Agreement, dated November 16, 2004, by and between the Registrant and Roche Molecular Systems, Inc., and amendments thereto.	S-1	6/3/2014	10.14
10.8†	Distribution and Licensing Agreement, dated June 20, 2013, by and between the Registrant and Diaxonhit SA.	S-1/A	6/25/2014	10.15
10.9†	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.	S-1/A	7/15/2014	10.17
10.10†	Settlement Agreement and Mutual Release, dated September 11, 2014, by and between the Registrant and Roche Molecular Systems, Inc.	10-Q	11/14/2014	10.14.1
10.11	Loan and Security Agreement, dated as of January 30, 2015, by and between the Registrant and East West Bank.	8-K	2/4/2015	10.1

10.12#	Offer Letter, dated April 8, 2014, by and between the Registrant and George Bickerstaff.	10-K	3/31/2015	10.14
10.13#	Offer Letter, dated October 18, 2011, by and between the Registrant and Michael Goldberg.	10-K	3/31/2015	10.15
10.14#	Offer Letter, dated December 3, 2014, by and between the Registrant and John Sninsky.	10-K	3/31/2015	10.16
10.15#	Outside Director Compensation Policy.	8-K	7/19/2016	10.1
10.16#	Executive Incentive Compensation Plan.	10-K	3/31/2015	10.19
10.17	Conditional Share Purchase Agreement between the Registrant and Midroc Invest AB, dated as of December 16, 2015.	8-K	12/22/2015	99.1
10.18	Conditional Share Purchase Agreement between the Registrant and FastPartner AB, dated as of December 16, 2015.	8-K	12/22/2015	99.2
10.19	Conditional Share Purchase Agreement between the Registrant and Xenella Holding AB, dated as of December 16, 2015.	8-K	12/22/2015	99.3
10.20	Amendment to Conditional Share Purchase Agreement between the Registrant and Midroc Invest AB, dated as of February 8, 2016.	8-K	2/12/2016	99.1
10.21	Amendment to Conditional Share Purchase Agreement between the Registrant and FastPartner AB, dated as of February 8, 2016.	8-K	2/12/2016	99.2
10.22	Amendment to Conditional Share Purchase Agreement between the Registrant and Xenella Holding AB, dated as of February 8, 2016.	8-K	2/12/2016	99.3
10.23#	Offer Letter, between the Registrant and Charles Constanti, dated as of April 6, 2016.	8-K	4/7/2016	10.1
10.24	Securities Purchase Agreement, among the Registrant and the investors named therein, dated as of April 12, 2016.	8-K	4/14/2016	10.1
10.25	First Amendment to Loan and Security Agreement, between the Registrant and East West Bank, dated as of May 12, 2016.	8-K	5/17/2016	10.1
10.26	Securities Purchase Agreement, among the Registrant and the investors named therein, dated as of June 15, 2016.	8-K	6/15/2016	10.1
10.27	Second Amendment to Loan and Security Agreement, between the Registrant and East West Bank, dated as of June 27, 2016.	8-K	6/29/2016	10.1
10.28	Form of Commitment Agreement.	10-Q	8/22/2016	10.1
10.29	Second Amendment to Conditional Share Purchase Agreement, between the Registrant and Midroc Invest AB, effective as of December 31, 2016.	8-K	1/23/2017	10.1
10.30	Second Amendment to Conditional Share Purchase Agreement, between the Registrant and FastPartner AB, effective as of December 31, 2016.	8-K	1/23/2017	10.2
10.31	Second Amendment to Conditional Share Purchase Agreement, between the Registrant and Xenella Holding AB, effective as of December 31, 2016.	8-K	1/23/2017	10.3
10.32	Securities Purchase Agreement dated March 15, 2017 between the Registrant and the Purchasers.	8-K	3/15/2017	10.1
10.33	Security Agreement dated March 15, 2017 between the Registrant and JGB Collateral LLC.	8-K	3/15/2017	10.2
10.34#	Offer Letter, between the Registrant and Michael Bell, dated as of April 21, 2017.	10-K	4/21/2017	10.43
10.35†	Business Sale Agreement, between CareDx Pty Ltd and Conexio Genomics Pty Ltd., dated as of January 12, 2017.	10-Q	6/9/2017	10.6
10.36	Third Amendment to Conditional Share Purchase Agreement and Conversion Agreement, dated July 1, 2017, between the Registrant and Midroc Invest AB.	10-Q	8/11/2017	10.1
10.37	Third Amendment to Conditional Share Purchase Agreement and Conversion Agreement, dated July 1, 2017, between the Registrant and FastPartner AB.	10-Q	8/11/2017	10.2
10.38	Third Amendment to Conditional Share Purchase Agreement and Conversion Agreement, dated July 1, 2017, between the Registrant and Xenella Holding AB.	10-Q	8/11/2017	10.3
10.39	Fourth Amendment to Conditional Share Purchase Agreement and Conversion Agreement, dated November 14, 2017, between the Registrant and Midroc Invest AB.	8-K	11/15/2017	10.1
10.40	Fourth Amendment to Conditional Share Purchase Agreement and Conversion Agreement, dated November 14, 2017, between the Registrant and FastPartner AB.	8-K	11/15/2017	10.2
10.41	Fourth Amendment to Conditional Share Purchase Agreement and Conversion Agreement, dated November 14, 2017, between the Registrant and Xenella Holding AB.	8-K	11/15/2017	10.3
23.1*	Consent of Independent Registered Public Accounting Firm.			
23.2*	Consent of Paul Hastings LLP (included in Exhibit 5.1).			
24.1*	Power of Attorney (included on the signature page to this Registration Statement).			

† 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.

(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:

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

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

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

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

Provided, however, that:

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

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

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

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

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

(ii) Each prospectus required to be filed pursuant to Rule 424(b)(2), (b)(5), or (b)(7) as part of a registration statement in reliance on Rule 430B relating to an offering made pursuant to Rule 415(a)(1)(i), (vii), or (x) for the purpose of providing the information required by section 10(a) of the Securities Act of 1933 shall be deemed to be part of and included in the registration statement as of the earlier of the date such form of prospectus is first used after effectiveness or the date of the first contract of sale of securities in the offering described in the prospectus. As provided in Rule 430B, for liability purposes of the issuer and any person that is at that date an underwriter, such date shall be deemed to be a new effective date of the registration statement relating to the securities in the registration statement to which that prospectus relates, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof. *Provided, however*, that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such effective date, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such effective date.

(5) If the registrant is subject to Rule 430C, each prospectus filed pursuant to Rule 424(b) as part of a registration statement relating to an offering, other than registration statements relying on Rule 430B or other than prospectuses filed in reliance on Rule 430A, shall be deemed to be part of and included in the registration statement as of the date it is first used after effectiveness. *Provided, however*, that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such first use, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such date of first use.

(6) That, 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.

(7) 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

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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.

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 November 30, 2017.

CAREDX, INC.

By: /s/ Peter Maag
Peter Maag
President and Chief Executive Officer

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.

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ Peter Maag</u> Peter Maag	President, Chief Executive Officer and Director <i>(Principal Executive Officer)</i>	November 30, 2017
<u>/s/ Michael Bell</u> Michael Bell	Chief Financial Officer <i>(Principal Financial and Accounting Officer)</i>	November 30, 2017
<u>*</u> George W. Bickerstaff	Director	November 30, 2017
<u>*</u> Fred E. Cohen	Director	November 30, 2017
<u>*</u> Michael Goldberg	Director	November 30, 2017
<u>*</u> William Hagstrom	Director	November 30, 2017
<u>*</u> Ralph Snyderman	Director	November 30, 2017

*By: /s/ Peter Maag
Peter Maag
Attorney-in-Fact

November 30, 2017

94656.00001

CareDx, Inc.
3260 Bayshore Boulevard
Brisbane, CA 94005

Re: CareDx, Inc. Registration Statement on Form S-1

Ladies and Gentlemen:

We have acted as counsel to CareDx, Inc., a Delaware corporation (the “**Company**”), in connection with the preparation and filing by the Company of a Registration Statement on Form S-1 (File No. 333-220183) of the Company (as amended through the date hereof, the “**Registration Statement**”) with the U.S. Securities and Exchange Commission (the “**Commission**”) under the Securities Act of 1933, as amended (the “**Securities Act**”), on or about the date hereof, with respect to the resale from time to time by the selling stockholders of the Company, as detailed in the Registration Statement (the “**Selling Stockholders**”), of up to 1,022,544 shares (the “**Shares**”) of the Company’s common stock, par value \$0.001 per share (“**Common Stock**”), issued by the Company to the Selling Stockholders on July 3, 2017 pursuant to the terms of those certain Third Amendments to Conditional Share Purchase Agreements and Conversion Agreements, dated July 1, 2017 by and between the Company and each of Midroc Invest AB, FastPartner AB and Xenella Holding AB, as amended (the “**Conversion Agreements**”).

As such counsel and for purposes of our opinion set forth below, we have examined and relied upon originals or copies, certified or otherwise identified to our satisfaction, of such documents, resolutions, certificates and other instruments of the Company and corporate records furnished to us by the Company, and have reviewed certificates of public officials, statutes, records and such other instruments and documents as we have deemed necessary or appropriate as a basis for the opinion set forth below, including, without limitation:

- (i) the Registration Statement;
- (ii) the Amended and Restated Certificate of Incorporation of the Company, as amended from time to time, as certified as of November 30, 2017 by the Office of the Secretary of State of the State of Delaware;
- (iii) the Amended and Restated Bylaws of the Company as presently in effect, as certified by an officer of the Company as of November 30, 2017;
- (v) the Conversion Agreements; and
- (viii) a certificate, dated as of November 30, 2017, from the Office of the Secretary of State of the State of Delaware as to the existence and good standing of the Company in the State of Delaware (the “**Good Standing Certificate**”).

In addition to the foregoing, we have made such investigations of law as we have deemed necessary or appropriate as a basis for the opinion set forth in this opinion letter.

In such examination and in rendering the opinion expressed below, we have assumed, without independent investigation or verification: (i) the genuineness of all signatures on all agreements, instruments, corporate records, certificates and other documents submitted to us; (ii) the authenticity and completeness of all agreements, instruments, corporate records, certificates and other documents submitted to us as originals; (iii) that all agreements, instruments, corporate records, certificates and other documents submitted to us as certified, electronic, facsimile, conformed, photostatic or other copies conform to originals thereof, and that such originals are authentic and complete; (iv) the legal capacity and authority of all persons or entities (other than the Company) executing all agreements, instruments, corporate records, certificates and other documents submitted to us; (v) the due authorization, execution and delivery of all agreements, instruments, corporate records, certificates and other documents by all parties thereto (other than the Company); (vi) that no documents submitted to us have been amended or terminated orally or in writing except as has been disclosed to us in writing; (vii) that the statements contained in the certificates and comparable documents of public officials, officers and representatives of the Company and other persons on which we have relied for the purposes of this opinion letter are true and correct; (viii) that there has not been any change in the good standing status of the Company from that reported in the Good Standing Certificate; and (ix) that each of the officers and directors of the Company has properly exercised his or her fiduciary duties. As to all questions of fact material to this opinion letter, and as to the materiality of any fact or other matter referred to herein, we have relied (without independent investigation or verification) upon representations and certificates or comparable documents of officers and representatives of the Company. Our knowledge of the Company and its legal and other affairs is limited by the scope of our engagement, which scope includes the delivery of this opinion letter. We do not represent the Company with respect to all legal matters or issues. The Company may employ other independent counsel and, to our knowledge, handles certain legal matters and issues without the assistance of independent counsel.

Based upon the foregoing, and in reliance thereon, and subject to the assumptions, limitations, qualifications and exceptions set forth herein, we are of the opinion that the Shares are validly issued, fully paid and nonassessable.

Without limiting any of the other limitations, exceptions and qualifications stated elsewhere herein, we express no opinion with regard to the applicability or effect of the laws of any jurisdiction other than the General Corporation Law of the State of Delaware, as in effect on the date of this opinion letter.

This opinion letter deals only with the specified legal issues expressly addressed herein, and you should not infer any opinion that is not explicitly stated herein from any matter addressed in this opinion letter.

This opinion letter is rendered solely in connection with the registration of the Shares for resale by the Selling Stockholders under the Registration Statement. This opinion letter is rendered as of the date hereof, and we assume no obligation to advise you or any other person with regard to any change after the date hereof in the circumstances or the law that may bear on the matters set forth herein after the effectiveness of the Registration Statement, even if the change may affect the legal analysis or a legal conclusion or other matters in this opinion letter.

CareDx, Inc.
November 30, 2017
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We hereby consent to the filing of this opinion letter as Exhibit 5.1 to the Registration Statement. In giving such consent, we do not hereby admit that we are within the category of persons whose consent is required under Section 7 of the Securities Act or the rules or regulations of the Commission thereunder.

Very truly yours,

/s/ Paul Hastings LLP

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the reference to our firm under the caption “Experts” in Amendment No. 1 to the Registration Statement (Form S-1 No. 333-220183) and related Prospectus of CareDx, Inc. for the registration of 1,022,544 shares of its common stock and to the incorporation by reference therein of our report dated April 21, 2017, with respect to the consolidated financial statements of CareDx, Inc. included in its Annual Report (Form 10-K) for the year ended December 31, 2016, filed with the Securities and Exchange Commission.

/s/ Ernst & Young LLP

Redwood City, California

November 30, 2017