

Accelerate Diagnostics, Inc
Form S-3
March 10, 2014

As filed with the Securities and Exchange Commission on March 10, 2014

Registration No. 333-_____

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM S-3

REGISTRATION STATEMENT UNDER THE SECURITIES ACT OF 1933

Accelerate Diagnostics, Inc.

(Exact name of registrant as specified in its charter)

Delaware
(State or other jurisdiction of
of incorporation or organization)

84-1072256
(I.R.S. Employer
Identification No.)

3950 South Country Club Road, Suite 470
Tucson, Arizona
(Address of principal executive offices)

85714
(Zip Code)

Lawrence Mehren

Copies to:

President and Chief Executive Officer

Daniel M. Mahoney

Accelerate Diagnostics, Inc.

Snell & Wilmer L.L.P.

3950 South Country Club Road, Suite 470

One Arizona Center

Tucson, Arizona 85714

400 East Van Buren

(520) 365-3100

Phoenix, Arizona 85004

(Name, address and telephone number, including area **(602) 382-6000**

code, of agent for service)

Approximate date of commencement of proposed sale to public:

As soon as practicable after this Registration Statement is declared effective.

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

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

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

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

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

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

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

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

CALCULATION OF REGISTRATION FEE

Title of each class of securities to be registered (1)	Proposed maximum aggregate offering price	Amount of registration fee
Subscription Rights to purchase Common Stock, par value \$0.001 per share (1)	N/A	(2) N/A (2)
Common Stock, par value \$0.001 per share, issuable upon exercise of Subscription Rights (1)	\$ 45,000,000	(3) \$ 5,796 (3)
TOTAL:	\$ 45,000,000	\$ 5,796

(1) This Registration Statement relates to: (a) non-transferable Subscription Rights to purchase Common Stock of the Registrant, which Subscription Rights are to be issued to holders of the Registrant's Common Stock on a pro rata basis without consideration, and (b) the shares of the Registrant's Common Stock issuable upon the exercise of such non-transferable Subscription Rights pursuant to the Rights Offering.

(2) The Subscription Rights are being issued without consideration. Pursuant to Rule 457(g), no separate registration fee is payable with respect to the Subscription Rights being offered hereby since the Subscription Rights are being registered in the same Registration Statement as the securities to be offered pursuant thereto.

(3) Calculated pursuant to Rule 457(o) based on an estimate of the proposed maximum offering price. The actual number of Subscription Rights and shares of the Registrant's Common Stock to be issued in connection with the Rights Offering will be determined based on the market price of the Registrant's Common Stock at a future date.

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, or until this Registration Statement shall become effective on such date as the Securities and Exchange Commission, acting pursuant to such Section 8(a), may determine.

The information contained in this Prospectus is not complete and may be changed. We may not sell these securities until the registration statement filed with the Securities and Exchange Commission is effective. This Prospectus is not an offer to sell these securities and we are not soliciting offers to buy these securities in any jurisdiction where the offer or sale is not permitted.

SUBJECT TO COMPLETION, DATED MARCH 3, 2014

PROSPECTUS

Subscription Rights to purchase up to [·] shares of Common Stock at \$[·] per share

and the shares of Common Stock issuable upon the exercise of such Subscription Rights

Accelerate Diagnostics, Inc., a Delaware corporation (“us”, “we”, “our”, “Accelerate” or the “Company”), is distributing, at no charge to holders of our common stock, par value \$0.001 per share (“Common Stock”), as of 5:00 p.m., New York City time, on March 14, 2014 (the “Record Date”), non-transferable Subscription Rights (“Subscription Rights”) to purchase an aggregate of up to [·] shares of our Common Stock (the “Rights Offering”).

For each share of Common Stock held by a stockholder of the Company at the close of business on the Record Date, such stockholder will receive [·] Subscription Rights. Subscription Rights may only be exercised in whole numbers; we will not issue fractional shares and will round all of the Subscription Rights down to the nearest whole number. Each whole Subscription Right will allow the holder thereof to subscribe to purchase one share of Common Stock (the “Subscription Privilege”) at a subscription price of \$[·] per share (the “Subscription Price”).

If any Subscription Rights remain unexercised after the expiration of the Rights Offering, the Jack W. Schuler Living Trust (the “Schuler Trust”) and the Schuler Family Foundation (the “Schuler Foundation” and, together with the Schuler Trust, the “Standby Purchasers”) have agreed to purchase, at the Subscription Price, in a private transaction separate

from the Rights Offering, any and all shares of Common Stock not subscribed for by the Company's stockholders pursuant to the exercise of their Subscription Privileges. The Standby Purchasers are jointly and severally responsible for the fulfillment of their obligation to purchase such shares. The trustee of the Schuler Trust and the President of the Schuler Foundation is Jack Schuler, who is a director of the Company. No fees or other consideration will be paid by the Company to the Standby Purchasers in exchange for their commitment to purchase any and all unsubscribed shares of Common Stock following the Rights Offering. Any shares of Common Stock issued to the Standby Purchasers in connection with the standby purchase commitment described above will be "restricted securities" as that term is defined in Rule 144 under the Securities Act of 1933, as amended. The Schuler Trust is a current stockholder of the Company, and the Schuler Trust has informed the Company that it will exercise its Subscription Privilege. In light of the Standby Purchasers' commitment, the Company anticipates that it will receive \$45,000,000 in proceeds (before expenses) if the Rights Offering is completed.

The Subscription Rights will expire if they are not exercised by 5:00 p.m., New York City time, on [·], 2014. The Rights Offering period may not be extended. You should carefully consider whether to exercise your Subscription Rights before the expiration of the Rights Offering. All exercises of Subscription Rights are irrevocable. Our Board of Directors is making no recommendation regarding your exercise of the Subscription Rights. The Subscription Rights may not be sold or transferred. We may in our sole discretion cancel the Rights Offering at any time and for any reason. If we cancel the Rights Offering, the Subscription Agent will return all subscription payments it has received for the cancelled offering without interest or penalty.

Our Common Stock is listed on the NASDAQ Capital Market under the symbol “AXDX”. The shares of Common Stock issued in the Rights Offering will also be listed on the NASDAQ Capital Market under the same symbol. On March 7, 2014, the closing price of our Common Stock was \$15.33 per share.

Investing in our Common Stock involves risks. You should carefully review and consider the information contained in this Prospectus, including the risk factors beginning on page 14 of this Prospectus, as well as the risk factors and other information contained in any documents we incorporate by reference into this Prospectus before exercising your Subscription Rights. See “Where You Can Find More Information.”

NEITHER THE SECURITIES AND EXCHANGE COMMISSION, NOR ANY BANK REGULATORY AGENCY, NOR ANY STATE SECURITIES COMMISSION HAS APPROVED OR DISAPPROVED OF THESE SECURITIES OR PASSED UPON THE ADEQUACY OR ACCURACY OF THIS PROSPECTUS. ANY REPRESENTATION TO THE CONTRARY IS A CRIMINAL OFFENSE.

Our principal executive offices are located at 3950 South Country Club Road, Suite 470, Tucson, Arizona 85714, and our telephone number is (520) 365-3100.

The date of this Prospectus is [·], 2014.

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If you are in a jurisdiction where offers to sell, or solicitations of offers to purchase, the securities offered by this document are unlawful, or if you are a person to whom it is unlawful to direct these types of activities, then the offer presented in this Prospectus does not extend to you.

We have not authorized anyone to provide you with any information other than the information incorporated by reference or provided in this Prospectus or any prospectus supplement. We are not making an offer of these securities in any state or other jurisdiction where the offer is not permitted. You should not assume that the information in this Prospectus, any prospectus supplement or any document incorporated or deemed to be incorporated by reference in this Prospectus is accurate as of any date other than the date of that document.

FORWARD-LOOKING STATEMENTS

This Prospectus and the documents incorporated by reference contain statements that are considered “forward looking statements” within the meaning of United States securities laws. In addition, the Company and its management may make other written or oral communications from time to time that contain forward-looking statements.

Forward-looking statements, including statements about industry trends, management’s future expectations and other matters that do not relate strictly to historical facts, are based on assumptions by management, and are often identified by such forward-looking terminology as “expect,” “look,” “believe,” “anticipate,” “estimate,” “seek,” “may,” “will,” “trend,” “goal” or similar statements or variations of such terms. Forward-looking statements may include, among other things, statements about the Company’s confidence in its strategies and its expectations about financial performance, market growth, market and regulatory trends and developments, acquisitions and divestitures, new technologies, services and opportunities and earnings.

Forward-looking statements are subject to various risks and uncertainties, which change over time, are based on management’s expectations and assumptions at the time the statements are made, and are not guarantees of future results. Management’s expectations and assumptions, and the continued validity of the forward-looking statements, are subject to change due to a broad range of factors affecting the national and global economies, the equity, debt, currency and other financial markets, as well as risk factors specific to the Company. Actual outcomes and results may differ materially from what is expressed in our forward-looking statements and from our historical financial results due to the risk factors discussed elsewhere in this Prospectus or disclosed in our other SEC filings.

Forward-looking statements should not be relied upon as representing our expectations or beliefs as of any date subsequent to the time this Prospectus is filed with the SEC. The Company undertakes no obligation to revise the forward-looking statements contained in this Prospectus to reflect events after the time it is filed with the SEC, other than as required by law. The risk factors discussed in this Prospectus are not intended to be a complete summary of all risks and uncertainties that may affect our business. Though we strive to monitor and mitigate risk, we cannot anticipate all potential economic, operational and financial developments that may adversely impact our operations and our financial results.

Forward-looking statements should not be viewed as predictions, and should not be the primary basis upon which investors evaluate the Company. Any investor in the Company should consider all risks and uncertainties disclosed in our SEC filings described below under the heading “Where You Can Find More Information,” all of which are accessible on the SEC’s website at <http://www.sec.gov>.

ABOUT THIS PROSPECTUS

Except as otherwise indicated by the context, references in this Prospectus to the “Company,” “Accelerate,” “we,” “us” or “our” are references to the combined business of Accelerate Diagnostics, Inc.

You should rely only on the information contained or incorporated by reference in this Prospectus. We have not authorized anyone to provide you with additional or different information from that contained or incorporated by reference in this Prospectus. The information contained in this Prospectus is accurate only as of the date on the front cover of this Prospectus and 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 exercise of the rights or sale of the securities.

The distribution of this Prospectus and the offering and sale of shares of our Common Stock in certain jurisdictions may be restricted by law. This Prospectus does not constitute an offer of, or a solicitation of an offer to buy, any shares of our Common Stock in any jurisdiction in which such offer or invitation would be unlawful.

QUESTIONS AND ANSWERS RELATING TO THE RIGHTS OFFERING

The following are examples of what we anticipate will be common questions about the Rights Offering. The answers are based on selected information included elsewhere in this Prospectus. The following questions and answers do not contain all of the information that may be important to you and may not address all of the questions that you may have about the Rights Offering. This Prospectus and the documents we incorporate by reference contain more detailed descriptions of the terms and conditions of the Rights Offering and provide additional information about us and our business, including potential risks related to the Rights Offering, our Common Stock and our business.

What is the Rights Offering?

We are distributing, at no charge to holders of our Common Stock, as of 5:00 p.m., New York City time, on [·], 2014, non-transferable Subscription Rights to purchase an aggregate of up to [·] shares of our Common Stock.

Why are we conducting the Rights Offering?

We are conducting the Rights Offering to (i) raise equity capital that will be needed to fund our business plan at a time when our Board of Directors believes market conditions are favorable, and (ii) provide our existing stockholders with the opportunity to purchase our Common Stock. We intend to use the net proceeds of the Rights Offering for working capital and general corporate purposes, including to fund our ongoing research and development and product commercialization initiatives, which have been previously disclosed.

What is the Subscription Privilege?

For each share of Common Stock held by a stockholder of the Company at the close of business on the Record Date, such stockholder will receive [·] Subscription Rights. Subscription Rights may only be exercised in whole numbers; we will not issue fractional shares and will round all of the Subscription Rights down to the nearest whole number. Each whole Subscription Right will allow the holder thereof to subscribe to purchase one share of Common Stock at a Subscription Price of \$[·] per share.

For example, if you owned 1,000 shares of our Common Stock on the Record Date, you would receive [·] Subscription Rights entitling you to purchase [·] shares of Common Stock for a total purchase price of \$[·] pursuant to

your Subscription Privilege.

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What is the role of the Standby Purchasers in this offering?

In connection with the Rights Offering, we have entered into a Standby Purchase Agreement with the Schuler Trust and the Schuler Foundation. Pursuant to the Standby Purchase Agreement, the Standby Purchasers have agreed to purchase, at the Subscription Price, in a private transaction separate from the Rights Offering, any and all shares of Common Stock not subscribed for by the Company's stockholders pursuant to the exercise of their Subscription Privileges. The Standby Purchasers are jointly and severally responsible for the fulfillment of their obligation to purchase such shares. The trustee of the Schuler Trust and the President of the Schuler Foundation is Jack Schuler, who is a director of the Company. Any shares of Common Stock issued to the Standby Purchasers in connection with the standby purchase commitment described above will be "restricted securities" as that term is defined in Rule 144 under the Securities Act of 1933, as amended. The Schuler Trust is a current stockholder of the Company, and the Schuler Trust has informed the Company that it will exercise its Subscription Privilege.

Are the Standby Purchasers receiving any compensation for their standby commitment?

No fees or other consideration will be paid by the Company to the Standby Purchasers in exchange for their commitment to purchase any and all unsubscribed shares of Common Stock following the Rights Offering.

How many shares of Common Stock will the Standby Purchasers own after the Rights Offering?

The number of shares of Common Stock that will be purchased by the Standby Purchasers can only be determined upon the completion of the Rights Offering. The Standby Purchasers will purchase all shares of Common Stock that could have been but were not subscribed for in the Rights Offering. If the Rights Offering is fully subscribed by stockholders through the exercise in full of their Subscription Privileges, the Standby Purchasers will not purchase any additional shares of Common Stock pursuant to the Standby Purchase Agreement. If, on the other hand, no stockholders were to purchase any shares of Common Stock through the exercise of their Subscription Privileges, all of the shares offered pursuant to the Rights Offering would be issued and sold to the Standby Purchasers. In that event, [·] shares of Common Stock would be issued to the Standby Purchasers, representing approximately [·]% of the Company's outstanding Common Stock after giving effect to such issuance. In addition, because Jack Schuler is deemed to have beneficial ownership of additional Common Stock by virtue of his relationship with the Standby Purchasers as described elsewhere in this Prospectus, if the Standby Purchasers acquired all of the shares in this Rights Offering, Jack Schuler would be deemed to have beneficial ownership of [·] shares of Common Stock, representing approximately [·]% of the Company's outstanding Common Stock after giving effect to such issuance.

Am I required to exercise the Subscription Rights that I receive in the Rights Offering?

No. You may exercise your Subscription Rights in full or in part, or you may choose not to exercise any of your Subscription Rights. However, if you choose not to fully exercise your Subscription Privilege, the percentage of our Common Stock owned by stockholders participating in the Rights Offering (or, at a minimum, the Standby Purchasers) will increase relative to your ownership percentage, and your voting and other rights will likewise be diluted.

What are the limitations on the exercise of the Subscription Privilege?

In the event that the exercise by a stockholder of the Subscription Privilege could, as determined by the Company in its sole discretion, potentially result in a limitation on the Company's ability to use net operating losses, tax credits and other tax assets, which we refer to as the "Tax Attributes," under the Internal Revenue Code of 1986, as amended, which we refer to as the "Code", and rules promulgated by the Internal Revenue Service, the Company may, but is under no obligation to, reduce the maximum exercise by such stockholder of the Subscription Privilege to such number of Subscription Rights as the Company in its sole discretion shall determine to be advisable in order to preserve the Company's ability to use the Tax Attributes.

How soon must I act to exercise my Subscription Rights?

Stockholders desiring to exercise their Subscription Rights will be required to submit payment in full for all of the shares of Common Stock that they wish to purchase by no later than 5:00 p.m., New York City time, on [·], 2014 (the “Expiration Date”). Any fractional shares of our Common Stock resulting from the exercise of Subscription Rights will be eliminated by rounding down to the nearest whole share, with the total subscription payment being adjusted accordingly. Any excess subscription payments that stockholders may pay to the Subscription Agent in the Rights Offering will be returned, without interest or penalty, by the Subscription Agent to the applicable stockholder(s) as soon as practicable following the completion of the Rights Offering.

The Subscription Rights will expire if they are not exercised by 5:00 p.m., New York City time, on the Expiration Date. The Rights Offering period may not be extended. You should carefully consider whether to exercise your Subscription Rights before the expiration of the Rights Offering. All exercises of Subscription Rights are irrevocable.

We may in our sole discretion cancel the Rights Offering at any time and for any reason. If we cancel the Rights Offering, the Subscription Agent will return all subscription payments it has received for the cancelled offering without interest or penalty.

May I transfer my Subscription Rights?

No, you may not sell, transfer or assign your Subscription Rights to anyone else.

Are we requiring a minimum subscription to complete the Rights Offering?

No, but our Board of Directors reserves the right to cancel the Rights Offering for any reason, including if our Board of Directors believes that there is insufficient participation by our stockholders. If the Rights Offering is cancelled, all subscription proceeds received by the Subscription Agent will be returned, without interest or penalty, as soon as practicable.

How was the Subscription Price determined?

The Subscription Price is equal to 90% of the closing price of our Common Stock, as reported by the NASDAQ Capital Market, on [·], 2014 (which was the latest practicable date on which the Subscription Price could be established prior to the launch of the Rights Offering). The Subscription Price is not necessarily related to our book value, results of operations, cash flows, financial condition or the future market value of our Common Stock. We cannot assure you that you will be able to sell shares purchased in this Rights Offering at a price equal to or greater than the Subscription Price. We do not intend to change the Subscription Price in response to changes in the trading price of our Common Stock prior to the closing of the Rights Offering.

Are there any other conditions to the completion of the Rights Offering?

Yes. The completion of the Rights Offering is subject to the conditions described under “The Rights Offering—Conditions and Cancellation.”

Can the Rights Offering be cancelled?

Yes. We may cancel the Rights Offering at any time prior to the Expiration Date and for any reason. If the Rights Offering is cancelled, all subscription payments received by the Subscription Agent will be returned, without interest or penalty, as soon as practicable to those persons who subscribed for shares in the Rights Offering.

How do I exercise my Subscription Rights?

You must properly complete the enclosed Subscription Rights Certificate and deliver it, along with the full Subscription Price, to the Subscription Agent before 5:00 p.m., New York City time, on the Expiration Date. If you use the mail, we recommend that you use insured, registered mail, return receipt requested. If you cannot deliver your Subscription Rights Certificate to the Subscription Agent prior to the expiration of the Rights Offering, you may follow the guaranteed delivery procedures described under “The Rights Offering—Notice of Guaranteed Delivery.”

If you send a payment that is insufficient to purchase the number of shares you requested, or if the number of shares you requested is not specified in the forms, the payment received will be applied to exercise your Subscription Privilege request that we have accepted to the fullest extent possible based on the amount of the payment received, subject to the elimination of fractional shares. If the payment exceeds the Subscription Price for the full exercise of your Subscription Privilege request that we have accepted then the excess will be returned to you as soon as practicable. You will not receive interest on any payments refunded to you under the Rights Offering.

If the Rights Offering is not completed, will my subscription payment be refunded to me?

Yes. The Subscription Agent will hold all funds it receives in a segregated bank account until completion of the Rights Offering. If the Rights Offering is not completed, the Subscription Agent will return, without interest or penalty, as soon as practicable all subscription payments. If you own shares in “street name,” it may take longer for you to receive payment because the Subscription Agent will return payments through the record holder of the shares.

What form of payment must I use to pay the Subscription Price?

You must timely pay the full Subscription Price for the full number of shares of Common Stock you wish to acquire under the Subscription Privilege request by delivering to the Subscription Agent a certified or cashier’s check, a bank draft drawn on a U.S. bank, or a personal check that clears before the Expiration Date.

What should I do if I want to participate in the Rights Offering, but my shares are held in the name of my broker, dealer, custodian bank or other nominee?

If your shares of Common Stock are held in the name of a broker, dealer, custodian bank or other nominee, then your broker, dealer, custodian bank or other nominee is the record holder of the shares you own. You will not receive a Subscription Rights Certificate. The record holder must exercise the Subscription Rights on your behalf for the shares of Common Stock you wish to purchase.

We will ask your broker, dealer, custodian bank or other nominee to notify you of the Rights Offering. You should complete and return to your record holder the form entitled “Beneficial Owner Election Form.” You should receive this form from your record holder with the other Rights Offering materials.

If you wish to participate in the Rights Offering and purchase shares of our Common Stock, please contact the record holder of your shares promptly. Your bank, broker or other nominee holder is the holder of the shares you own and must exercise the Subscription Rights on your behalf for shares you wish to purchase. Your broker, dealer, custodian bank or other nominee may establish a deadline prior to the 5:00 p.m., New York City time, on the Expiration Date.

After I exercise my Subscription Rights, can I change my mind?

No. All exercises of Subscription Rights are irrevocable, even if you later learn information that you consider to be unfavorable to the exercise of your Subscription Rights. You should not exercise your Subscription Rights unless you are certain that you wish to purchase additional shares of our Common Stock at the Subscription Price.

Are there risks in exercising my Subscription Rights?

Yes. The exercise of your Subscription Rights involves risks. Exercising your Subscription Rights means buying shares of our Common Stock and should be considered as carefully as you would consider any other equity investment. Among other things, you should carefully consider the risks described under the heading “Risk Factors” in this Prospectus and the risks described in documents incorporated by reference in this Prospectus, including but not limited to the section entitled “Risk Factors” in our Annual Report on Form 10-K for the year ended December 31, 2013.

Has our Board of Directors made a recommendation to our stockholders regarding the Rights Offering and is the Board of Directors participating in the Rights Offer?

Our Board of Directors is making no recommendation regarding your exercise of the Subscription Rights. Stockholders who exercise Subscription Rights risk investment loss on new money invested. We cannot assure you that the market price of our Common Stock will be above the Subscription Price at the time of exercise or at the expiration of the Rights Offering or that anyone purchasing shares at the Subscription Price will be able to sell those shares in the future at the same price or a higher price. You are urged to decide whether or not to exercise your Subscription Rights based on your own assessment of our business and the Rights Offering. Among other things, you should carefully consider the risks described under the heading “Risk Factors” in this Prospectus and the risks described in documents incorporated by reference in this Prospectus, including but not limited to the section entitled “Risk Factors” in our Annual Report on Form 10-K for the year ended December 31, 2013.

In connection with the Rights Offering, we have entered into a Standby Purchase Agreement with the Schuler Trust and the Schuler Foundation. Pursuant to the Standby Purchase Agreement, the Standby Purchasers have agreed to purchase, at the Subscription Price, in a private transaction separate from the Rights Offering, any and all shares of Common Stock not subscribed for by the Company’s stockholders pursuant to the exercise of their Subscription Privileges. The Standby Purchasers are jointly and severally responsible for the fulfillment of their obligation to purchase such shares. The trustee of the Schuler Trust and the President of the Schuler Foundation is Jack Schuler, who is a director of the Company. Any shares of Common Stock issued to the Standby Purchasers in connection with the standby purchase commitment described above will be “restricted securities” as that term is defined in Rule 144 under the Securities Act of 1933, as amended. The Schuler Trust is a current stockholder of the Company, and the Schuler Trust has informed the Company that it will exercise its Subscription Privilege.

What fees or charges apply if I exercise my Subscription Rights?

We are not charging any fees or sales commissions to issue Subscription Rights to you or to issue shares to you if you exercise your Subscription Rights. If you exercise your Subscription Rights through a broker or other holder of your shares, you are responsible for paying any fees that person may charge.

How do I exercise my Subscription Rights if I live outside of the United States or have a U.S. military post office or foreign post office address?

The Subscription Agent will hold Subscription Rights Certificates for stockholders having addresses outside the United States or who have a U.S. military post office or foreign post office address. In order to exercise Subscription Rights, our foreign stockholders and stockholders with a U.S. military post office or foreign post office address must notify the Subscription Agent and timely follow other procedures described below under the heading “The Rights Offering—Foreign Stockholders.”

When will I receive my new shares of Common Stock?

All shares that you purchase in the Rights Offering will be issued in book-entry, or uncertificated, form. When issued, the shares will be registered in the name of the Subscription Rights holder of record. As soon as practicable after the expiration of the Rights Offering, the Subscription Agent will arrange for the issuance of the shares of Common Stock purchased pursuant to the Subscription Privilege. Subject to state securities laws and regulations, we have the discretion to delay distribution of any shares you may have elected to purchase by exercise of your Subscription Rights in order to comply with state securities laws.

Will the Subscription Rights be listed on a stock exchange or trading market?

The Subscription Rights may not be sold, transferred or assigned to anyone else and will not be listed on the NASDAQ Capital Market or any other stock exchange or trading market. Our Common Stock trades on the NASDAQ Capital Market under the symbol "AXDX" and the shares to be issued in connection with the Rights Offering will be eligible for trading on the NASDAQ Capital Market under the same symbol.

What are the U.S. federal income tax consequences of exercising my Subscription Rights?

The receipt and exercise of Subscription Rights pursuant to the Subscription Privilege should generally not be taxable for U.S. federal income tax purposes. You should, however, seek specific tax advice from your tax advisor in light of your particular circumstances and as to the applicability and effect of any other tax laws. See "Certain Material U.S. Federal Income Tax Consequences."

What happens if I choose not to exercise my Subscription Rights?

You are not required to exercise your Subscription Rights or otherwise take any action in response to this Rights Offering. If you do not exercise your Subscription Rights and the Rights Offering is completed, the number of shares of our Common Stock you own will not change but your percentage ownership of our total outstanding voting stock will decrease because shares will be purchased by other stockholders in the Rights Offering or by the Standby Purchasers. Your percentage ownership of our voting stock may also decrease if you do not exercise your Subscription Privilege in full.

How many shares of Common Stock will be outstanding after the Rights Offering?

As of February 28, 2014, 41,904,521 shares of Common Stock were issued and outstanding. Assuming no other transactions by us involving our Common Stock, and no options for our Common Stock are exercised prior to the expiration of the Rights Offering, if the Rights Offering is fully subscribed through the exercise of the Subscription Rights and/or the Standby Purchasers acquire all of the Common Stock not purchased by the holders of Subscription Rights, then an additional [.] shares of our Common Stock will be issued and outstanding after the closing of the Rights Offering, for a total of [.] shares of Common Stock issued and outstanding. As a result of the Rights Offering, the ownership interests and voting interests of the existing stockholders that do not fully exercise their Subscription Privileges will be diluted.

How much money will we receive from the Rights Offering?

In light of the Standby Purchasers' commitment, the total proceeds to us from the Rights Offering (before expenses) will be approximately \$45,000,000.

To whom should I send my forms and payment?

If your shares are held in the name of a broker, dealer or other nominee, then you should send your subscription documents, rights certificate, notices of guaranteed delivery and subscription payment to that record holder. If you are the record holder, then you should send your subscription documents, rights certificate, notices of guaranteed delivery and subscription payment by hand delivery or overnight courier service to:

Broadridge Corporate Issuer Solutions, Inc.

Attention: Reorganization Department

1981 Marcus Avenue, Suite 100

Lake Success, NY 11042

If delivering documents via first class mail, you should send your subscription documents, Subscription Rights Certificate, Notice of Guaranteed Delivery and Subscription Price payment to:

Broadridge Corporate Issuer Solutions, Inc.

Attention: Reorganization Department

P.O. Box 1317

Brentwood, NY 11717-0693

You are solely responsible for completing delivery to the Subscription Agent of your subscription documents, rights certificate and payment. We urge you to allow sufficient time for delivery of your subscription materials to the Subscription Agent.

What if I have more questions?

If you have more questions about the Rights Offering or need additional copies of the Rights Offering documents, please contact the Subscription Agent (Broadridge Corporate Issuer Solutions, Inc.) at (855) 793-5068.

PROSPECTUS SUMMARY

This summary highlights selected information contained elsewhere in this Prospectus. Because it is a summary, it does not contain all of the information that you should consider before investing in our securities. You should read the entire Prospectus carefully, including the “Risk Factors” section and the other documents we refer to and incorporate by reference, in order to understand this offering fully. In particular, we incorporate important business and financial information into this Prospectus by reference.

Company Information

Accelerate Diagnostics, Inc. is a corporation organized under the laws of the State of Delaware. Since 2004, we have focused on developing and commercializing innovative instrumentation for the rapid identification and antibiotic susceptibility testing of infectious pathogens. The Company currently conducts no other significant business activities. Our website address is www.acceleratediagnostics.com. None of the information contained on, or that may be accessed through, our website is a prospectus or constitutes part of, or is otherwise incorporated into, this Prospectus.

Our Common Stock is listed on the NASDAQ Capital Market under the symbol “AXDX”. Our principal executive offices are located at 3950 South Country Club Road, Suite 470, Tucson, Arizona 85714, and our telephone number is (520) 365-3100.

Rights Offering Summary

The following summary describes the principal terms of the Rights Offering, but is not intended to be complete. See the information under the heading “The Rights Offering” in this Prospectus for a more detailed description of the terms and conditions of the Rights Offering.

Securities Offered	We are distributing, at no charge to holders of our Common Stock, non-transferable Subscription Rights to purchase up to [·] shares of our Common Stock. For each share of Common Stock held of record at the close of business on the Record Date (as specified below), you will receive [·] of a Subscription Right. Each whole Subscription Right will entitle you to purchase one share of our Common Stock at the Subscription Price specified below. Subscription Rights may only be exercised in whole numbers; we will not issue fractional shares of Common Stock upon exercise of Subscription Rights and, to the extent that the number of Subscription Rights that are distributed to you on the record date is not a
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whole number, the shares of Common Stock issuable upon exercise of the Subscription Rights will be rounded down to the nearest whole share for purposes of determining the number of shares of Common Stock for which you may subscribe.

Subscription
Privilege

For each whole Subscription Right that you hold, you will have a Subscription Privilege to buy from us one share of our Common Stock at the Subscription Price. You may exercise your Subscription Privilege for some or all of your Subscription Rights, or you may choose not to exercise your Subscription Rights in your sole discretion. If you do not exercise your Subscription Rights and the Rights Offering is completed, the number of shares of our Common Stock you own will not change but your percentage ownership of our total outstanding voting stock will decrease because shares will be purchased by other stockholders in the Rights Offering or by the Standby Purchasers. Your percentage ownership of our voting stock may also decrease if you do not exercise your Subscription Privilege in full.

Subscription Price	[\$·] per share of Common Stock. To be effective, any payment related to the exercise of a Subscription Right must clear prior to the Expiration Date.
Limitation on Exercise of Subscription Privilege	<p>In the event that the exercise by a stockholder of the Subscription could, as determined by the Company in its sole discretion, potentially result in a limitation on the Company's ability to use Tax Attributes, under the Code, and rules promulgated by the Internal Revenue Service, the Company may, but is under no obligation to, reduce the maximum exercise by such stockholder of the Subscription Privilege to such number of rights as the Company in its sole discretion shall determine to be advisable in order to preserve the Company's ability to use the Tax Attributes.</p> <p>In addition, under applicable federal and state banking laws, any purchase of shares of our Common Stock may also require the prior clearance or approval of, or prior notice to, federal and state bank regulatory authorities if the purchase will result in any person or entity or group of persons or entities acting in concert owning or controlling shares in excess of such threshold ownership interest.</p>
Record Date	March 14, 2014
Expiration Date	The Subscription Rights will expire at 5:00 p.m., New York City time, on [·], 2014.
Procedure for Exercising Rights	You must properly complete the enclosed Subscription Rights Certificate and deliver it, along with the full Subscription Price, to the Subscription Agent before the Expiration Date.

If you use the mail, we recommend that you use insured, registered mail, return receipt requested. If you cannot deliver your Subscription Rights Certificate to the Subscription Agent on time, you may follow the guaranteed delivery procedures described under “The Rights Offering—Guaranteed Delivery Procedures.”

Standby Purchasers and Standby Purchase Agreement In connection with the Rights Offering, we have entered into a Standby Purchase Agreement with the Schuler Trust and the Schuler Foundation. Pursuant to the Standby Purchase Agreement, the Standby Purchasers have agreed to purchase, at the Subscription Price, in a private transaction separate from the Rights Offering, any and all shares of Common Stock not subscribed for by the Company's stockholders pursuant to the exercise of their Subscription Privileges. The Standby Purchasers are jointly and severally responsible for the fulfillment of their obligation to purchase such shares. The trustee of the Schuler Trust and the President of the Schuler Foundation is Jack Schuler, who is a director of the Company. Any shares of Common Stock issued to the Standby Purchasers in connection with the standby purchase commitment described above will be "restricted securities" as that term is defined in Rule 144 under the Securities Act of 1933, as amended. The Schuler Trust is a current stockholder of the Company, and the Schuler Trust has informed the Company that it will exercise its Subscription Privilege.

Use of Proceeds We expect the net proceeds from the Rights Offering and the transactions contemplated by the Standby Purchase Agreement to be approximately \$45,000,000 (before expenses). We intend to use the net proceeds from the Rights Offering for general corporate purposes, including to fund our ongoing research and development and product commercialization initiatives, which have been previously disclosed.

Non-Transferability of Rights The Subscription Rights may not be sold, transferred or assigned and will not be listed for trading on the NASDAQ Capital Market or any other stock exchange or trading market.

No Revocation All exercises of Subscription Rights are irrevocable, even if you later learn information about us that you consider unfavorable. You should not exercise your Subscription Rights unless you are certain that you wish to purchase the shares of Common Stock offered pursuant to the Rights Offering.

Conditions to the Rights Offering The completion of the Rights Offering is subject to the conditions described under “The Rights Offering—Conditions and Cancellation.”

Cancellation We reserve the right to withdraw the Rights Offering at any time prior to the Expiration Date and for any reason. If the Rights Offering is cancelled, all subscription payments received by the Subscription Agent will be returned, without interest or penalty, as soon as practicable to those persons who subscribed for shares in the Rights Offering.

No Board Recommendation Our Board of Directors is making no recommendations regarding your exercise of the Subscription Rights. You are urged to make your own decision whether or not to exercise your Subscription Rights based on your own assessment of our business and the Rights Offering. See the section below entitled “Risk Factors.”

Issuance of Common Stock If you purchase shares of Common Stock through the Rights Offering, we will issue those shares to you in book-entry, or uncertificated, form as soon as practicable after the completion

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of the Rights Offering. Stock certificates will not be issued for shares of our Common Stock purchased in the Rights Offering.

Listing of Common Stock	Our Common Stock is listed on the NASDAQ Capital Market under the symbol “AXDX” and the shares to be issued in connection with the Rights Offering will also be listed on the NASDAQ Capital Market under the same symbol.
Federal Income Tax Consequences	The receipt and exercise of Subscription Rights pursuant to the Subscription Privilege will generally not be taxable for U.S. federal income tax purposes. You should, however, seek specific tax advice from your tax advisor in light of your particular circumstances and as to the applicability and effect of any other tax laws. See “Certain Material U.S. Federal Income Tax Consequences.”
Subscription and Information Agent	Broadridge Corporate Issuer Solutions, Inc.
Questions	If you have any questions about the Rights Offering, including questions about subscription procedures and requests for additional copies of this Prospectus or other documents, please contact Broadridge Corporate Issuer Solutions, Inc. at (855) 793-5068.
Fees and Expenses	We will pay the fees and expenses related to the Rights Offering.
Risk Factors	Before you invest in the Rights Offering, you should be aware that there are risks associated with your investment, including the risks described in the section entitled “Risk Factors” beginning on page 14 of this Prospectus. You should carefully read and consider these risk factors together with all of the other information included in or incorporated by reference into this Prospectus before you decide to exercise your Subscription Rights to purchase shares of our Common Stock.

RISK FACTORS

An investment in our securities involves a high degree of risk. You should carefully consider the risks described below, together with the other information contained or incorporated by reference into this Prospectus, including the information contained in the section entitled "Risk Factors" in our Annual Report on Form 10-K for the year ended December 31, 2013, and any risks described in our other filings with the Securities and Exchange Commission, pursuant to Sections 13(a), 13(c), 14, or 15(d) of the Exchange Act of 1934, as amended, before making a decision to invest in our Common Stock.

The risks described below and in the documents referred to in the preceding sentence are not the only risks we face. Additional risks and uncertainties not currently known to us or that we currently deem to be immaterial may also materially and adversely affect our business operations. If any of the following risks actually occurs, our business, results of operations and financial condition could suffer. In that case, the trading price of our Common Stock could decline, and you may lose all or part of your investment.

Risks Related to the Rights Offering

The Subscription Price determined for this Rights Offering is not necessarily an indication of the value of our Common Stock.

The Subscription Price is equal to 90% of the closing price of our Common Stock, as reported by the NASDAQ Capital Market, on [·], 2014 (which was the latest practicable date on which the Subscription Price could be established prior to the launch of the Rights Offering). The Subscription Price is not necessarily related to our book value, results of operations, cash flows, financial condition or the future market value of our Common Stock. We cannot assure you that you will be able to sell shares purchased in this Rights Offering at a price equal to or greater than the Subscription Price. We do not intend to change the Subscription Price in response to changes in the trading price of our Common Stock prior to the closing of the Rights Offering.

The Rights Offering may cause the price of our Common Stock to decline.

Depending upon the trading price of our Common Stock at the time of our announcement of the Rights Offering, the announcement of the Rights Offering and its terms, including the Subscription Price, together with the number of shares of Common Stock we could issue if the Rights Offering is completed, may result in a decrease in the trading price of our Common Stock. This decrease may continue after the completion of the Rights Offering. If that occurs,

your purchase of shares of our Common Stock in the Rights Offering may be at a price greater than the prevailing trading price.

Because you may not revoke or change your exercise of the Subscription Rights, you could be committed to buying shares above the prevailing trading price at the time the Rights Offering is completed.

Once you exercise your Subscription Rights, you may not revoke or change the exercise. The trading price of our Common Stock may decline before the Subscription Rights expire. If you exercise your Subscription Rights, and, afterwards, the trading price of our Common Stock decreases below the Subscription Price, you will have committed to buying shares of our Common Stock at a price above the prevailing trading price and could have an immediate unrealized loss.

Our Common Stock is traded on the NASDAQ Capital Market under the symbol, "AXDX" and the closing sale price of our Common Stock on the NASDAQ Capital Market on March 7, 2014 was \$15.33 per share. There can be no assurances that the trading price of our Common Stock will equal or exceed the Subscription Price at the time of exercise or at the expiration of the Subscription Rights offering period.

You may not be able to resell any shares of our Common Stock that you purchase pursuant to the exercise of Subscription Rights immediately upon expiration of the Subscription Rights offering period or be able to sell your shares at a price equal to or greater than the Subscription Price.

If you exercise Subscription Rights, you may not be able to resell the Common Stock purchased by exercising your Subscription Rights until you, or your broker, custodian bank or other nominee, if applicable, have received those shares. Moreover, you will have no rights as a stockholder of the shares you purchased in the Rights Offering until we issue the shares to you. Although we will endeavor to issue the shares as soon as practicable after completion of the Rights Offering, including the guaranteed delivery period and after all necessary calculations have been completed, there may be a delay between the Expiration Date of the Rights Offering and the time that the shares are issued. In addition, we cannot assure you that, following the exercise of your Subscription Rights, you will be able to sell your Common Stock at a price equal to or greater than the Subscription Price.

If you do not exercise your Subscription Rights, you will suffer dilution.

If you do not exercise your Subscription Rights, you will suffer dilution of your percentage ownership of our equity securities relative to stockholders who exercise their Subscription Rights and/or the Standby Purchasers.

As of February 28, 2014, there were 41,904,521 shares of our Common Stock outstanding. We anticipate issuing a total of [-] shares of Common Stock in connection with the Rights Offering and the transactions contemplated by the Standby Purchase Agreement.

Based on the number of shares of Common Stock outstanding as of February 28, 2014 and assuming that no options or warrants are exercised and there are no other changes in the number of outstanding shares prior to the expiration of the Rights Offering, if we issue all [-] shares of Common Stock available in this Rights Offering (to stockholders participating in the Rights Offering and/or the Standby Purchasers), we would have [-] shares of Common Stock outstanding following the completion of the Rights Offering and the transactions contemplated by the Standby Purchase Agreement.

We may cancel the Rights Offering at any time prior to the expiration of the Rights Offering period, and neither we nor the Subscription Agent will have any obligation to you except to return your subscription payment.

We may at our sole discretion cancel the Rights Offering at any time prior to the expiration of the Rights Offering period. If we elect to cancel the Rights Offering, neither we nor the Subscription Agent will have any obligation with

respect to the Subscription Rights except to return to you, without interest or penalty, as soon as practicable any subscription payments.

If you do not act promptly and follow the subscription instructions, your exercise of Subscription Rights will be rejected.

Stockholders that desire to purchase shares in the Rights Offering must act promptly to ensure that all required forms and payments are actually received by the Subscription Agent prior to the Expiration Date of the Rights Offering. If you are a beneficial owner of shares, you must act promptly to ensure that your broker, dealer, custodian bank or other nominee acts for you and that all required forms and payments are actually received by the Subscription Agent prior to the expiration of the Rights Offering period. We are not responsible if your broker, dealer, custodian bank or nominee fails to ensure that all required forms and payments are actually received by the Subscription Agent prior to the expiration of the Rights Offering period. If you fail to complete and sign the required subscription forms, send an incorrect payment amount or otherwise fail to follow the subscription procedures that apply to your exercise in the Rights Offering prior to the expiration of the Rights Offering period, the Subscription Agent may, depending on the circumstances, reject your subscription or accept it only to the extent of the payment received. Neither we nor the Subscription Agent undertakes to contact you concerning, or attempt to correct, an incomplete or incorrect subscription form. We have the sole discretion to determine whether the exercise of your Subscription Rights properly and timely follows the subscription procedures.

If you make payment of the Subscription Price by uncertified personal check, your check may not clear in sufficient time to enable you to purchase shares in the Rights Offering.

Any uncertified personal check used to pay the Subscription Price in the Rights Offering must clear prior to the Expiration Date of the Rights Offering, and the clearing process may require five or more business days. As a result, if you choose to use an uncertified personal check to pay the Subscription Price, it may not clear prior to the Expiration Date, in which event you would not be eligible to exercise your Subscription Rights. You may eliminate this risk by paying the Subscription Price by certified or cashier's check or bank draft drawn on a U.S. bank.

The Subscription Rights are non-transferable and thus there will be no market for them.

You may not sell, transfer or assign your Subscription Rights to anyone else. We do not intend to list the Subscription Rights on any securities exchange or any other trading market. Because the Subscription Rights are non-transferable, there is no market or other means for you to directly realize any value associated with the Subscription Rights.

Risks Relating to Ownership of Our Common Stock

Our stock price has been volatile and may continue to be volatile and traded on low volumes; Dividend Policy.

The trading price of our Common Stock has been, and is likely to continue to be, highly volatile, in large part attributable to developments and circumstances related to factors identified "Forward-looking Statements" and "Risk Factors" and the market's response to our operations and financial condition. Another factor contributing to volatility in the price of our Common Stock is the low trading volume currently prevailing in the market for our shares. The market value of your investment in our Common Stock may rise or fall sharply at any time because of this volatility, and also because of significant short positions that may be taken by investors from time to time in our Common Stock. During the year ended December 31, 2013, the closing sale price for our Common Stock ranged from \$4.06 to \$15.69 per share. The market prices for securities of medical technology companies historically have been highly volatile, and the market has experienced significant price and volume fluctuations that are unrelated to the operating performance of particular companies. Further, we do not intend to pay any cash dividends on our Common Stock in the foreseeable future.

We may require additional capital in the future and you may incur dilution to your stock holdings.

We have historically relied upon our existing cash balance, revenues and capital from the sale of our securities to fund our operating losses and we expect that we will continue to incur operating losses until we are able to complete the development of the BACcel™ system and sell it into the marketplace or license it to a third party. If capital requirements vary materially from those currently forecast by management, we may require additional capital sooner than expected. If we require additional capital, we may attempt to raise it through a variety of strategies, including but not limited to a rights offering and/or a follow-on offering of our Common Stock. There can be no assurance that such capital will be available in sufficient amounts or on terms acceptable to us, if at all. We have the authority to issue up to 55,000,000 shares of Common Stock (of which 41,904,521 shares were outstanding as of February 28, 2014), to issue up to 5,000,000 shares of Preferred Stock (of which none were issued nor outstanding as of February 28, 2014) and to issue options and warrants to purchase shares of our Common Stock (of which 5,622,309 options, including a recent grant for bonus options which will only be exercisable upon an affirmative vote to expand the option pool at our annual shareholder meeting, and 571,160 warrants to acquire shares of our Common Stock were issued and outstanding as of the same date). Issuances of additional shares of our Common Stock in the future, whether in connection with a rights offering, follow-on offering or otherwise, would dilute existing shareholders and may adversely affect the market price of our Common Stock.

The continued listing of our Common Stock on the NASDAQ Capital Market is subject to our compliance with various Listing Rules.

Currently, our Common Stock is listed for trading on the NASDAQ Capital Market. In order for our Common Stock to continue to be traded on such market, we must comply with various NASDAQ Listing Rules pertaining to, among other things, the bid price of our Common Stock (which must remain above \$1.00 per share), the composition of our board of directors and our various board committees, and other corporate governance matters. While we are currently in compliance with such NASDAQ Listing Rules (subject to any compliance grace periods that may be available thereunder), we can provide no assurance that we will remain in compliance with NASDAQ's Listing Rules in the future, or that our Common Stock will continue to be traded on the NASDAQ Capital Market or any other market.

Risks Relating to Our Business

Our future success, profitability and continued existence is dependent in large part upon the successful development of the BACcel™ system.

We have spent a significant amount of resources developing the BACcel™ system and intend to spend a significant amount more in the future and there can be no assurance that we will successfully develop the BACcel™ system. If we are not successful in the development of the BACcel™ system, or if we are unable to sell it into the marketplace or license it to a third party strategic partner for its development, manufacturing and marketing, it would have a material adverse effect upon the Company's revenues and results of operations, it could lead to impairment of certain of our intellectual property and would likely have a material adverse effect upon the price of the our Common Stock, our results of operations and may result in us having to cease operations.

Our success depends partly on our ability to successfully introduce and the market acceptance of our current and new products.

In a market primarily driven by the need for innovative products, our revenue growth will depend on overcoming various technological challenges to successfully introduce our current and new products, including but not limited to the BACcel™ system or other technology based upon the intellectual property included in the BACcel™ system into the marketplace in a timely manner. In addition, we must continue to develop new applications for our existing technologies, including but not limited to, additional commercial applications for the BACcel™ system proprietary technology. Market acceptance of these products will depend on many factors, including, but not limited to, demonstrating that our technologies perform as intended and are superior to other technologies and products that are currently available or may become available in the future. If we are unable to successfully develop new products or if the market does not accept our products, or even if we experience difficulties or delays in the development of our products, including the BACcel™ system, we may be unable to attract additional customers for our products or license our products to other strategic partners, which would seriously harm our business and future growth prospects.

Limited revenues from our products and no assurance of future revenues.

We have received limited revenue from sales based on products using our OptiChem technology. There is no assurance that we will be successful in marketing our OptiChem products in the future or will receive any revenue from such products. Further, there can be no assurance that we will be successful in marketing the BACcel™ system or will receive any revenues from it. During the year ended December 31, 2013, five-month transition periods ended December 31, 2012 and 2011 and the fiscal years ended July 31, 2012 and 2011, we experienced losses from operations. If we are unsuccessful in completing the development of the BACcel™ system and generating revenues from

such product, we will likely continue to experience losses from operations and negative cash flow as we have in the past, which may have a material adverse effect upon the Company, its results of operations and the price of our Common Stock may be adversely affected.

Dependence on key employees.

The loss or failure to attract and retain key personnel could significantly impede our performance, including product development, strategic plans, marketing and other objectives. Our success depends to a substantial extent not only on the ability and experience of our senior management, but particularly upon Lawrence Mehren, our President and Chief Executive Officer. We do not have key man life insurance on Mr. Mehren. To the extent that the services of Mr. Mehren would be unavailable to us, we would be required to find another person to perform the duties Mr. Mehren otherwise would perform. We may be unable to employ another qualified person with the appropriate background and expertise to replace Mr. Mehren on terms suitable to us. Further, we believe that our future success will depend in large part upon our ability to attract and retain highly skilled technical, managerial, sales and marketing personnel. There can be no assurance that we will be successful in attracting and retaining the personnel we require to develop and market our products, develop new products and to conduct our operations successfully.

If we are unable to effectively protect our intellectual property, we may be unable to prevent infringement.

Our success depends in part on our ability to obtain and maintain patent protection for the technology underlying our products, especially that used in the BACcel™ system, both in the United States and in other countries. We cannot assure you that any of the presently pending or future patent applications will result in issued patents, or that any patents issued to us or licensed by us will not be challenged, invalidated or held unenforceable. Further, we cannot guarantee that any patents issued to us will provide us with a significant competitive advantage. If we fail to successfully enforce our proprietary technology or otherwise maintain the proprietary nature of our intellectual property with respect to our significant current and proposed products, our competitive position, our ability to complete the development of the BACcel™ system and future sales or license of this product or technology could suffer, which would have a material adverse effect upon the Company and its results of operations. Notwithstanding our efforts to protect our intellectual property, our competitors may independently develop similar or alternative technologies or products that are equal to or superior to our technology and proposed products without infringing on any of our intellectual property rights or design around our proprietary technologies. If customers prefer these alternative technologies and products as compared to our technology and proposed products, it may have a material adverse effect upon the Company, our results of operations and the price of our Common Stock may be adversely affected.

Our products could infringe on the intellectual property rights of others.

Due to the significant number of U.S. and foreign patents issued to, and other intellectual property rights owned by entities operating in the industry in which we operate, we believe that there is a risk of litigation arising from infringement of these patents and other rights. Third parties may assert infringement or other intellectual property claims against us or our licensees. We may have to pay substantial damages, including treble damages, for past infringement if it is ultimately determined that our products infringe on a third party's proprietary rights. In addition, even if such claims are without merit, defending a lawsuit may result in substantial expense to us and divert the efforts of our technical and management personnel. We may also be subject to significant damages or injunctions against development and sale of some of our products, which could have a material adverse effect on our future revenues. Furthermore, claims of intellectual property infringement may require us to enter into royalty or license agreements with third parties, and we may be unable to obtain royalty or license agreements on commercially acceptable terms, if at all.

Third parties may seek to challenge, invalidate or circumvent issued patents owned by or licensed to us or claim that our products and operations infringe their patent or other intellectual property rights.

In addition to our patents, we possess an array of unpatented proprietary technology and know-how and we license intellectual property rights to and from third parties. The measures that we employ to protect this technology and these rights may not be adequate. We may incur significant expense in any legal proceedings to protect our proprietary rights or to defend infringement claims by third parties. In addition, claims of third parties against us could result in awards of substantial damages or court orders that could effectively prevent us from manufacturing, using, importing or selling our products in the United States or abroad.

Competition.

The industry in which we compete is subject to rapid technological changes, and we face and expect to continue to face competition for our products. We may also face competition from non-medical device companies, including pharmaceutical companies that may offer alternatives to our products. Many of our competitors have greater research and development, financial, manufacturing, marketing and sales resources than we do. In addition, some of our competitors may, individually or together with companies affiliated with them, have greater human and scientific resources than we do. Our competitors could develop technologies and methods that render our technologies and methodologies less competitive. Accordingly, if competitors introduce products that are more effective than our current and proposed technologies, including but not limited to the BACcel™ system, it could have a material adverse effect upon the Company, our results of operations and the price of our Common Stock may be adversely affected.

Ability to respond to technological change.

Our future success will depend significantly on our ability to enhance our current products and develop or acquire and market new products that keep pace with technological developments and evolving industry standards as well as respond to changes in customer needs. There can be no assurance that we will be successful in developing or acquiring product enhancements or new products to address changing technologies and customer requirements adequately, that we can introduce such products on a timely basis or that any such products or enhancements will be successful in the marketplace. Our delay or failure to develop or acquire technological improvements or to adapt our products to technological change would have a material adverse effect on our business, results of operations and financial condition.

We use hazardous materials in some of our research, development and manufacturing processes.

Our research activities sometimes involve the controlled use of various hazardous materials. Although we believe that our safety procedures for handling and disposing of such materials comply with the standards prescribed by state and federal regulations, the risk of accidental contamination or injury from these materials cannot be completely eliminated. We could be held liable for any damages that might result from any accident or release involving such materials. Any such liability could have a material adverse effect on our business, financial condition and results of operations.

Changes in governmental regulations may reduce demand for our products or increase our expenses.

We compete in markets in which we or our customers must comply with federal, state, local and foreign regulations, such as environmental, health and safety and food and drug regulations. We develop, configure and market our products to meet customer needs created by these regulations. Any significant change in these regulations could reduce demand for our products.

We have a single research and development facility and we may lose revenue and be unable to continue to conduct our research and development and product development activities if we lose this facility.

We currently conduct all of our research and development and product development activities in our existing facility in Tucson, Arizona. If we were unable to use these facilities to conduct our research and development and product development activities, we would have no other means of conducting such activities until we were able to restore such capabilities at the current facility or develop an alternative facility. Further, in such an event, we may lose revenue and significant time during which we might otherwise have conducted research and development and product development activities. Further, we may not be able to maintain our relationships with our licensees or customers. While we carry a nominal amount of business interruption insurance to cover lost revenue and profits, this insurance does not cover all possible situations. In addition, our business interruption insurance would not compensate us for the loss of opportunity and potential adverse impact on relations with our licensees or customers. The loss of facility may have a material adverse effect upon the Company and its results of operations.

Our business strategy approach may be adversely affected by additional healthcare reform and changes in managed healthcare.

Our vision is to develop and commercialize the BACcel™ system, an innovative, integrated system for rapid identification of infectious pathogens and their antibiotic resistance in critically ill patients. Healthcare reform and the growth of managed care organizations have been considerable forces in the medical diagnostics industry and in recent political discussions. These forces continue to and are expected in the future to place constraints on the levels of overall pricing and thus could have a material adverse effect on our future profit margins of our products or the amounts that we are able to receive from third parties for the licensing of such products. Such continuing changes in the United States healthcare market could also force us to alter our approach to selling, marketing, distributing and servicing our products and customer base. In and outside the United States, changes to government reimbursement policies could reduce the funding that healthcare service providers have available for diagnostic product expenditures, which could have a material adverse impact on the use of the products we are developing and our future sales, license and royalty fees and /or profit margin.

We have and intend to make significant additional investments in research and development, but there is no guarantee that any of these investments will ultimately result in a commercial product that will generate revenues.

The BACcel™ system integrates several of our component products, systems and processes. During the fiscal year ended December 31, 2013, five-month periods ended December 31, 2012 and 2011, and fiscal years ended July 31, 2012 and 2011, we spent \$10,673,016, \$1,777,244, \$163,340, \$431,906, and \$454,997, respectively, on research and development activities, and we intend to spend significantly more on research and development activities during the fiscal year ending December 31, 2014 and thereafter. Notwithstanding these investments, we anticipate that we will have to spend additional funds in the research and development of the BACcel™ system. There can be no assurance that the BACcel™ system will be successful, or even if it is successful will be accepted in the marketplace. Further, we might also encounter substantial delays in getting products to market in a timely fashion. There can be no assurance that we will complete the development of the BACcel System, will bring it to market or will generate revenues from licensing or sales.

Acquisitions and joint ventures may have an adverse effect on our business.

In the future, we may make acquisitions or enter into joint ventures as part of our long-term business strategy. These transactions involve significant challenges and risks including that the transaction does not advance our business strategy, that we don't realize a satisfactory return on our investment, or that we experience difficulty in the integration of new employees, business systems, and technology, or there is a diversion of management's attention from our other business operations. These events could harm our operating results or financial condition.

Changes in our business strategy or plans may adversely affect our operating results and financial condition.

If our business strategy or plans change, whether in response to changes in economic conditions or developments in the diagnostics industry, or otherwise, we may be required to expend significantly more resources than planned to develop the BACcel™ system, may have to cease developing the BACcel™ system or develop other products. The expense of such change could adversely affect our operating results and financial condition.

The regulatory clearance or approval process is expensive, time consuming and uncertain, and the failure to obtain and maintain required clearances or approvals could prevent us from commercializing our future products.

We are investing in the research and development of new diagnostic tests, as well as to develop our novel BACcel™ system. Our products are subject to 510(k) clearance or pre-market approval by the FDA prior to their marketing for commercial use in the United States, and to any approvals required by foreign governmental entities prior to their marketing outside the United States. The 510(k) clearance and pre-market approval processes, as well as the process of obtaining foreign approvals, can be expensive, time consuming and uncertain. It generally takes from four to twelve months from submission to obtain 510(k) clearance, and from one to three years from submission to obtain pre-market approval; however, it may take longer, and 510(k) clearance or pre-market approval may never be obtained. Delays in receipt of, or failure to obtain, clearances or approvals for future products, including tests that are currently in design or development, would result in delayed, or no, realization of revenues from such products and in substantial additional costs which could decrease our profitability. We have limited experience in filing FDA applications for 510(k) clearance and pre-market approval. In addition, we are required to continue to comply with applicable FDA and other regulatory requirements once we have obtained clearance or approval for a product. There can be no assurance that we will obtain or maintain any required clearance or approval on a timely basis, or at all. Any failure to obtain or any material delay in obtaining FDA clearance or any failure to maintain compliance with FDA regulatory requirements could harm our business, financial condition and results of operations.

Delaware law and our Certificate of Incorporation may protect our directors from certain types of lawsuits.

Delaware law provides that our directors will not be liable to us or our stockholders for monetary damages for all but certain types of conduct as directors. Our Certificate of Incorporation permits us to indemnify our directors and officers against all damages incurred in connection with our business to the fullest extent provided or allowed by law. The exculpation provisions may have the effect of preventing stockholders from recovering damages against our directors caused by their negligence, poor judgment or other circumstances. The indemnification provisions may require us to use our limited assets to defend our directors and officers against claims, including claims arising out of their negligence, poor judgment, or other circumstances.

INFORMATION ABOUT THE COMPANY

Accelerate Diagnostics, Inc.

Accelerate Diagnostics, Inc. is a corporation organized under the laws of the State of Delaware. Since 2004, we have focused on developing and commercializing innovative instrumentation for the rapid identification and antibiotic susceptibility testing of infectious pathogens. The Company currently conducts no other significant business activities. Our website address is www.acceleratediagnostics.com. None of the information contained on, or that may be accessed through, our website is a Prospectus or constitutes part of, or is otherwise incorporated into, this Prospectus.

Our principal executive offices are located at 3950 South Country Club Road, Suite 470, Tucson, Arizona 85714, and our telephone number is (520) 365-3100.

THE RIGHTS OFFERING

The following describes the Rights Offering in general and assumes, unless specifically provided otherwise, that you are a record holder of our Common Stock on the Record Date. If you hold your shares in a brokerage account or through a dealer or other nominee, please also refer to “—Notice to Brokers and Nominees” below.

The Subscription Rights

We are distributing to holders of our Common Stock as of 5:00 p.m., New York City time, on [·], 2014, which is the Record Date for this Rights Offering, at no charge, non-transferable Subscription Rights to purchase shares of our Common Stock. For each share of Common Stock held of record at the close of business on the Record Date, you will receive [·] of a Subscription Right. Each whole Subscription Right will entitle you to purchase one share of our Common Stock at a Subscription Price equal to \$[·] per share of Common Stock. Subscription Rights may only be exercised in whole numbers; we will not issue fractional shares of Common Stock upon exercise of Subscription Rights and, to the extent that the number of Subscription Rights that are distributed to you on the record date is not a whole number, the shares of Common Stock issuable upon exercise of the Subscription Rights will be rounded down to the nearest whole share for purposes of determining the number of shares of Common Stock for which you may subscribe. Any excess subscription funds will be returned, without interest or penalty, as soon as practicable after the expiration of the Rights Offering period.

Subscription Privilege

Each whole Subscription Right that you own will entitle you to purchase one share of our Common Stock at the Subscription Price. You may exercise your Subscription Privilege for some or all of your Subscription Rights, or you may choose not to exercise any Subscription Rights.

For example, if you owned 1,000 shares of our Common Stock as of the Record Date, you would receive [·] Subscription Rights and would have the right to purchase [·] shares of Common Stock for \$[·] per share (or \$[·] in the aggregate) by exercising your Subscription Privilege in full.

Limitation on Exercise of Subscription Privilege

In the event that the exercise by a stockholder of the Subscription Privilege could, as determined by the Company in its sole discretion, potentially result in a limitation on the Company's ability to use Tax Attributes, under the Code and rules promulgated by the Internal Revenue Service, the Company may, but is under no obligation to, reduce the maximum exercise by such stockholder of the Subscription Privilege to such number of rights as the Company in its sole discretion shall determine to be advisable in order to preserve the Company's ability to use the Tax Attributes.

In addition, under applicable federal and state banking laws, any purchase of shares of our Common Stock may also require the prior clearance or approval of, or prior notice to, federal and state bank regulatory authorities if the purchase will result in any person or entity or group of persons or entities acting in concert owning or controlling shares in excess of such threshold ownership interest.

No Fractional Shares Issuable Upon Exercise of Subscription Rights

Subscription Rights may only be exercised in whole numbers; we will not issue fractional shares of Common Stock upon exercise of Subscription Rights and, to the extent that the number of Subscription Rights that are distributed to you on the record date is not a whole number, the shares of Common Stock issuable upon exercise of the Subscription Rights will be rounded down to the nearest whole share for purposes of determining the number of shares of Common Stock for which you may subscribe. Any excess subscription funds will be returned, without interest or penalty, as soon as practicable after the expiration of the Rights Offering period.

Subscription Price

The Subscription Price per share of Common Stock will be \$[·]. The Subscription Price is equal to 90% of the closing price of our Common Stock, as reported by the NASDAQ Capital Market, on [·], 2014 (which was the latest practicable date on which the Subscription Price could be established prior to the launch of the Rights Offering). The Subscription Price is not necessarily related to our book value, results of operations, cash flows, financial condition or the future market value of our Common Stock. We cannot assure you that you will be able to sell shares purchased in this Rights Offering at a price equal to or greater than the Subscription Price. We do not intend to change the Subscription Price in response to changes in the trading price of our Common Stock prior to the closing of the Rights Offering.

Standby Commitment

On March 10, 2014, we entered into a Standby Purchase Agreement with the Schuler Trust and the Schuler Foundation as the Standby Purchasers. Pursuant to the Standby Purchase Agreement, the Standby Purchasers have agreed to purchase, at the Subscription Price, in a private transaction separate from the Rights Offering, any and all shares of Common Stock not subscribed for by the Company's stockholders pursuant to the exercise of their

Subscription Privileges. The trustee of the Schuler Trust and the President of the Schuler Foundation is Jack Schuler, who is a director of the Company.

Any purchases by the Standby Purchasers will be made for investment purposes and not with a view toward resale. The number of shares of Common Stock that will be purchased by the Standby Purchasers can only be determined upon the completion of the Rights Offering. The Standby Purchasers will purchase all shares of Common Stock that could have been but were not subscribed for in the Rights Offering. The Standby Purchasers are jointly and severally responsible for the fulfillment of their obligation to purchase such shares. If the Rights Offering is fully subscribed by stockholders through the exercise in full of their Subscription Privileges, the Standby Purchasers will not purchase any additional shares of Common Stock pursuant to the Standby Purchase Agreement. If, on the other hand, no stockholders were to purchase any shares of Common Stock through the exercise of their Subscription Privileges, all of the shares offered pursuant to the Rights Offering would be issued and sold to the Standby Purchasers. In that event, [•] shares of Common Stock would be issued to the Standby Purchasers, representing approximately [•]% of the Company's outstanding Common Stock after giving effect to such issuance.

No fees or other consideration will be paid by the Company to the Standby Purchasers in exchange for its commitment to purchase any and all unsubscribed shares of Common Stock following the Rights Offering.

Expiration Time and Date; Closing

The Subscription Rights will expire at 5:00 p.m., New York City time, on [·], 2014. You must properly complete the enclosed Subscription Rights Certificate and deliver it, along with the full Subscription Price, to the Subscription Agent before 5:00 p.m., New York City time, on [·], 2014. After the expiration of the Rights Offering period, all unexercised Subscription Rights will be null and void. We will not be obligated to honor any purported exercise of Subscription Rights that the Subscription Agent receives after the expiration of the Rights Offering, regardless of when you sent the documents regarding that exercise, unless you have used the guaranteed delivery procedures described under "The Rights Offering—Notice of Guaranteed Delivery." All shares purchased in the Rights Offering will be issued in book-entry, or uncertificated, form. Any subscription payments for shares not allocated or validly purchased will be returned to you, without interest or penalty, as soon as practicable following the Expiration Date of the Rights Offering.

Reasons for the Rights Offering; Use of Proceeds

We are conducting the Rights Offering to (i) raise equity capital that will be needed to fund our business plan at a time when our Board of Directors believes market conditions are favorable, and (ii) provide our existing stockholders with the opportunity to purchase our Common Stock. We expect the proceeds from the Rights Offering and the transactions contemplated by the Standby Purchase Agreement to be approximately \$45,000,000 (before expenses). We intend to use the net proceeds from the Rights Offering for general corporate purposes, including to fund our ongoing research and development and product commercialization initiatives, which have been previously disclosed.

Method of Exercising Subscription Rights

The exercise of Subscription Rights is irrevocable and may not be cancelled or modified. You may exercise your Subscription Rights as follows:

Subscription by Registered Holders

To exercise your Subscription Privilege, you must properly complete and execute the Subscription Rights Certificate, together with any required signature guarantees, and forward it, together with payment in full of the subscription price for each share of our Common Stock you are subscribing for, to the Subscription Agent at the address set forth under “The Rights Offering—Subscription Agent” below, on or prior to the Expiration Date.

Subscription by Beneficial Owners

If you are a beneficial owner of shares of our Common Stock, meaning that you hold your shares in “street name” through a broker, custodian bank or other nominee, we will ask your broker, custodian bank or other nominee to notify you of the Rights Offering. If you wish to exercise your Subscription Rights, you will need to have your broker, custodian bank or other nominee act for you and exercise your Subscription Rights and deliver all documents and payment on your behalf, including a “Nominee Holder Certification,” prior to 5:00 p.m., New York City time, on the Expiration Date. If you hold certificates of our Common Stock directly and would prefer to have your broker, custodian bank or other nominee act for you, you should contact your nominee and request it to effect the transactions for you.

To indicate your decision with respect to your Subscription Rights, you should complete and return to your broker, custodian bank or other nominee, the form entitled “Beneficial Owner Election Form.” You should receive this form from your broker, custodian bank or other nominee with the other Subscription Rights offering materials. If you wish to obtain a separate Subscription Rights Certificate, you should contact the nominee as soon as possible and request that a separate Subscription Rights Certificate be issued to you. You should contact your broker, custodian bank or other nominee if you do not receive this form, but you believe you are entitled to participate in the Rights Offering. We are not responsible if you do not receive the form from your broker, custodian bank or nominee or if you receive it without sufficient time to respond.

Your Subscription Rights will not be considered exercised unless the Subscription Agent actually receives from you, your broker, custodian, bank or other nominee, as the case may be, all of the required documents and your full Subscription Price payment prior to 5:00 p.m., New York City time, on [·], 2014, the scheduled Expiration Date of this Rights Offering.

Payment Method

Your payment of the Subscription Price must be made in U.S. dollars for the full number of shares of Common Stock you wish to acquire under the Subscription Privilege. Your payment must be delivered in one of the following ways:

uncertified check payable to “Broadridge Corporate Issuer Solutions, Inc. (acting as Subscription Agent for Accelerate Diagnostics, Inc.)”; or

certified or cashier’s check drawn upon a U.S. bank and payable to “Broadridge Corporate Issuer Solutions, Inc. (acting as Subscription Agent for Accelerate Diagnostics, Inc.)”

Your payment will be considered received by the Subscription Agent only upon:

- clearance of any uncertified personal check deposited by the Subscription Agent; or
- receipt by the Subscription Agent of any certified or cashier's check drawn upon a U.S. bank.

Clearance of Uncertified Personal Checks

If you are paying by uncertified personal check, please note that payment will not be deemed to have been received by the Subscription Agent until the check has cleared, which could take at least five or more business days. If you wish to pay the Subscription Price by uncertified personal check, we urge you to make payment sufficiently in advance of the time the Rights Offering expires to ensure that your payment is received by the Subscription Agent and clears by the Expiration Date. We urge you to consider using a certified or cashier's check drawn upon a U.S. bank.

Instructions for Completing Your Subscription Rights Certificate

You should read the instruction letter accompanying the Subscription Rights Certificate carefully and strictly follow it. **Do not send Subscription Rights Certificates or payments to us.** Except as described below under “The Rights Offering—Notice of Guaranteed Delivery,” we will not consider your subscription received until the Subscription Agent has received delivery of a properly completed and duly executed Subscription Rights Certificate and payment of the full subscription amount. The risk of delivery of all documents and payments is on you or your nominee, not us or the Subscription Agent.

The method of delivery of Subscription Rights Certificates and payment of the subscription amount to the Subscription Agent will be at the risk of the holders of Subscription Rights. If sent by mail, we recommend that you send those certificates and payments by overnight courier or by registered mail, properly insured, with return receipt requested, and that a sufficient number of days be allowed to ensure delivery to the Subscription Agent and clearance of payment before the expiration of the subscription period for the Rights Offering. Because uncertified personal checks may take at least five or more business days to clear, we urge you to pay or arrange for payment by means of certified or cashier’s check or bank draft to avoid missing the opportunity to exercise your Subscription Rights should you decide to exercise your Subscription Rights.

Missing or Incomplete Subscription Information

If you do not indicate the number of Subscription Rights being exercised, or do not forward full payment of the total Subscription Price payment for the number of Subscription Rights that you indicate are being exercised, then you will be deemed to have exercised your Subscription Rights with respect to the maximum number of whole Subscription Rights that may be exercised with the aggregate Subscription Price payment you delivered to the Subscription Agent. If we do not apply your full Subscription Price payment to your purchase of shares of our Common Stock, the Subscription Agent will return the excess amount to you by mail, without interest or penalty, as soon as practicable after the Expiration Date of the Rights Offering.

Conditions and Cancellation

We reserve the right to cancel the Rights Offering on or prior to the Expiration Date for any reason. We may cancel the Rights Offering if at any time before completion of the Rights Offering there is any judgment, order, decree, injunction, statute, law or regulation entered, enacted, amended or held to be applicable to the Rights Offering that in the sole judgment of our Board of Directors would or might make the Rights Offering or its completion, whether in whole or in part, illegal or otherwise restrict or prohibit completion of the Rights Offering. We may waive any of these conditions and choose to proceed with the Rights Offering even if one or more of these events occur. If we

cancel the Rights Offering, in whole or in part, all affected Subscription Rights will expire without value, and all subscription payments received by the Subscription Agent will be returned, without interest or penalty, as soon as practicable.

Cancellation Rights

Our Board of Directors may cancel the Rights Offering in its sole discretion at any time prior to the time the Rights Offering expires for any reason. If we cancel the Rights Offering, we will issue a press release notifying stockholders of the cancellation, and any funds you paid to the Subscription Agent will be returned, without interest or penalty, as soon as practicable.

Subscription and Information Agent

Broadridge Corporate Issuer Solutions, Inc. is acting as the Subscription Agent for the Rights Offering under an agreement with us. All Subscription Rights Certificates, payments of the Subscription Price, and nominee holder certifications, to the extent applicable to your exercise of Subscription Rights, must be delivered to the Subscription Agent (Broadridge Corporate Issuer Solutions, Inc.) as follows:

By hand or overnight courier:

Broadridge Corporate Issuer Solutions, Inc.

Attention: Reorganization Department

1981 Marcus Avenue, Suite 100

Lake Success, NY 11042

By first class mail:

Broadridge Corporate Issuer Solutions, Inc.

Attention: Reorganization Department

P.O. Box 1317

Brentwood, NY 11717-0693

You should direct any questions or requests for assistance concerning the method of subscribing for the shares of Common Stock or for additional copies of this Prospectus to Subscription Agent at (855) 793-5068.

If you deliver subscription documents, Subscription Rights Certificates or notices of guaranteed delivery in a manner different than that described in this Prospectus, we may not honor the exercise of your subscription privileges.

Fees and Expenses

We will pay the fees and expenses of the Subscription Agent. We have also agreed to indemnify the Subscription Agent from and against certain liabilities in connection with the Rights Offering. You are responsible for paying any other commissions, fees, taxes or other expenses incurred in connection with the exercise of the Subscription Rights. Neither the Subscription Agent nor the Company will pay such expenses.

Notice to Brokers and Nominees

If you are a broker, a custodian bank, a trustee, a depository for securities or other nominee holder who holds shares of our Common Stock for the account of others on the Rights Offering record date, you should notify the respective beneficial owners of such shares of the Rights Offering as soon as possible to learn their intentions with respect to exercising their Subscription Rights. You should obtain instructions from the beneficial owner with respect to their Subscription Rights, as set forth in the instructions we have provided to you for your distribution to beneficial owners. If the beneficial owner so instructs, you should complete the appropriate Subscription Rights Certificates and submit them to the Subscription Agent with the proper payment. If you hold shares of our Common Stock for the account(s) of more than one beneficial owner, you may exercise the number of Subscription Rights to which all such beneficial owners in the aggregate otherwise would have been entitled had they been direct record holders of our Common Stock on the Rights Offering record date, provided that you, as a nominee record holder, make a proper showing to the Subscription Agent by submitting the form entitled “Nominee Holder Certification” that we will provide to you with your Rights Offering materials. If you did not receive this form, you should contact the Subscription Agent to request a copy.

In the case of Subscription Rights that you hold of record on behalf of others through the Depository Trust Company (“DTC”), those Subscription Rights may be exercised by instructing DTC to transfer the Subscription Rights from your DTC account to the Subscription Agent’s DTC account, and by delivering to the Subscription Agent the required certification as to the number of shares subscribed for pursuant to the exercise of the Subscription Rights of the beneficial owners on whose behalf you are acting, together with payment of the full Subscription Price.

Notice of Guaranteed Delivery

If you wish to exercise your Subscription Rights, but you do not have sufficient time to deliver the Subscription Rights Certificate evidencing your Subscription Rights to the Subscription Agent, on or before the time the Rights Offering expires, you may exercise your Subscription Rights by the following guaranteed delivery procedures:

deliver to the Subscription Agent on or prior to the Rights Offering Expiration Date your Subscription Price payment in full for each share you subscribed for under your subscription privilege in the manner set forth above under “The Rights Offering—Payment Method”;

deliver to the Subscription Agent on or prior to the Expiration Date the form entitled “Notice of Guaranteed Delivery,” substantially in the form provided with the “Instructions For Use of Accelerate Diagnostics, Inc. Rights Certificates” distributed with your Subscription Rights Certificates; and

deliver the properly completed Subscription Rights Certificate evidencing your Subscription Rights being exercised and the related nominee holder certification, if applicable, with any required signature guarantee, to the Subscription Agent no later than three business days after the Expiration Date of the Rights Offering. For purposes of these Notice of Guaranteed Delivery procedures, “business day” means any day on which trading is conducted on the NASDAQ Capital Market.

Your Notice of Guaranteed Delivery must be delivered in substantially the same form provided with the Instructions For Use of Accelerate Diagnostics, Inc. Subscription Rights Certificates, which will be distributed to you with your Subscription Rights Certificate. Your Notice of Guaranteed Delivery must include a signature guarantee from a member firm of a registered national securities exchange or a member of the Financial Industry Regulatory Authority, Inc., or a commercial bank or trust company having an office or correspondent in the United States, or a bank, stockbroker, savings and loan association or credit union with membership in an approved signature guarantee medallion program, pursuant to Rule 17Ad-15 of the Exchange Act (each, an “Eligible Institution”). A form of that guarantee is included with the Notice of Guaranteed Delivery.

In your Notice of Guaranteed Delivery, you must state:

your name;

the number of Subscription Rights represented by your Subscription Rights Certificates, the number of shares of our Common Stock for which you are subscribing under your Subscription Privilege; and

your guarantee that you will deliver to the Subscription Agent the Subscription Rights Certificate evidencing the Subscription Rights you are exercising within three business days following the expiration of the Rights Offering.

You may deliver your Notice of Guaranteed Delivery to the Subscription Agent in the same manner as your Subscription Rights Certificate at the address set forth above under “The Rights Offering—Subscription Agent.”

The Subscription Agent will send you additional copies of the form of Notice of Guaranteed Delivery if you request them by calling (855) 793-5068.

Questions About Exercising Subscription Rights

If you have any questions or require assistance regarding the method of exercising your Subscription Rights or requests for additional copies of this document, the Instructions For Use of Accelerate Diagnostics, Inc. Subscription Rights Certificates or the Notice of Guaranteed Delivery, you should contact the Subscription Agent at (855) 793-5068.

Transferability of Rights

The Subscription Rights granted to you may be exercised only by you, and, therefore, you may not sell, transfer or assign your Subscription Rights to anyone else.

Validity of Subscriptions

We will resolve all questions regarding the validity and form of the exercise of your subscription privileges, including time of receipt and eligibility to participate in the Rights Offering. Our determination will be final and binding. Once made, subscriptions and directions are irrevocable, and we will not accept any alternative, conditional or contingent subscriptions or directions. We reserve the absolute right to reject any subscriptions or directions not properly submitted or the acceptance of which would be unlawful. You must resolve any irregularities in connection with your subscriptions before the subscription period expires, unless waived by us in our sole discretion. Neither the Subscription Agent nor we shall be under any duty to notify you or your representative of defects in your subscriptions. A subscription will be considered accepted, subject to our right to cancel the Rights Offering, only when a properly completed and duly executed Subscription Rights Certificate and any other required documents and payment of the full subscription amount have been received by the Subscription Agent (and any payment by uncertified personal check has cleared). Our interpretations of the terms and conditions of the Rights Offering will be final and binding.

Segregated Account; Return of Funds

The Subscription Agent will hold funds received in payment for shares of the Common Stock in a segregated account pending completion of the Rights Offering. The Subscription Agent will hold this money until the Rights Offering is completed or is cancelled. If the Rights Offering is cancelled for any reason, the Subscription Agent will return this money to subscribers, without interest or penalty, as soon as practicable.

Certificates for Shares of Common Stock

All shares that you purchase in the Rights Offering will be issued in book-entry, or uncertificated, form. When issued, the shares will be registered in the name of the Subscription Rights holder of record. As soon as practicable after the expiration of the Rights Offering period, the Subscription Agent will arrange for issuance to each Subscription Rights holder of record that has validly exercised its Subscription Privilege, the shares of Common Stock purchased pursuant to the Subscription Privilege.

Rights of Subscribers

You will have no rights as a stockholder with respect to the shares of our Common Stock purchased in the Rights Offering until your account, or your account at your broker, custodian bank or other nominee, is credited with such shares. You will have no right to revoke your subscriptions after you deliver your completed Subscription Rights Certificate, payment and any other required documents to the Subscription Agent.

Foreign Stockholders

We will not mail Subscription Rights Certificates to stockholders whose addresses are outside the United States or who have a U.S. military post office or foreign post office address. The Subscription Agent will hold these Subscription Rights Certificates for their account. To exercise Subscription Rights, our foreign stockholders must notify the Subscription Agent prior to 11:00 a.m., New York City time, at least three business days prior to the Expiration Date of the Rights Offering and demonstrate to the satisfaction of the Company that the exercise of such Subscription Rights does not violate the laws of the jurisdiction of such stockholder.

No Revocation or Change

Once you submit the Form of Non-Transferable Subscription Rights Certificate to exercise any Subscription Rights, you are not allowed to revoke or change the exercise or request a refund of monies paid. All exercises of Subscription Rights are irrevocable, even if you learn information about us that you consider to be unfavorable. You should not exercise your Subscription Rights unless you are certain that you wish to purchase the shares of our Common Stock offered pursuant to the Rights Offering.

Regulatory Limitation

We will not be required to issue to you shares of our Common Stock pursuant to the Rights Offering if, in our opinion, you are required to obtain prior clearance or approval from, or submit a prior notice to, any state or federal regulatory authorities to own or control the shares and if, at the time the Rights Offering expires, we determine that you have not properly obtained such clearance or approval or submitted such notice. See also “Limitation on Exercise of Subscription Privilege.”

No Recommendation to Subscription Rights Holders

Our Board of Directors is making no recommendations regarding your exercise of the Subscription Rights. Stockholders who exercise Subscription Rights risk investment loss on new money invested. We cannot assure you that the market price of our Common Stock will be above the Subscription Price at the time of exercise or at the expiration of the Rights Offering period or that anyone purchasing shares at the Subscription Price will be able to sell those shares in the future at the same price or a higher price. You are urged to decide whether or not to exercise your Subscription Rights based on your own assessment of our business and the Rights Offering. Among other things, you should carefully consider the risks described under the heading “Risk Factors” in this Prospectus and the risks described in the documents incorporated by reference in this Prospectus, including but not limited to the section entitled “Risk Factors” in our Annual Report on Form 10-K for the year ended December 31, 2013.

In connection with the Rights Offering, we have entered into a Standby Purchase Agreement with the Schuler Trust and the Schuler Foundation. Pursuant to the Standby Purchase Agreement, the Standby Purchasers have agreed to purchase, at the Subscription Price, in a private transaction separate from the Rights Offering, any and all shares of Common Stock not subscribed for by the Company’s stockholders pursuant to the exercise of their Subscription Privileges. The Standby Purchasers are jointly and severally responsible for the fulfillment of their obligation to purchase such shares. The trustee of the Schuler Trust and the President of the Schuler Foundation is Jack Schuler, who is a director of the Company. Any shares of Common Stock issued to the Standby Purchasers in connection with the standby purchase commitment described above will be “restricted securities” as that term is defined in Rule 144

under the Securities Act of 1933, as amended. The Schuler Trust is a current stockholder of the Company, and the Schuler Trust has informed the Company that it will exercise its Subscription Privilege.

Listing

The Subscription Rights may not be sold, transferred or assigned to anyone else and will not be listed on the NASDAQ Capital Market or any other stock exchange or trading market. Our Common Stock trades on the NASDAQ Capital Market under the symbol "AXDX" and the shares to be issued in connection with the Rights Offering will be eligible for trading on the NASDAQ Capital Market under the same symbol.

Participation in Rights Offering Not Required; Potential Dilution

You are not required to exercise your Subscription Rights or otherwise take any action in response to this Rights Offering. If you do not exercise your Subscription Rights and the Rights Offering is completed, the number of shares of our Common Stock you own will not change but your percentage ownership of our total outstanding voting stock will decrease because shares will be purchased by other stockholders in the Rights Offering or by the Standby Purchasers. Your percentage ownership of our voting stock may also decrease if you do not exercise your Subscription Privilege in full.

Shares of Common Stock Outstanding After the Rights Offering

As of February 28, 2014, 41,904,521 shares of Common Stock were issued and outstanding. Assuming no other transactions by us involving our Common Stock, and no options for our Common Stock are exercised prior to the expiration of the Rights Offering, if the Rights Offering is fully subscribed through the exercise of the Subscription Rights and/or the Standby Purchasers acquire all of the Common Stock not purchased by the holders of Subscription Rights, then an additional [·] shares of our Common Stock will be issued and outstanding after the closing of the Rights Offering, for a total of [·] shares of Common Stock issued and outstanding. As a result of the Rights Offering, the ownership interests and voting interests of the existing stockholders that do not fully exercise their Subscription Privileges will be diluted.

Other Matters

We are not making the Rights Offering in any state or other jurisdiction in which it is unlawful to do so, nor are we distributing or accepting any offers to purchase any shares of our Common Stock from Subscription Rights holders who are residents of those states or other jurisdictions or who are otherwise prohibited by federal or state laws or regulations to accept or exercise the Subscription Rights. We may delay the commencement of the Rights Offering in those states or other jurisdictions, or change the terms of the Rights Offering, in whole or in part, in order to comply with the securities laws or other legal requirements of those states or other jurisdictions. Subject to state securities laws and regulations, we also have the discretion to delay allocation and distribution of any shares you may elect to purchase by exercise of your subscription privileges in order to comply with state securities laws. We may decline to make modifications to the terms of the Rights Offering requested by those states or other jurisdictions, in which case, if you are a resident in those states or jurisdictions or if you are otherwise prohibited by federal or state laws or regulations from accepting or exercising the Subscription Rights, you will not be eligible to participate in the Rights Offering. However, we are not currently aware of any states or jurisdictions that would preclude participation in the Rights Offering.

DESCRIPTION OF CAPITAL STOCK

As of the date hereof, the Company's authorized capital stock consists of 55,000,000 shares of Common Stock and 5,000,000 shares of preferred stock, \$0.001 par value per share ("Preferred Stock"). The Company's Board of Directors is expressly authorized to provide, out of the unissued shares of Preferred Stock, for one or more series of Preferred Stock and, with respect to each such series, to fix the number of shares constituting such series and the designation of such series, the voting powers, if any, of the shares of such series, and the preferences and relative, participating, optional or other special rights, if any, and any qualifications, limitations or restrictions thereof, of the shares of such series. The powers, preferences and relative, participating, optional and other special rights of each series of Preferred Stock, and the qualifications, limitations or restrictions thereof, if any, may differ from those of any and all other series at any time outstanding. As of the date of this filing, the Board has not provided for or designated any series of Preferred Stock, and no Preferred Stock is issued or outstanding. As of February 28, 2014, 41,904,521 shares of the Company's Common Stock and no shares of Preferred Stock were outstanding.

The holders of Common Stock are entitled to receive such dividends as are from time to time declared by the Board of Directors out of funds legally available therefore. Holders of Common Stock are entitled to one vote per share on all matters. Upon the sale of substantially all of the stock of assets of the Company in a non-public transaction or dissolution, liquidation, or winding up of the Company, whether voluntary or involuntary, after all liquidation preferences payable to any series of preferred stock entitled thereto to have been satisfied, the remaining net assets of the Company shall be distributed to the holders of Common Stock (and any similarly situated stockholders who are not entitled to any liquidation preference).

The Common Stock is not redeemable. The holders of the Common Stock have no pre-emptive, conversion or cumulative voting rights. There are no sinking fund provisions for or applicable to the Common Stock. The outstanding shares of Common Stock are not liable to further call or to assessment by the Company.

The Company's Certificate of Incorporation and By-Laws provide that the Board is comprised of one class of directors and that each director shall be elected for a term lasting until the next annual meeting of stockholders following his or her election, or until his or her successor is duly elected and qualified. Each director holds office until the expiration of his or her term and until such director's respective successor is elected and qualified, subject to such director's earlier death, resignation or removal.

The Company reserves the rights to repeal, alter, amend or rescind any provision contained in the Certificate of Incorporation or By-Laws.

The Company is subject to the Delaware anti-takeover laws regulating corporate takeovers, including Section 203 of the Delaware General Corporation Law (“DGCL”). These anti-takeover laws prevent Delaware corporations from engaging in certain business combination transactions with “interested stockholders” (generally, stockholders owning 15% or more of the corporation’s outstanding voting stock and their affiliates) for a period of three years following the time that such stockholder became an interested stockholder, except in certain situations. In addition, the Company’s Certificate of Incorporation and By-Laws include a number of provisions that may deter or impede hostile takeovers or changes of control or management. These provisions include the following:

the authority of the Board to issue up to 5,000,000 shares of serial Preferred Stock and to determine the price, rights, preferences and privileges of such Preferred Stock without stockholder approval; and

· cumulative voting is not allowed in the election of the Company’s directors.

These provisions of Delaware law and the Company’s Certificate of Incorporation and By-Laws could prohibit or delay mergers or other takeover or change of control of the Company and may discourage attempts by other companies to acquire us, even if such a transaction would be beneficial to the Company’s stockholders.

The foregoing description of the Common Stock is qualified in its entirety by the provisions of the Company's Certificate of Incorporation (as amended) and By-Laws, which are filed as Exhibits 3.1, 3.1.1 and 3.2 to this Form S-3 and incorporated by reference.

Broadridge Corporate Issuer Solutions, Inc. is the transfer agent for the Company's Common Stock.

The Company's Common Stock is listed on the NASDAQ Capital Market under the symbol "AXDX".

PLAN OF DISTRIBUTION

On or about [·], 2014, we will distribute the Subscription Rights, Subscription Rights Certificates and copies of this Prospectus to individuals who owned shares of Common Stock of record as of the close of business on March 14, 2014, the Record Date for the Rights Offering. If you wish to exercise your Subscription Rights and purchase shares of Common Stock, you should complete the Subscription Rights Certificate and return it with payment for the shares, to the Subscription Agent. See “The Rights Offering—Method of Exercising Rights.” If you have any questions, you should contact the Subscription Agent (Broadridge Corporate Issuer Solutions, Inc.) at (855) 793-5068. The Subscription Rights will not be listed on the NASDAQ Capital Market or any other stock exchange or trading market. The shares of Common Stock issuable upon exercise of the Subscription Rights will be listed on the NASDAQ Capital Market under the symbol “AXDX”.

We have agreed to pay the Subscription Agent customary fees plus certain expenses in connection with the Rights Offering. We have not employed any brokers, dealers or underwriters in connection with the solicitation of exercise of Subscription Rights. Except as described in this section, we are not paying any other commissions, underwriting fees or discounts in connection with the Rights Offering. Some of our employees may solicit responses from you as a holder of Subscription Rights, but we will not pay our employees any commissions or compensation for these services other than their normal employment compensation. We estimate that our total expenses in connection with the Rights Offering will be approximately \$80,000.

USE OF PROCEEDS

We expect the proceeds from the Rights Offering and the transactions contemplated by the Standby Purchase Agreement to be approximately \$45,000,000 (before expenses). We intend to use the net proceeds from the Rights Offering for general corporate purposes, including to fund our ongoing research and development and product commercialization initiatives, which have been previously disclosed.

PRICE RANGE OF COMMON STOCK AND DIVIDEND POLICY

Our Common Stock is traded on the NASDAQ Capital Market under the symbol “AXDX.” The following table sets forth, for the periods indicated, the quarterly high and low sales prices per share of our Common Stock on the NASDAQ Capital Market during 2014 (through March 7, 2014), 2013 and 2012, as reported on the NASDAQ Capital Market.

	2014		2013(1)		2012(1)	
	High	Low	High	Low	High	Low
First Quarter (through March 7, 2014)	\$15.69	\$11.01				
Fourth Quarter	\$16.45	\$11.81	\$4.48	\$2.81		
Third Quarter	\$13.94	\$6.86	\$3.44	\$2.70		
Second Quarter	\$9.22	\$4.80	\$3.90	\$0.92		
First Quarter	\$8.99	\$4.00	\$1.73	\$0.76		

(1) As of January 1, 2013, the Company changed its fiscal year end from July 31 to December 31. The quarterly results set forth are based on a December 31 year end.

As of March 7, 2014, there were approximately 172 record holders of the Company’s Common Stock.

The Company has never paid a cash dividend on its Common Stock and there are no plans to pay a cash dividend on its Common Stock at this time.

CERTAIN MATERIAL U.S. FEDERAL INCOME TAX CONSIDERATIONS

The following is a general summary of certain material U.S. federal income tax consequences to U.S. holders (as defined below) of the receipt and ownership of the Subscription Rights pursuant to the Rights Offering and certain tax considerations for U.S. holders of the ownership of our Common Stock resulting from the exercise of Subscription Rights. This summary is based upon provisions of the Code, applicable Treasury Regulations, administrative rulings, judicial authorities and other applicable existing U.S. federal income tax authorities, all of which are subject to change or differing interpretations, possibly with retroactive effect which could result in U.S. federal income tax consequences different from those discussed below. No assurance can be given that the Internal Revenue Service, or IRS, will not challenge one or more of the tax results described in this discussion, and no opinion of the Company's counsel or ruling from the IRS has been, or is expected to be, sought with respect to the U.S. federal tax consequences of the Rights Offering.

This summary does not provide a complete analysis of all potential tax considerations. This summary is only applicable to U.S. holders of Common Stock who are individuals and who acquire the Subscription Rights pursuant to the terms of the Rights Offering, have held the Common Stock, and will hold the Subscription Rights, and the Common Stock issued upon exercise of the rights as capital assets (generally, property held for investment) within the meaning of Section 1221 of the Code. This summary does not deal with all tax consequences that may be relevant to holders in light of their personal circumstances or particular situations, such as holders who may be subject to special tax treatment under the Code, including (without limitation) dealers in securities or currencies, financial institutions, insurance companies, regulated investment companies, real estate investment trusts, tax-exempt entities or traders in securities that elect to use a mark-to-market method of accounting for their securities, persons holding Subscription Rights or Common Stock as part of a hedging, integrated or conversion transaction or a straddle, persons deemed to sell Common Stock, under the constructive sale provisions of the Code, persons whose "functional currency" is not the U.S. dollar, and foreign taxpayers. This summary does not deal with any U.S. federal non-income, state, local or foreign tax consequences, estate or gift tax consequences, or alternative minimum tax consequences, nor does it address any tax considerations to persons other than U.S. holders.

For purposes of this discussion, a "U.S. holder" is a beneficial owner of our right or Common Stock that is, for U.S. federal income tax purposes:

- an individual who is a citizen or resident of the United States;

- a corporation, or other business entity treated as a corporation for U.S. federal income tax purposes, created or organized in or under the laws of the United States, any state of the United States or the District of Columbia;

- an estate, if its income is subject to U.S. federal income taxation regardless of its source; or

a trust, if (i) a U.S. court can exercise primary supervision over the trust's administration and one or more U.S. persons (within the meaning of the Code) have the authority to control all of its substantial decisions or (ii) the trust has a valid election in effect under applicable Treasury Regulations to be treated as a U.S. person.

If a partnership (including any entity treated as a partnership for U.S. federal income tax purposes) receives the Subscription Rights or exercises the Subscription Rights, the tax treatment of a partner in a partnership generally will depend upon the status of the partner and the activities of the partnership. Such a partner or partnership should consult its tax advisor as to the U.S. federal income tax consequences of the receipt, exercise or lapse of the Subscription Rights.

Holders of Common Stock are urged to consult their own tax advisors as to the specific tax consequences of the Rights Offering to them, including the applicable federal, state, local and foreign tax consequences of the Rights Offering to them and the effect of possible changes in tax laws.

Taxation of Subscription Rights

Receipt of Subscription Rights

Your receipt of Subscription Rights pursuant to the Rights Offering should be treated as a nontaxable distribution with respect to your existing Common Stock for U.S. federal income tax purposes, and the following summary assumes you will qualify for such nontaxable treatment. If, however, the Rights Offering does not qualify as nontaxable, you would be treated as receiving a taxable distribution equal to the fair market value of the Subscription Rights on their distribution date. The distribution would be taxed as a dividend to the extent made out of our current or accumulated earnings and profits; any excess would be treated first as a return of your basis (investment) in your Common Stock and then as a capital gain. Expiration of the Subscription Rights would result in a capital loss.

If the fair market value of the Subscription Rights you receive is less than 15% of the fair market value of your existing Common Stock on the date you receive the Subscription Rights, the Subscription Rights will be allocated a zero basis for U.S. federal income tax purposes, unless you elect to allocate basis between your existing Common Stock and the Subscription Rights in proportion to the relative fair market values of the existing Common Stock and the Subscription Rights determined on the date of receipt of the Subscription Rights. If you choose to allocate basis between your existing Common Stock and the Subscription Rights, you must make this election on a statement included with your tax return for the taxable year in which you receive the Subscription Rights. Such an election is irrevocable. The fair market value of the Subscription Rights on the date the Subscription Rights are distributed is uncertain, and we have not obtained, and do not intend to obtain, an appraisal of the fair market value of the Subscription Rights on that date. In determining the fair market value of the Subscription Rights, you should consider all relevant facts and circumstances, including any difference between the Subscription Price of the Subscription Rights and the trading price of our Common Stock on the date that the Subscription Rights are distributed, the length of the period during which the Subscription Rights may be exercised and the fact that the Subscription Rights are non-transferable.

On the other hand, if the fair market value of the Subscription Rights you receive is 15% or more of the fair market value of your existing Common Stock on the date you receive the Subscription Rights, then you must allocate your basis in your existing Common Stock between the existing Common Stock and the Subscription Rights you receive in proportion to their fair market values determined on the date you receive the Subscription Rights.

Your holding period in a Subscription Right will include your holding period in the Common Stock with respect to which the Subscription Right was distributed.

Exercise of Subscription Privilege

Generally, you will not recognize gain or loss on the exercise of a Subscription Right pursuant to the Subscription Privilege. Your tax basis in new shares of Common Stock acquired when you exercise a Subscription Right pursuant to the Subscription Privilege will be equal to your adjusted tax basis in the Subscription Right plus the Subscription Price. The holding period of a share of Common Stock acquired when you exercise a Subscription Right pursuant to the Subscription Privilege will begin on the date of exercise.

If you exercise a Subscription Right received in the Rights Offering after disposing of the share of our Common Stock with respect to which such Subscription Right is received, then certain aspects of the tax treatment of the exercise of the Subscription Right are unclear, including (1) the allocation of tax basis between the Common Stock previously sold and the Subscription Right, (2) the impact of such allocation on the amount and timing of gain or loss recognized with respect to the Common Stock previously sold, and (3) the impact of such allocation on the tax basis of Common Stock acquired through exercise of the Subscription Right. If you exercise a Subscription Right received in the Rights Offering after disposing of the Common Stock with respect to which the Subscription Right is received, you should consult your tax advisor.

Non-Exercising Subscription Rights

If you do not exercise your Subscription Rights, you should not recognize a capital loss for U.S. federal income tax purposes and any portion of the tax basis in your existing shares of Common Stock previously allocated to the Subscription Right not exercised should be re-allocated to the existing Common Stock.

Ownership of Common Stock Upon Exercise of Subscription Privilege

Dividends

In general, distributions of money, securities and any other property (other than our stock or rights to acquire such stock) with respect to our Common Stock will constitute dividends to the extent made out of our current or accumulated earnings and profits, as determined under U.S. federal income tax principles. If a distribution exceeds our current and accumulated earnings and profits, the excess will be treated as a non-taxable return of capital to the extent of your adjusted tax basis in the Common Stock and thereafter as capital gain from the sale or exchange of such Common Stock.

Gain on Disposition of Common Stock

Upon the sale or other disposition of our Common Stock, you will generally recognize capital gain or loss for U.S. federal income tax purposes equal to the difference between your amount realized on the sale and your adjusted tax basis in such Common Stock. Capital gain of a noncorporate U.S. holder is generally taxed at preferential rates where the holder has a holding period greater than one (1) year. The deductibility of capital losses is subject to limitations.

Additional Medicare Tax on Net Investment Income

For tax years beginning after December 31, 2012, an additional 3.8% tax will be imposed on the net investment income of certain U.S. citizens and resident aliens, and on the undistributed net investment income of certain estates and trusts. Among other items, net investment income generally includes gross income from dividends and net gain from the disposition of property, such as our Common Stock, less certain deductions. You should consult your tax advisor with respect to this additional tax.

Information Reporting and Backup Withholding

Payments made to you of proceeds from the sale or other disposition of the Common Stock may be subject to information reporting to the IRS and possible U.S. federal backup withholding. Backup withholding will not apply if you furnish a correct taxpayer identification number (certified on the IRS Form W-9) or otherwise establish that you are exempt from backup withholding. Backup withholding is not an additional tax. Amounts withheld as backup withholding may be credited against your U.S. federal income tax liability. You may obtain a refund of any excess amounts withheld under the backup withholding rules by filing the appropriate claim for refund with the IRS and furnishing any required information.

LEGAL MATTERS

Snell & Wilmer L.L.P., Phoenix, Arizona has issued an opinion regarding the securities being offered by this Prospectus. We have filed the opinion as an exhibit to the registration statement of which this Prospectus is part.

EXPERTS

The financial statements of Accelerate Diagnostics, Inc. at December 31, 2013, and for the year then ended, appearing in Accelerate Diagnostics, Inc.'s Annual Report (Form 10-K) have been audited by Ernst & Young LLP, independent registered public accounting firm, and at December 31, 2012, July 31, 2012 and July 31, 2011, and for the five months ended December 31, 2012 and each of the two years in the period ended July 31, 2012, by Comiskey & Company, P.C., independent registered public accounting firm, as set forth in their respective reports thereon have been incorporated herein by reference in reliance upon such reports given on the authority of such firms as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

We have filed a registration statement on Form S-3 with the SEC covering the securities that may be sold under this Prospectus. This Prospectus summarizes material provisions of contracts and other documents that we refer you to. For further information on the Company and the securities, you should refer to our registration statement and its exhibits. As permitted by the rules and regulations of the SEC, the registration statement that contains this Prospectus includes additional information not contained in this Prospectus. Because the Prospectus may not contain all the information that you may find important, you should review the full text of these documents. We have included copies of these documents as exhibits to our registration statement of which this Prospectus is a part.

We also file reports, proxy statements and other information with the SEC. Our SEC filings are available over the Internet at the SEC's website at <http://www.sec.gov>. You may also read and copy any document we file by visiting the SEC's public reference room in Washington, D.C. The SEC's address in Washington, D.C. is 100 F Street, N.E., Room 1580, Washington, D.C. 20549. Please call the SEC at 1-800-SEC-0330 for further information about the public reference room. You may also inspect our SEC reports and other information at the offices of The NASDAQ Stock Market at One Liberty Plaza, 165 Broadway, New York, New York 10006. Copies are also available on our website at www.acceleratediagnostics.com.

The SEC allows us to "incorporate by reference" the information we file with them, which means:

- incorporated documents are considered part of the Prospectus;
- we can disclose important information to you by referring you to those documents; and
- information that we file with the SEC will automatically update and supersede this incorporated information.

We incorporate by reference the following documents that we have filed with the SEC:

- Annual Report on Form 10-K for the fiscal year ended December 31, 2013;
- Definitive Proxy Statement on Schedule 14A for our 2013 Annual Meeting of Stockholders; and

Description of the Common Stock which is contained in the Company's Registration Statement on Form 8-A including any amendment or report filed for the purpose of updating such description.

We also incorporate by reference each of the following documents that we will file with the SEC after the date of this Prospectus until this offering is completed:

- reports filed under Sections 13(a) and (c) of the Exchange Act;
- any document filed under Section 14 of the Exchange Act; and
- any reports filed under Section 15(d) of the Exchange Act.

You should rely only on information contained or incorporated by reference in this Prospectus. We have not authorized any other person to provide you with different information. If anyone provides you with different or inconsistent information, you should not rely on it. We are not making an offer to sell these securities in any jurisdiction where the offer or sale is not permitted.

You should assume that the information appearing in this Prospectus is accurate as of the date of this Prospectus only. Our business, financial condition and results of operation may have changed since that date.

We will provide to each person, including any beneficial owner, to whom this Prospectus is delivered a copy of any or all of the information that has been incorporated by reference in this Prospectus but not delivered with this Prospectus. To receive a free copy of any of the documents incorporated by reference in this Prospectus (other than exhibits, unless they are specifically incorporated by reference in the documents), you may request them in writing or by telephone from us at the following address and phone number:

Accelerate Diagnostics, Inc.

3950 South Country Club Road, Suite 470

Tucson, Arizona 85714

Attention: Steve Reichling, Chief Financial Officer

Telephone: (520) 365-3100

**Subscription Rights to purchase up to [.] shares of Common Stock at \$[.] per share
and the shares of Common Stock issuable upon the exercise of such Subscription Rights**

PROSPECTUS

[.], 2014

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PART II.

INFORMATION NOT REQUIRED IN PROSPECTUS

Item 14. Other Expenses of Issuance and Distribution

The following table sets forth the approximate expenses payable by the Company in connection with the sale of the securities being registered:

SEC Registration Fees	\$6,000
Printing and Mailing Expenses	\$10,000
Legal Fees	\$50,000
Accounting Fees	\$2,500
Subscription and Information Agent Fees	\$9,000
Miscellaneous Fees and Expenses	\$2,500
Total	\$80,000

Item 15. Indemnification of Directors and Officers

Indemnification Under the Delaware General Corporation Law

Section 145 of the DGCL authorizes a corporation to indemnify any person who was or is a party, or is threatened to be made a party, to any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative, by reason of the fact that the person is or was a director, officer, employee or agent of the corporation, or is or was serving at the request of the corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise, against expenses, including attorneys' fees, judgments, fines and amounts paid in settlement actually and reasonably incurred by the person in connection with such action, suit or proceeding, if the person acted in good faith and in a manner the person reasonably believed to be in, or not opposed to, the best interests of the corporation and, with respect to any criminal action or proceeding, had no reasonable cause to believe the person's conduct was unlawful. In addition, the DGCL does not permit indemnification in any threatened, pending or completed action or suit by or in the right of the corporation in respect of any claim, issue or matter as to which such person shall have been adjudged to be liable to the corporation, unless and only to the extent that the court in which such action or suit was brought shall determine upon application that, despite the adjudication of liability, but in view of all the circumstances of the case, such person is fairly and reasonably entitled to indemnity for such expenses, which such court shall deem proper. To the extent that a present or former director or officer of a corporation has been successful on the merits or otherwise in defense of any action, suit or proceeding referred to above, or in defense of any claim, issue or matter, such person shall be indemnified against expenses, including attorneys' fees, actually and reasonably incurred by such person. Indemnity is mandatory to the extent a claim, issue or matter has been successfully defended.

Section 102 of the DGCL also allows a corporation to provide for the elimination or limit of the personal liability of a director to the corporation or its stockholders for monetary damages for breach of fiduciary duty as a director, provided that such provision shall not eliminate or limit the liability of a director

- (1) for any breach of the director's duty of loyalty to the corporation or its stockholders,
- (2) for acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law,
- (3) for unlawful payments of dividends or unlawful stock purchases or redemptions, or
- (4) for any transaction from which the director derived an improper personal benefit.

These provisions will not limit the liability of directors or officers under the federal securities laws of the United States.

Indemnification under the Certificate of Incorporation and Bylaws

Article VIII, Section 1 of the Company's Certificate of Incorporation provides that, to the fullest extent permitted by law, a director of the Company shall not be personally liable to the Company or to its stockholders for monetary damages for any breach of fiduciary duty as a director.

Article VIII, Section 2 provides that the Company shall indemnify, advance expenses, and hold harmless, to the fullest extent permitted by applicable law as it presently exists or may hereafter be amended, any person (a "Covered Person") who was or is made or is threatened to be made a party or is otherwise involved in any action, suit or proceeding, whether civil, criminal, administrative or investigative (a "Proceeding"), by reason of the fact that he or she, or a person for whom he or she is the legal representative, is or was a director or officer of the Company or, while a director or officer of the Company, is or was serving at the request of the Company as a director, officer, employee or agent of another corporation or of a partnership, joint venture, trust, enterprise or nonprofit entity, including service with respect to employee benefit plans, against all liability and loss suffered and expenses (including attorneys' fees) reasonably incurred by such Covered Person. Notwithstanding the preceding sentence, except for claims for indemnification (following the final disposition of such Proceeding) or advancement of expenses not paid in full, the Company shall be required to indemnify a Covered Person in connection with a Proceeding (or part thereof) commenced by such Covered Person only if the commencement of such Proceeding (or part thereof) by the Covered Person was authorized in the specific case by the Board of Directors of the Company.

Article VI of the Company's Bylaws provides that each Director and Officer of this Company, and each person who shall serve at its request as a director or officer of another corporation in which our Company owns shares of capital stock or of which it is a creditor, whether or not then in office, and his personal representatives, shall be indemnified by the Company against all costs and expenses actually and necessarily incurred by him in connection with the defense of any action, suit or proceeding in which he may be involved or to which he may be made a party by reason of his being or having been such director or officer, except in relation to matters as to which he shall be finally adjudged in such action, suit or proceeding to be liable for negligence or misconduct in the performance of duty. Such costs and expenses include amounts reasonably paid in settlement for the purpose of curtailing the costs of litigation, but only if the Company is advised in writing by its counsel that in his opinion the person indemnified did not commit such negligence or misconduct.

Item 16. Exhibits

The following exhibits are filed herewith or incorporated by reference. The reference numbers correspond to the numbered paragraphs of Item 601 of Regulation S-K.

Exhibit No.	Description
3.1	Certificate of Incorporation of the Registrant (incorporated by reference to Appendix B to the Registrant's Definitive Proxy Statement on Schedule 14A filed on November 13, 2012)
3.1.1	First Amendment to Certificate of Incorporation of the Registrant (incorporated by reference to Exhibit A to the Registrant's Definitive Information Statement on Schedule 14C filed on July 12, 2013)
3.2	By-Laws of the Registrant (incorporated by reference to Exhibit 3.2 to the Registrant's Annual Report on Form 10-K for the fiscal year ended July 31, 2012)
4.1	* Form of Non-Transferable Subscription Rights Certificate
4.2	* Subscription and Information Agent Agreement, dated March 10, 2014, between the Registrant and Broadridge Corporate Issuer Solutions, Inc.
5.1	* Opinion of Snell & Wilmer L.L.P.
10.1	* Standby Purchase Agreement, dated March 10, 2014, between the Registrant, the Jack W. Schuler Living Trust and the Schuler Family Foundation
23.1	* Consent of Comiskey & Company, P.C., independent registered public accounting firm
23.2	* Consent of Ernst & Young LLP, independent registered public accounting firm
23.3	* Consent of Snell & Wilmer L.L.P. (incorporated in Exhibit 5.1)
24	* Power of Attorney (included in the signature page hereof)
99.1	* Form of Instructions for Use of Non-Transferable Subscription Rights Certificates
99.2	* Form of Letter to Registered Holders of Common Stock
99.3	* Form of Letter to Brokers and Other Nominee Holders
99.4	* Form of Letter to Clients of Brokers and Other Nominee Holders
99.5	* Form of Beneficial Owner Election Form

- 99.6 * Form of Nominee Holder Certification
- 99.7 * Form of Notice of Guaranteed Delivery

*

Filed herewith.

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Item 17. Undertakings

(a) The undersigned registrant hereby undertakes:

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

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

(ii) To reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the SEC pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than 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 (a)(1)(i), (a)(1)(ii) and (a)(1)(iii) do not apply if the registration statement is on Form S-3 or Form F-3 and the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the Commission by the registrant pursuant to section 13 or section 15(d) of the Securities Exchange Act of 1934 that are incorporated by reference in the registration statement, or is contained in a form of prospectus filed pursuant to Rule 424(b) that is part of the registration statement;

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

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

(4) That, for the purpose of determining liability of the registrant under the Securities Act of 1933 to any purchaser in the initial distribution of the securities:

The undersigned registrant undertakes that in a primary offering of securities of an undersigned registrant pursuant to this registration statement, regardless of the underwriting method used to sell the securities to the purchaser, if the securities are offered or sold to such purchaser by means of any of the following communications, the undersigned registrant will be a seller to the purchaser and will be considered to offer or sell such securities to such purchaser:

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

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

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

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

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

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

(d) The undersigned registrant hereby undertakes that:

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

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

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, as amended, the Registrant certifies that it has reasonable grounds to believe that it meets all the requirements for filing on Form S-3 and has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Tucson, State of Arizona, on March 10, 2014.

ACCELERATE DIAGNOSTICS, INC.

By: /s/ Lawrence Mehren
Name: Lawrence Mehren
Title: President and Chief Executive Officer
(*Principal Executive Officer*)

POWER OF ATTORNEY

The officers and directors of Accelerate Diagnostics, Inc. whose signatures appear below, hereby constitute and appoint Lawrence Mehren and Steve Reichling, and each of them severally, their true and lawful attorney-in-fact and agent, with full power of substitution, with power to act alone, to sign and execute on behalf of the undersigned any and all amendments to this Registration Statement on Form S-3, including post-effective amendments and any Registration Statement filed pursuant to Rule 462(b) under the Securities Act of 1933, as amended (the "Securities Act"), and each of the undersigned does hereby ratify and confirm all that said attorney-in-fact and agent, or his substitutes, shall do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act this Registration Statement on Form S-3 has been signed by the following persons in the capacities and on the dates indicated.

Signature	Title	Date
/s/ Lawrence Mehren Lawrence Mehren	President, Chief Executive Officer and Director (<i>Principal Executive Officer</i>)	March 10, 2014
/s/ Steve Reichling Steve Reichling	Chief Financial Officer (<i>Principal Financial Officer and Principal Accounting Officer</i>)	March 10, 2014
/s/ John Patience John Patience	Chairman of the Board	March 10, 2014
/s/ Jack Schuler Jack Schuler	Director	March 10, 2014
/s/ Matthew W. Strobeck, Ph.D. Matthew W. Strobeck, Ph.D.	Director	March 10, 2014
/s/ Frank J.M. ten Brink Frank J.M. ten Brink	Director	March 10, 2014
/s/ Mark Miller Mark Miller	Director	March 10, 2014

INDEX TO EXHIBITS

Exhibit No.	Description
3.1	Certificate of Incorporation of the Registrant (incorporated by reference to Appendix B to the Registrant's Definitive Proxy Statement on Schedule 14A filed on November 13, 2012)
3.1.1	First Amendment to Certificate of Incorporation of the Registrant (incorporated by reference to Exhibit A to the Registrant's Definitive Information Statement on Schedule 14C filed on July 12, 2013)
3.2	By-Laws of the Registrant (incorporated by reference to Exhibit 3.2 to the Registrant's Annual Report on Form 10-K for the fiscal year ended July 31, 2012)
4.1	* Form of Non-Transferable Subscription Rights Certificate
4.2	* Subscription and Information Agent Agreement, dated March 10, 2014, between the Registrant and Broadridge Corporate Issuer Solutions, Inc.
5.1	* Opinion of Snell & Wilmer L.L.P.
10.1	* Standby Purchase Agreement, dated March 10, 2014, between the Registrant, the Jack W. Schuler Living Trust and the Schuler Family Foundation
23.1	* Consent of Comiskey & Company, P.C., independent registered public accounting firm
23.2	* Consent of Ernst & Young LLP, independent registered public accounting firm
23.3	* Consent of Snell & Wilmer L.L.P. (incorporated in Exhibit 5.1)
24	* Power of Attorney (included in the signature page hereof)
99.1	* Form of Instructions for Use of Non-Transferable Subscription Rights Certificates
99.2	* Form of Letter to Registered Holders of Common Stock
99.3	* Form of Letter to Brokers and Other Nominee Holders
99.4	* Form of Letter to Clients of Brokers and Other Nominee Holders
99.5	* Form of Beneficial Owner Election Form
99.6	* Form of Nominee Holder Certification
99.7	* Form of Notice of Guaranteed Delivery

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Filed herewith.