

APPLIED DNA SCIENCES INC
Form S-3
March 02, 2015

As filed with the Securities and Exchange Commission on March 2, 2015
Registration No. 333-

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549**

FORM S-3
REGISTRATION STATEMENT
*UNDER
THE SECURITIES ACT OF 1933*

APPLIED DNA SCIENCES, INC.
(Exact name of registrant as specified in its charter)

| | | |
|----------|---|--|
| Delaware | 50 Health Sciences Drive Stony Brook, New York 11790 (631) 240-8800 (Address, including zip code, and telephone number, including area code, of registrant's principal executive offices) | 59-2272718 (I.R.S. Employer Identification Number) |
|----------|---|--|

James A. Hayward, Ph.D., ScD.
Chairman, Chief Executive Officer and President
Applied DNA Sciences, Inc.
50 Health Sciences Drive
Stony Brook, New York 11790
(631) 240-8801

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

Copies to:

Merrill M. Kraines
Norton Rose Fulbright US LLP
666 Fifth Avenue
New York, New York 10103
Telephone: (212) 318-3261
Facsimile: 212-318-3400

Approximate date of commencement of proposed sale to the public: From time to time after this Registration Statement becomes 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.

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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, as amended (“Securities Act”), 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.

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. (Check one):

Non-accelerated filer

Large accelerated filer 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 | Amount to be Registered (1) | Proposed maximum offering price per share | Proposed maximum aggregate offering price | Amount of registration fee |
|--|-----------------------------|---|---|----------------------------|
| Common Stock, \$0.001 par value per share | (3) (4) | (3) | (3) | (3) |
| Preferred Stock, \$0.001 par value per share | (3) (4) | (3) | (3) | (3) |
| Warrants (2) | (3) (4) | (3) | (3) | (3) |
| Debt securities | (3) (4) | (3) | (3) | (3) |
| Rights | (3) (4) | (3) | (3) | (3) |
| Units(5) | (3) (4) | (3) | (3) | (3) |
| Total (1) | | \$ 25,000,000 | (2) | \$ 2,905(6) |

(1) This Registration Statement includes \$25,000,000 of securities which may be issued by the Registrant from time to time in indeterminate amounts and at indeterminate times. Securities registered hereunder may be sold separately, together or as units with other securities registered hereunder. Also, pursuant to Rule 416 under the Securities Act, the shares being registered hereunder include such indeterminate number of shares of common stock as may be issuable with respect to the shares being registered hereunder as a result of stock splits, stock dividends or similar transactions.

(2) Warrants may represent rights to purchase debt securities, common stock, preferred stock or other securities registered hereunder.

(3) Not required to be included in accordance with General Instruction II.D. of Form S-3 under the Securities Act.

(4) Subject to footnote (1), there is also being registered hereunder such indeterminate amount of securities (including shares or other classes of the Registrant's stock that may be issued upon reclassification of unissued, authorized stock of the Registrant) as may be issued in exchange for or upon conversion of, as the case may be, the other securities registered hereunder. No separate consideration will be received for any securities registered hereunder that are issued in exchange for, or upon conversion of, as the case may be, such other securities.

(5) Each Unit consists of any combination of two or more of the securities being registered hereby.

(6) Calculated in accordance with Rule 457(o) under the Securities Act of 1933, as amended and paid herewith.

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

THE INFORMATION 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 IS NOT SOLICITING AN OFFER TO BUY THESE SECURITIES IN ANY JURISDICTION WHERE THE OFFER OR SALE IS NOT PERMITTED.

SUBJECT TO COMPLETION, DATED MARCH 2, 2015
PROSPECTUS

APPLIED DNA SCIENCES, INC.

\$25,000,000
Common Stock
Preferred Stock
Debt Securities
Warrants
Rights
Units

We may offer and sell, from time to time in one or more offerings, up to \$25,000,000 of our common stock, preferred stock, debt securities, warrants and rights, or any combination of these securities, and/or units consisting of common stock, preferred stock, debt securities, warrants and rights. We may also offer common stock or preferred stock upon conversion of debt securities and common stock upon conversion of preferred stock.

This prospectus describes some of the general terms that may apply to these securities. When we decide to sell a particular class or series of securities, we will provide specific terms of the offered securities in one or more prospectus supplements. We may also authorize one or more free writing prospectuses to be provided to you in connection with these offerings.

The prospectus supplement, and any documents incorporated by reference, may also add, update or change information contained in or incorporated by reference into this prospectus. However, no prospectus supplement shall offer a security that is not registered and described in this prospectus at the time of its effectiveness. You should read this prospectus and any prospectus supplement, as well as the documents incorporated by reference or deemed to be incorporated by reference into this prospectus, and any free writing prospectus carefully before you invest. This prospectus may not be used to offer or sell our securities unless accompanied by a prospectus supplement relating to the offered securities.

Our common stock and our warrants are listed on The NASDAQ Capital Market under the symbols “APDN” and “APDNW”, respectively. Each prospectus supplement will contain information, where applicable, as to our listing on any securities exchange of the securities covered by the prospectus supplement. The aggregate market value of our outstanding common stock held by non-affiliates was approximately \$55,168,097 based on 17,361,702 shares of outstanding common stock, of which 3,069,449 shares are held by affiliates, and a price of \$3.86 per share, which was the last reported sale price of our common stock as quoted on The NASDAQ Capital Market on February 27, 2015.

We have not offered any securities pursuant to General Instruction I.B.6 of Form S-3 during the prior 12 calendar month period that ends on, and includes, the date of this prospectus.

These securities may be sold by us directly to purchasers, through dealers or agents, or to or through underwriters, or through a combination of these methods. See “Plan of Distribution” in this prospectus. We may also describe the plan of distribution for any particular offering of our securities in a prospectus supplement. If any agents, underwriters or dealers are involved in the sale of any securities in respect of which this prospectus is being delivered, we will disclose their names and the nature of our arrangements with them in a prospectus supplement. The net proceeds we expect to receive from any such sale will also be included in a prospectus supplement.

An investment in our common stock involves a high degree of risk. See the sections entitled “Risk Factors” in our most recent Annual Report on Form 10-K and in any Quarterly Report on Form 10-Q, as well as in any prospectus supplement or free writing prospectus related to these specific offerings.

We may amend or supplement this prospectus from time to time by filing amendments or supplements as required or related free writing prospectuses. You should read the entire prospectus and any amendments or supplements carefully before you make your investment decision.

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

The date of this prospectus is March 2, 2015

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ABOUT THIS PROSPECTUS

This prospectus is part of a Registration Statement that we filed with the Securities and Exchange Commission (“SEC”) using a “shelf” registration process. Under this shelf registration process, we may offer from time to time securities having a maximum aggregate offering price of \$25,000,000. Each time we offer securities, we will prepare and file with the SEC a prospectus supplement or information that is incorporated by reference into this prospectus that describes the specific amounts, prices and terms of the securities we offer. We may also authorize one or more free writing prospectuses to be provided to you that may contain material information relating to these offerings and securities. The prospectus supplement also may add, update or change information contained in this prospectus or the documents incorporated herein by reference. You should read carefully this prospectus, any applicable prospectus supplement and any related free writing prospectus together with additional information described below under the caption “Where You Can Find More Information.”

This prospectus does not contain all the information provided in the Registration Statement we filed with the SEC. For further information about us or our securities offered hereby, you should refer to that Registration Statement, which you can obtain from the SEC as described below under “Where You Can Find More Information.”

You should rely only on the information contained or incorporated by reference in this prospectus, any prospectus supplement and any related free writing 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. This prospectus is not an offer to sell securities, and it is not soliciting an offer to buy securities, in any jurisdiction where the offer or sale is not permitted. You should assume that the information appearing in this prospectus, any prospectus supplement, any related free writing prospectus as well as information we have previously filed with the SEC and incorporated by reference, is accurate as of the date of those documents only. Our business, financial condition, results of operations and prospects may have changed since those dates.

We may sell securities through underwriters or dealers, through agents, directly to purchasers or through any combination of these methods. We and our agents reserve the sole right to accept or reject in whole or in part any proposed purchase of securities. The prospectus supplement, which we will prepare and file with the SEC each time we offer securities, will set forth the names of any underwriters, agents or others involved in the sale of securities, and any applicable fee, commission or discount arrangements with them. See “Plan of Distribution.”

In this prospectus, unless otherwise indicated, “our company,” “we,” “us” or “our” refer to Applied DNA Sciences, Inc., a Delaware corporation and its consolidated subsidiaries.

PROSPECTUS SUMMARY

This prospectus summary highlights certain information about our company and other information contained elsewhere in this prospectus or in documents incorporated by reference. This summary does not contain all of the information that you should consider before making an investment decision. You should carefully read the entire prospectus, any prospectus supplement, including the section entitled “Risk Factors” and the documents incorporated by reference into this prospectus, before making an investment decision.

THE OFFERING

This prospectus is part of a Registration Statement that we filed with the Securities and Exchange Commission (“SEC”) utilizing a shelf registration process. Under this shelf registration process, we may sell any combination of:

- common stock;
- preferred stock;
- debt securities, in one or more series;
- warrants to purchase any of the securities listed above;
- rights to purchase common stock, preferred stock or warrants; and/or
- units consisting of one or more of the foregoing

in one or more offerings up to a total dollar amount of \$25,000,000. This prospectus provides you with a general description of the securities we may offer. Each time we sell securities, we will provide a prospectus supplement that will contain specific information about the terms of that specific offering and include a discussion of any risk factors or other special considerations that apply to those securities. The prospectus supplement may also add, update or change information contained in this prospectus. You should read both this prospectus and any prospectus supplement together with the additional information described under the heading “Where You Can Find More Information.”

OUR COMPANY

Overview

Using biotechnology as a forensic foundation, we provide botanical-DNA based security and authentication solutions and services that can help protect products, brands, entire supply chains, and intellectual property of companies, governments and consumers from theft, counterfeiting, fraud and diversion. Whether working in supply chain security, brand protection or law enforcement applications, it is our goal to help establish secure flourishing environments that foster quality, integrity and success. With secure taggants, high-resolution DNA authentication, and comprehensive reporting, our botanical DNA-based technologies are designed to deliver what we believe to be the greatest levels of security, deterrence and legal recourse strength.

SigNature® DNA. SigNature DNA is our platform ingredient, at the core of all our security solutions. From application to application the vehicle that carries SigNature DNA is custom designed to suit the application. Exhaustive development efforts have yielded a flexible and durable marker with all the accuracy provided by nature. SigNature DNA is based on full, double stranded plant DNA, and provides forensic power and protection for a wide array of applications. Highly secure, robust and durable, SigNature DNA markers are an ingredient that can be used to fortify brand protection efforts; mark, track and convict criminals; and strengthen supply chain security. Custom DNA sequences can be embedded into a wide range of host carriers including ink, varnish, thread, laminates and metal coatings. These items can then be tested for the presence of SigNature DNA Markers through optical screening or a forensic level authentication. Hundreds of millions of SigNature DNA marks now exist in the public domain on items ranging from consumer product packaging to microcircuits to guitars. We believe that no marks have ever been copied.

SigNature DNA, SigNature® T DNA, fiberTyping®, DNAnet® and digitalDNA®, our principal anti-counterfeiting and product authentication solutions can be used in numerous industries, including microcircuits and other electronics, cash-in-transit (transport and storage of banknotes), textiles and apparel, automotive, printing and packaging, homeland security, law enforcement and home asset marking, identity cards and other secure documents, industrial materials, agrochemicals, pharmaceuticals, consumer products, food and beverage, sports memorabilia, fine wine, and art and collectibles.

SigNature T DNA and fiberTyping. There is one common thread that runs through the global textile industry: success breeds counterfeiting and diversion. SigNature T botanical DNA markers are used for brand protection efforts and raw material source compliance programs. In situations where natural fibers like cotton or wool are utilized, we can isolate and type inherent DNA, making it possible to verify the presence of specified materials. This fiberTyping process provides DNA verification to help manufacturers, retailers and brand owners ensure quality, safety and compliance of their products.

DNAnet. Recognizing that DNA-based evidence is the cornerstone of the modern era of law enforcement, we have created what we believe to be an effective crime fighting tool: DNAnet, a botanical DNA marker that can be used to definitively link evidence and offenders to specific crime scenes. Whether deployed as a residential asset marker, an offender spray or fog in a retail location or a degradation dye in cash handling boxes, DNA markers facilitate conviction, and establish a heightened level of deterrence. DNAnet, which includes our SmartDNA product line, is a unique security system and effective crime protection system for stores, warehouses, banks, pharmacies, ATMs and the protection of valuables. The system contains a water-based, non-toxic spray that may be triggered during a crime, marking the perpetrator and remaining on their person for weeks after the crime. Each unit is designed to be unique to each store, warehouse or sting operation, allowing the police and prosecutors to link criminals to the crimes. Assets acquired from RedWeb Technologies including Sentry 500 Intruder Spray Systems and Advanced Molecular Taggant Technology and our SmartDNA product line are now included in the DNAnet family of products.

digitalDNA. digitalDNA is a security solution that utilizes the flexibility of mobile communications, the instant accessibility of secure, cloud-based data, and the certainty of DNA to make item tracking and authentication fast, easy and definitive, while providing the opportunity to create a new customer interface. digitalDNA begins with a DNA-secured form of the QR (“quick read”) code or other two dimensional code. A unique identification code is created for each article, and represented in an easy-to-read QR style barcode. The product uses forensic authentication of a botanical DNA marker, embedded within a secure QR code, and physically included within the ink used to digitally print the code. Should there ever be a question about the validity of a digitalDNA code, a laboratory-based analysis can be conducted to determine authenticity.

Counterfeit Prevention Authentication Program. Our turnkey program for electronics, military, commercial, and aerospace contractors called the Counterfeit Prevention Authentication Program (“CPA” Program) empowers end-users to verify the originality or provenance of parts which have been marked by their suppliers with our SigNature DNA Markers.

Corporate History

We are a Delaware corporation, which was initially formed in 1983 under the laws of the State of Florida as Datalink Systems, Inc. In 1998, we reincorporated in Nevada, and in 2002, we changed our name to our current name, Applied DNA Sciences, Inc. In December 2008, we reincorporated from Nevada to the State of Delaware.

In November 2005, our corporate headquarters were relocated from Los Angeles, California to the Long Island High Technology Incubator at Stony Brook University in Stony Brook, New York, where we established laboratories for the manufacture of DNA markers and product prototypes, and DNA authentication. The address of our corporate headquarters is 50 Health Sciences Drive, Stony Brook, New York 11790, and our telephone number is (631) 240-8800. We maintain a website at www.adnas.com where general information about us is available. The information on, or that may be accessed through, our website is not incorporated by reference into and should not be considered a part of this registration statement.

To date, we have had a limited operating history, and as a result, our operations have produced limited recurring revenues from our services and products; we have incurred expenses and have sustained losses.

RISK FACTORS

Investing in our securities involves significant risks. The prospectus supplement applicable to a particular offering of securities will contain a discussion of the risks applicable to an investment in the Company and to the particular types of securities that we are offering under that prospectus supplement. Before making an investment decision, you should carefully consider the risks described under the heading "Risk Factors" contained in, or incorporated into, the applicable prospectus supplement and any related free writing prospectus, together with all of the other information appearing in or incorporated by reference into this prospectus and any applicable prospectus supplement and related free writing prospectus, in light of your particular investment objectives and financial circumstances. Our business, financial condition or results of operations could be materially adversely affected by any of these risks. The trading price of our securities could decline due to any of these risks, and you may lose all or part of your investment. Additional risks not known to us or that we believe are immaterial may also adversely affect our business, operating results and financial condition and the value of an investment in our securities.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

Statements in this prospectus and in the documents incorporated by reference in this prospectus contain forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, or Securities Act, and Section 21E of the Securities Exchange Act of 1934, as amended, or Exchange Act, and are subject to the “safe harbor” created by those sections. Forward looking statements involve risks and uncertainties and contain words such as “may,” “assumes,” “forecasts,” “positions,” “predicts,” “strategy,” “expects,” “estimates,” “anticipates,” “projects,” “intends,” “plans,” “budgets,” “potential,” “continue” and variations thereof regarding matters that are not historical facts. Because these statements involve risks and uncertainties, as well as certain assumptions, actual results may differ materially from those expressed or implied by such forward-looking statements. Factors that could cause actual results to differ materially include, but are not limited to, those risks identified under “Risk Factors” and from time to time in our other filings with the SEC. The information in this prospectus or any prospectus supplement speaks only as of the date of that document and the information incorporated herein by reference speaks only as of the date of the document incorporated by reference. Except as required by law, we undertake no obligation to update any forward-looking statement, whether as a result of new information, future events or otherwise.

Forward-looking statements include our plans and objectives for future operations, including plans and objectives relating to our products and our future economic performance. Assumptions relating to the foregoing involve judgments with respect to, among other things, future economic, competitive and market conditions, future business decisions, and the time and money required to successfully complete development and commercialization of our technologies, all of which are difficult or impossible to predict accurately and many of which are beyond our control. Although we believe that the assumptions underlying the forward-looking statements contained herein are reasonable, any of those assumptions could prove inaccurate and, therefore, we cannot assure you that the results contemplated in any of the forward-looking statements contained herein will be realized. Based on the significant uncertainties inherent in the forward-looking statements included herein, the inclusion of any such statement should not be regarded as a representation by us or any other person that our objectives or plans will be achieved.

USE OF PROCEEDS

Except as otherwise provided in the applicable prospectus supplement, we intend to use the net proceeds from the sale of the securities covered by this prospectus for general corporate purposes, which may include, but is not limited to, working capital, capital expenditures, business development and research and development expenditures and acquisitions of new technologies or businesses. The precise amount, use and timing of the application of such proceeds will depend upon our funding requirements and the availability and cost of other capital. Additional information on the use of net proceeds from an offering of securities covered by this prospectus may be set forth in the prospectus supplement relating to the specific offering.

RATIO OF EARNINGS TO FIXED CHARGES

The following table sets forth our ratio of earnings to fixed charges for the periods indicated on a consolidated basis. You should read these ratios of earnings to fixed charges in connection with our consolidated financial statements, including the notes to those statements, incorporated by reference into this prospectus.

In calculating the ratio of earnings to fixed charges, “earnings” means the sum of income before income taxes and fixed charges exclusive of capitalized interest, and “fixed charges” means interest expensed and capitalized, amortized premiums, discounts and capitalized expenses relating to indebtedness and an estimate of the portion of annual rental expense on leases that represents the interest factor.

| | Three-months ended December 31, 2014 | Year-ended September 30, 2014 | 2013 | 2012 | 2011 | 2010 | |
|------------------------------------|---|----------------------------------|------|------|------|------|------|
| Ratio of Earnings to Fixed Charges | — | (1) | -(2) | —(3) | —(4) | —(5) | —(6) |

(1) Due to the loss for the fiscal quarter ended December 31, 2014, the ratio of earning to fixed charges for that period was less than 1.00. The deficiency of earnings to total fixed charges was approximately \$7,828,644.

(2) Due to the loss for the fiscal year ended September 30, 2014, the ratio of earnings to fixed charges for that period was less than 1.00. The deficiency of earnings to total fixed charges was approximately \$13,066,661.

(3) Due to the loss for the fiscal year ended September 30, 2013, the ratio of earnings to fixed charges for that period was less than 1.00. The deficiency of earnings to total fixed charges was approximately \$17,686,472.

(4) Due to the loss for the fiscal year ended September 30, 2012, the ratio of earnings to fixed charges for that period was less than 1.00. The deficiency of earnings to total fixed charges was approximately \$7,150,712.

(5) Due to the loss for the fiscal year ended September 30, 2011, the ratio of earnings to fixed charges for that period was less than 1.00. The deficiency of earnings to total fixed charges was approximately \$10,515,124.

(6) Due to the loss for the fiscal year ended September 30, 2010, the ratio of earnings to fixed charges for that period was less than 1.00. The deficiency of earnings to total fixed charges was approximately \$7,909,600.

As of the date of this prospectus, we have no shares of preferred stock outstanding and have not declared or paid any dividends on preferred stock for the periods set forth above.

DESCRIPTIONS OF THE SECURITIES WE MAY OFFER

The descriptions of the securities contained in this prospectus, together with any applicable prospectus supplement, summarize all the material terms and provisions of the various types of securities that we may offer. We will describe in the applicable prospectus supplement relating to a particular offering the specific terms of the securities offered by that prospectus supplement. We will indicate in the applicable prospectus supplement if the terms of the securities differ from the terms we have summarized below. We will also include in the prospectus supplement information, where applicable, regarding material United States federal income tax considerations relating to the securities.

We may sell from time to time, in one or more offerings:

shares of our common stock;

shares of our preferred stock;

debt securities;

warrants to purchase any of the securities listed above;

rights to purchase common stock, preferred stock or warrants; and/or

units consisting of one or more of the foregoing.

This prospectus may not be used to consummate a sale of securities unless it is accompanied by a prospectus supplement.

CAPITAL STOCK

General

The following description of common stock and preferred stock, together with the additional information we include in any applicable prospectus supplement, summarizes the material terms and provisions of the common stock and preferred stock that we may offer under this prospectus but is not complete. For the complete terms of our common stock and preferred stock, please refer to our Certificate of Incorporation, as may be amended from time to time, any certificates of designation for our preferred stock, that may be authorized from time to time, and our bylaws, as amended from time to time. The Delaware General Corporation Law may also affect the terms of these securities. While the terms we have summarized below will apply generally to any future common stock or preferred stock that we may offer, we will describe the specific terms of any series of these securities in more detail in the applicable prospectus supplement. If we so indicate in a prospectus supplement, the terms of any common stock or preferred stock we offer under that prospectus supplement may differ from the terms we describe below.

As of February 23, 2015, our authorized capital stock consists of 500,000,000 shares of common stock, par value \$0.001 per share, of which 17,361,702 shares were issued and outstanding as of February 12, 2015, and 10,000,000 shares of preferred stock, par value \$0.001 per share, of which no shares were issued and outstanding as of February 23, 2015. In addition, as of February 23, 2015, we had options to purchase 3,809,555 shares of common stock issued and outstanding. The authorized and unissued shares of common stock and preferred stock are available for issuance without further action by our stockholders, unless such action is required by applicable law or the rules of any stock exchange on which our securities may be listed. Unless approval of our stockholders is so required, our board of directors will not seek stockholder approval for the issuance and sale of our common stock.

Common Stock

Each shareholder of our common stock is entitled to one vote for each share issued and outstanding held on all matters to be voted upon by the shareholders. Our shares of common stock have no preemptive, conversion, or redemption rights. Upon the sale of substantially all of our stock or assets or dissolution, liquidation or winding up, and after all liquidation preferences payable to any series of preferred stock entitled thereto have been satisfied, our remaining assets shall be distributed to all holders of common stock and any similarly situated stockholders who are not entitled to any liquidation preference or, if there be an insufficient amount to pay all such stockholders, then ratably among such holders. All of our issued and outstanding shares of common stock are fully paid and non-assessable. Our Certificate of Incorporation, as amended, does not provide for cumulative voting in the election of directors. The holders of shares of our common stock will be entitled to such cash dividends as may be declared from time to time by our board of directors from funds available therefor.

Our common stock is listed on The NASDAQ Capital Market under the symbol "APDN." The transfer agent and registrar for our common stock is American Stock Transfer & Trust Company.

Warrants

Effective November 20, 2014, we consummated an underwritten public offering consisting of 2,800,000 shares of common stock and warrants to purchase up to an aggregate of 2,800,000 shares of common stock for gross proceeds of \$9.1 million before deducting underwriting discounts and offering expenses. The public offering price for each share of common stock, together with one warrant was \$3.25. The warrants may be exercised for a period of five years and have an exercise price of \$3.50 per share of common stock. In connection with the offering, we granted to the underwriters a 45-day option to acquire up to 420,000 additional shares of common stock and/or up to 420,000 additional warrants. We closed on the underwriters exercise of the over-allotment option on 52,000 shares of common stock and 416,850 warrants.

As of February 23, 2015, we had outstanding 4,470,502 warrants to purchase 4,470,502 shares of our common stock at a weighted average exercise price of \$3.88. The 3,216,850 warrants sold in the underwritten public offering are listed on The NASDAQ Capital Market under the symbol "APDNW". Our Warrant Agent is American Stock Transfer & Trust Company.

Preferred Stock

Our Certificate of Incorporation, as amended, provides that our board of directors may, by resolution, designate classes of preferred stock in the future. The designated series of preferred stock shall have such powers, designations, preferences and relative, participation or optional or other special rights and qualifications, limitations or restrictions as shall be expressed in the resolution adopted by the board of directors. Once designated by our board of directors, each series of preferred stock will have specific financial and other terms that will be described in a prospectus supplement. The description of the preferred stock that is set forth in any prospectus supplement is not complete without reference to the documents that govern the preferred stock. These include our Certificate of Incorporation, as amended, and any certificates of designation that our board of directors may adopt. Prior to the issuance of shares of each series of preferred stock, the board of directors is required by the Delaware General Corporate Law and our Certificate of Incorporation to adopt resolutions and file a certificate of designations with the Secretary of State of the State of Delaware. The certificate of designations fixes for each class or series the designations, powers, preferences, rights, qualifications, limitations and restrictions, including, but not limited to, some or all of the following:

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the number of shares constituting that series and the distinctive designation of that series, which number may be increased or decreased (but not below the number of shares then outstanding) from time to time by action of the board of directors;

the dividend rate and the manner and frequency of payment of dividends on the shares of that series, whether dividends will be cumulative, and, if so, from which date;

whether that series will have voting rights, in addition to any voting rights provided by law, and, if so, the terms of such voting rights;

whether that series will have conversion privileges, and, if so, the terms and conditions of such conversion, including provision for adjustment of the conversion rate in such events as the board of directors may determine;

whether or not the shares of that series will be redeemable, and, if so, the terms and conditions of such redemption;

whether that series will have a sinking fund for the redemption or purchase of shares of that series, and, if so, the terms and amount of such sinking fund;

whether or not the shares of the series will have priority over or be on a parity with or be junior to the shares of any other series or class in any respect;

the rights of the shares of that series in the event of voluntary or involuntary liquidation, dissolution or winding up of the corporation, and the relative rights or priority, if any, of payment of shares of that series; and

any other relative rights, preferences and limitations of that series.

All shares of preferred stock offered hereby will be, when issued, fully paid and non-assessable, including shares of preferred stock issued upon the exercise of preferred stock warrants or subscription rights, if any.

Although our board of directors has no intention at the present time of doing so, it could authorize the issuance of a series of preferred stock that could, depending on the terms of such series, impede the completion of a merger, tender offer or other takeover attempt.

Anti-takeover Effects of Certain Provisions of our Certificate of Incorporation and Bylaws

Our certificate of incorporation contains provisions that could make it more difficult to acquire control of our company by means of a tender offer, open market purchases, a proxy contest or otherwise. A description of these provisions is set forth below.

Preferred Stock

We believe that the availability of the preferred stock under our certificate of incorporation provides us with flexibility in addressing corporate issues that may arise. Having these authorized shares available for issuance allows us to issue shares of preferred stock without the expense and delay of a special stockholders' meeting. The authorized shares of preferred stock, as well as shares of common stock, will be available for issuance without further action by our stockholders, unless action is required by applicable law or the rules of any stock exchange on which our securities may be listed. The board of directors has the power, subject to applicable law, to issue series of preferred stock that could, depending on the terms of the series, impede the completion of a merger, tender offer or other takeover attempt that some, or a majority, of the stockholders might believe to be in their best interests or in which stockholders might receive a premium for their stock over the then prevailing market price of the stock.

Advance Notice Procedure

Our bylaws provide an advance notice procedure for stockholders to nominate director candidates for election or to bring business before an annual meeting of stockholders. Only persons nominated by, or at the direction of, our board of directors or by a stockholder who has given proper and timely notice to our secretary prior to the meeting, will be eligible for election as a director. In addition, any proposed business other than the nomination of persons for election to our board of directors must constitute a proper matter for stockholder action pursuant to the notice of meeting delivered to us. For notice to be timely, it must be received by our secretary not less than 90 nor more than 120 calendar days prior to the first anniversary of the previous year's annual meeting (or if the date of the annual meeting is advanced more than 30 calendar days or delayed by more than 60 calendar days from the anniversary date of the previous year's annual meeting, not earlier than the 90th calendar day prior to such meeting or the 10th calendar day

after public disclosure of the date of such meeting is first made). These advance notice provisions may have the effect of precluding the conduct of certain business at a meeting if the proper procedures are not followed or may discourage or deter a potential acquirer from conducting a solicitation of proxies to elect its own slate of directors or otherwise attempt to obtain control of us.

Special Meetings of Stockholders

Our bylaws provide that special meetings of stockholders may be called only by the Chairman of the Board, the Chief Executive Officer, or the Board of Directors pursuant to a resolution adopted by a majority of the Board.

Anti-Takeover Effects of Delaware Law

Section 203 of the Delaware General Corporation Law (DGCL) provides that, subject to exceptions specified therein, an “interested stockholder” of a Delaware corporation shall not engage in any “business combination,” including general mergers or consolidations or acquisitions of additional shares of the corporation, with the corporation for a three-year period following the time that such stockholder becomes an interested stockholder unless:

prior to such time, the board of directors of the corporation approved either the business combination or the transaction which resulted in the stockholder becoming an interested stockholder;

upon consummation of the transaction which resulted in the stockholder becoming an “interested stockholder,” the interested stockholder owned at least 85% of the voting stock of the corporation outstanding at the time the transaction commenced (excluding specified shares); or

on or subsequent to such time, the business combination is approved by the board of directors of the corporation and authorized at an annual or special meeting of stockholders, and not by written consent, by the affirmative vote of at least 66 2/3% of the outstanding voting stock not owned by the interested stockholder.

Under Section 203, the restrictions described above also do not apply to specified business combinations proposed by an interested stockholder following the announcement or notification of one of specified transactions involving the corporation and a person who had not been an interested stockholder during the previous three years or who became an interested stockholder with the approval of a majority of the corporation’s directors, if such transaction is approved or not opposed by a majority of the directors who were directors prior to any person becoming an interested stockholder during the previous three years or were recommended for election or elected to succeed such directors by a majority of such directors. The restrictions described above also do not apply to specified business combinations with a person who is an “interested stockholder” prior to the time when the corporation’s common stock is listed on a national securities exchange, so these restrictions would not apply to a business combination with any person who is one of our stockholders prior to this offering.

Except as otherwise specified in Section 203, an “interested stockholder” is defined to include:

any person that is the owner of 15% or more of the outstanding voting stock of the corporation, or is an affiliate or associate of the corporation and was the owner of 15% or more of the outstanding voting stock of the corporation at any time within three years immediately prior to the date of determination; and the affiliates and associates of any such person

Under some circumstances, Section 203 makes it more difficult for a person who is an interested stockholder to effect various business combinations with us for a three-year period.

WARRANTS

The following description, together with the additional information we may include in any applicable prospectus supplement or free writing prospectus, summarizes the material terms and provisions of the warrants that we may offer under this prospectus and any related warrant agreement and warrant certificate. While the terms summarized below will apply generally to any warrants that we may offer, we will describe the specific terms of any series of warrants in more detail in the applicable prospectus supplement. If we indicate in the prospectus supplement, the terms of any warrants offered under that prospectus supplement may differ from the terms described below. Specific warrant agreements will contain additional important terms and provisions and will be incorporated by reference as an exhibit to the Registration Statement which includes this prospectus.

General

We may issue warrants for the purchase of common stock, preferred stock and/or debt securities in one or more series. We may issue warrants independently or together with common stock, preferred stock and/or debt securities, and the warrants may be attached to or separate from these securities.

We will evidence each series of warrants by warrant certificates that we may issue under a separate agreement. We may enter into a warrant agreement with a warrant agent. Each warrant agent may be a bank that we select which has its principal office in the United States. We may also choose to act as our own warrant agent. We will indicate the name and address of any such warrant agent in the applicable prospectus supplement relating to a particular series of warrants.

We will describe in the applicable prospectus supplement the terms of the series of warrants, including:

the offering price and aggregate number of warrants offered;

if applicable, the designation and terms of the securities with which the warrants are issued and the number of warrants issued with each such security or each principal amount of such security;

if applicable, the date on and after which the warrants and the related securities will be separately transferable;

in the case of warrants to purchase debt securities, the principal amount of debt securities purchasable upon exercise of one warrant and the price at, and currency in which, this principal amount of debt securities may be purchased upon such exercise;

in the case of warrants to purchase common stock or preferred stock, the number or amount of shares of common stock or preferred stock, as the case may be, purchasable upon the exercise of one warrant and the price at which and currency in which these shares may be purchased upon such exercise;

the manner of exercise of the warrants, including any cashless exercise rights;

the warrant agreement under which the warrants will be issued;

the effect of any merger, consolidation, sale or other disposition of our business on the warrant agreement and the warrants;

anti-dilution provisions of the warrants, if any;

the terms of any rights to redeem or call the warrants;

any provisions for changes to or adjustments in the exercise price or number of securities issuable upon exercise of the warrants;

the dates on which the right to exercise the warrants will commence and expire or, if the warrants are not continuously exercisable during that period, the specific date or dates on which the warrants will be exercisable;

the manner in which the warrant agreement and warrants may be modified;

the identities of the warrant agent and any calculation or other agent for the warrants;

federal income tax consequences of holding or exercising the warrants;

the terms of the securities issuable upon exercise of the warrants;

any securities exchange or quotation system on which the warrants or any securities deliverable upon exercise of the warrants may be listed or quoted; and

any other specific terms, preferences, rights or limitations of or restrictions on the warrants.

Before exercising their warrants, holders of warrants will not have any of the rights of holders of the securities purchasable upon such exercise, including:

in the case of warrants to purchase debt securities, the right to receive payments of principal of, or premium, if any, or interest on, the debt securities purchasable upon exercise or to enforce covenants in the applicable indenture; or

in the case of warrants to purchase common stock or preferred stock, the right to receive dividends, if any, or payments upon our liquidation, dissolution or winding up or to exercise voting rights, if any.

Exercise of Warrants

Each warrant will entitle the holder to purchase the securities that we specify in the applicable prospectus supplement at the exercise price that we describe in the applicable prospectus supplement. Unless we otherwise specify in the applicable prospectus supplement, holders of the warrants may exercise the warrants at any time up to 5:00 P.M. eastern time on the expiration date that we set forth in the applicable prospectus supplement. After the close of business on the expiration date, unexercised warrants will become void.

Holders of the warrants may exercise the warrants by delivering the warrant certificate representing the warrants to be exercised together with specified information, and paying the required exercise price by the methods provided in the applicable prospectus supplement. We will set forth on the reverse side of the warrant certificate, and in the applicable prospectus supplement, the information that the holder of the warrant will be required to deliver to the warrant agent.

Upon receipt of the required payment and the warrant certificate properly completed and duly executed at the corporate trust office of the warrant agent or any other office indicated in the applicable prospectus supplement, we will issue and deliver the securities purchasable upon such exercise. If fewer than all of the warrants represented by the warrant certificate are exercised, then we will issue a new warrant certificate for the remaining amount of warrants.

Enforceability of Rights by Holders of Warrants

Any warrant agent will act solely as our agent under the applicable warrant agreement and will not assume any obligation or relationship of agency or trust with any holder of any warrant. A single bank or trust company may act as warrant agent for more than one issue of warrants. A warrant agent will have no duty or responsibility in case of any default by us under the applicable warrant agreement or warrant, including any duty or responsibility to initiate any proceedings at law or otherwise, or to make any demand upon us. Any holder of a warrant may, without the consent of the related warrant agent or the holder of any other warrant, enforce by appropriate legal action the holder's right to exercise, and receive the securities purchasable upon exercise of, its warrants in accordance with their terms.

Warrant Agreement Will Not Be Qualified Under Trust Indenture Act

No warrant agreement will be qualified as an indenture, and no warrant agent will be required to qualify as a trustee, under the Trust Indenture Act. Therefore, holders of warrants issued under a warrant agreement will not have the protection of the Trust Indenture Act with respect to their warrants.

Governing Law

Each warrant agreement and any warrants issued under the warrant agreements will be governed by New York law.

Calculation Agent

Any calculations relating to warrants may be made by a calculation agent, an institution that we appoint as our agent for this purpose. The prospectus supplement for a particular warrant will name the institution that we have appointed to act as the calculation agent for that warrant as of the original issue date for that warrant, if any. We may appoint a different institution to serve as calculation agent from time to time after the original issue date without the consent or notification of the holders. The calculation agent's determination of any amount of money payable or securities deliverable with respect to a warrant will be final and binding in the absence of manifest error.

DEBT SECURITIES

The following description, together with the additional information we include in any applicable prospectus supplements, summarizes the material terms and provisions of the debt securities that we may offer under this prospectus. While the terms we have summarized below will generally apply to any future debt securities we may offer under this prospectus, we will describe the particular terms of any debt securities that we may offer in more detail in the applicable prospectus supplement or a free writing prospectus. The terms of any debt securities we offer under a prospectus supplement or a free writing prospectus may differ from the terms we describe below. As of the date of this prospectus, we have no outstanding registered debt securities.

We will issue senior notes under a senior indenture, which we will enter into with the trustee to be named in the senior indenture. We will issue subordinated notes under a subordinated indenture, which we will enter into with the trustee to be named in the subordinated indenture. We have filed forms of these documents as exhibits to the Registration Statement of which this prospectus is a part. We use the term "indentures" to refer to both the senior indenture and the subordinated indenture.

The indentures will be qualified under the Trust Indenture Act of 1939, unless an exemption from the qualification provisions is applicable. References to the Trust Indenture Act of 1939 include all amendments thereto. We use the term "debenture trustee" to refer to either the senior trustee or the subordinated trustee, as applicable.

The following summaries of material provisions of the senior notes, the subordinated notes and the indentures are subject to, and qualified in their entirety by reference to, all the provisions of the indenture applicable to a particular series of debt securities, and all supplements thereto. We urge you to read the applicable prospectus supplements related to the debt securities that we sell under this prospectus, as well as the complete indentures that contain the terms of the debt securities. Except as we may otherwise indicate, the terms of the senior and the subordinated indentures are identical.

General

The terms of each series of debt securities will be established by or pursuant to a resolution of our board of directors and set forth or determined in the manner provided in an officers' certificate or by a supplemental indenture. Debt securities may be issued in separate series without limitation as to aggregate principal amount. We may specify a maximum aggregate principal amount for the debt securities of any series. In addition, the particular terms of each series of debt securities will be described in a prospectus supplement relating to such series, including any pricing supplement. The prospectus supplement will set forth, among other things:

the title;

the principal amount being offered, and, if a series, the total amount authorized and the total amount outstanding;

any limit on the amount that may be issued;

whether or not we will issue the series of debt securities in global form and, if so, the terms and who the depository will be;

the maturity date;

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whether and under what circumstances, if any, we will pay additional amounts on any debt securities held by a person who is not a U.S. person for tax purposes, and whether we can redeem the debt securities if we have to pay such additional amounts;

the annual interest rate, which may be fixed or variable, or the method for determining the rate, the date interest will begin to accrue, the dates interest will be payable and the regular record dates for interest payment dates or the method for determining such dates;

the terms of the subordination of any series of subordinated debt, if applicable;

the place where payments will be payable;

restrictions on transfer, sale or other assignment, if any;

our right, if any, to defer payment of interest and the maximum length of any such deferral period;

the date, if any, after which, the conditions upon which, and the price at which we may, at our option, redeem the series of debt securities pursuant to any optional or provisional redemption provisions, and any other applicable terms of those redemption provisions;

the date, if any, on which, and the price at which we are obligated, pursuant to any mandatory sinking fund or analogous fund provisions or otherwise, to redeem, or at the holder's option to purchase, the series of debt securities and the currency or currency unit in which the debt securities are payable;

whether the indenture will restrict our ability and/or the ability of our subsidiaries to, among other things:

incur additional indebtedness;

issue additional securities;

create liens;

pay dividends and make distributions in respect of our capital stock and the capital stock of our subsidiaries;

redeem capital stock;

place restrictions on our subsidiaries' ability to pay dividends, make distributions or transfer assets;

make investments or other restricted payments;

sell or otherwise dispose of assets;

enter into sale-leaseback transactions;

engage in transactions with stockholders and affiliates;

issue or sell stock of our subsidiaries; or

effect a consolidation or merger;

whether the indenture will require us to maintain any interest coverage, fixed charge, cash flow-based, asset-based or other financial ratios;

information describing any book-entry features;

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provisions for a sinking fund purchase or other analogous fund, if any;

whether the debt securities are to be offered at a price such that they will be deemed to be offered at an “original issue discount” as defined in paragraph (a) of Section 1273 of the Internal Revenue Code;

the procedures for any auction and remarketing, if any;

the denominations in which we will issue the series of debt securities, if other than denominations of \$1,000 and any integral multiple thereof;

if other than dollars, the currency in which the series of debt securities will be denominated; and

any other specific terms, preferences, rights or limitations of, or restrictions on, the debt securities, including any events of default that are in addition to those described in this prospectus or any covenants provided with respect to the debt securities that are in addition to those described above, and any terms that may be required by us or advisable under applicable laws or regulations or advisable in connection with the marketing of the debt securities.

Conversion or Exchange Rights

We will set forth in the prospectus supplement the terms on which a series of debt securities may be convertible into or exchangeable for common stock or other securities of ours or a third party, including the conversion or exchange rate, as applicable, or how it will be calculated, and the applicable conversion or exchange period. We will include provisions as to whether conversion or exchange is mandatory, at the option of the holder or at our option. We may include provisions pursuant to which the number of our securities or the securities of a third party that the holders of the series of debt securities receive upon conversion or exchange would, under the circumstances described in those provisions, be subject to adjustment, or pursuant to which those holders would, under those circumstances, receive other property upon conversion or exchange, for example in the event of our merger or consolidation with another entity.

Consolidation, Merger or Sale

The indentures in the forms initially filed as exhibits to the registration statement of which this prospectus is a part do not contain any covenant that restricts our ability to merge or consolidate, or sell, convey, transfer or otherwise dispose of all or substantially all of our assets. However, any successor of ours or the acquirer of such assets must assume all of our obligations under the indentures and the debt securities.

If the debt securities are convertible for our other securities, the person with whom we consolidate or merge or to whom we sell all of our property must make provisions for the conversion of the debt securities into securities that the holders of the debt securities would have received if they had converted the debt securities before the consolidation, merger or sale.

Events of Default under the Indenture

The following are events of default under the indentures in the forms initially filed as exhibits to the Registration Statement with respect to any series of debt securities that we may issue:

if we fail to pay interest when due and payable and our failure continues for 90 days and the time for payment has not been extended or deferred;

if we fail to pay the principal, sinking fund payment or premium, if any, when due and payable and the time for payment has not been extended or delayed;

if we fail to observe or perform any other covenant contained in the debt securities or the indentures, other than a covenant specifically relating to another series of debt securities, and our failure continues for 90 days after we receive notice from the debenture trustee or holders of at least 25% in aggregate principal amount of the outstanding debt securities of the applicable series; and

if specified events of bankruptcy, insolvency or reorganization occur.

If an event of default with respect to debt securities of any series occurs and is continuing, other than an event of default specified in the last bullet point above, the debenture trustee or the holders of at least 25% in aggregate principal amount of the outstanding debt securities of that series, by notice to us in writing, and to the debenture trustee if notice is given by such holders, may declare the unpaid principal of, premium, if any, and accrued interest, if any, due and payable immediately. If an event of default specified in the last bullet point above occurs with respect to us, the principal amount of and accrued interest, if any, of each issue of debt securities then outstanding shall be due and payable without any notice or other action on the part of the debenture trustee or any holder.

The holders of a majority in principal amount of the outstanding debt securities of an affected series may waive any default or event of default with respect to the series and its consequences, except defaults or events of default regarding payment of principal, premium, if any, or interest, unless we have cured the default or event of default in accordance with the indenture. Any waiver shall cure the default or event of default.

Subject to the terms of the indentures, if an event of default under an indenture shall occur and be continuing, the debenture trustee will be under no obligation to exercise any of its rights or powers under such indenture at the request or direction of any of the holders of the applicable series of debt securities, unless such holders have offered the debenture trustee reasonable indemnity. The holders of a majority in principal amount of the outstanding debt securities of any series will have the right to direct the time, method and place of conducting any proceeding for any remedy available to the debenture trustee, or exercising any trust or power conferred on the debenture trustee, with respect to the debt securities of that series, provided that:

the direction so given by the holder is not in conflict with any law or the applicable indenture; and

subject to its duties under the Trust Indenture Act of 1939, the debenture trustee need not take any action that might involve it in personal liability or might be unduly prejudicial to the holders not involved in the proceeding.

A holder of the debt securities of any series will only have the right to institute a proceeding under the indentures or to appoint a receiver or trustee, or to seek other remedies if:

the holder has given written notice to the debenture trustee of a continuing event of default with respect to that series;

the holders of at least 25% in aggregate principal amount of the outstanding debt securities of that series have made written request, and such holders have offered reasonable indemnity, to the debenture trustee to institute the proceeding as trustee; and

the debenture trustee does not institute the proceeding and does not receive from the holders of a majority in aggregate principal amount of the outstanding debt securities of that series other conflicting directions within 90 days after the notice, request and offer.

These limitations do not apply to a suit instituted by a holder of debt securities if we default in the payment of the principal, premium, if any, or interest on, the debt securities.

We will periodically file statements with the debenture trustee regarding our compliance with specified covenants in the indentures.

Modification of Indenture; Waiver

We and the debenture trustee may change an indenture without the consent of any holders with respect to specific matters, including:

to fix any ambiguity, defect or inconsistency in the indenture;

to comply with the provisions described above under “—Consolidation, Merger or Sale”;

to comply with any requirements of the SEC in connection with the qualification of any indenture under the Trust Indenture Act of 1939;

to evidence and provide for the acceptance of appointment by a successor trustee;

to provide for uncertificated debt securities and to make all appropriate changes for such purpose;

to add to, delete from, or revise the conditions, limitations and restrictions on the authorized amount, terms or purposes of issuance, authorization and delivery of debt securities or any series, as set forth in the indenture;

to provide for the issuance of and establish the form and terms and conditions of the debt securities of any series as provided under “—General” to establish the form of any certifications required to be furnished pursuant to the terms of the indenture or any series of debt securities, or to add to the rights of the holders of any series of debt securities;

to add to our covenants such new covenants, restrictions, conditions or provisions for the protection of the holders, to make the occurrence, or the occurrence and the continuance, of a default in any such additional covenants, restrictions, conditions or provisions an event of default, or to surrender any of our rights or powers under the indenture; or

to change anything that does not materially adversely affect the interests of any holder of debt securities of any series.

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In addition, under the indentures, the rights of holders of a series of debt securities may be changed by us and the debenture trustee with the written consent of the holders of at least a majority in aggregate principal amount of the outstanding debt securities of each series that is affected. However, we and the debenture trustee may only make the following changes with the consent of each holder of any outstanding debt securities affected:

extending the fixed maturity of the series of debt securities;

reducing the principal amount, reducing the rate of or extending the time of payment of interest, or reducing any premium payable upon the redemption of any debt securities; or

reducing the percentage of debt securities, the holders of which are required to consent to any amendment, supplement, modification or waiver.

Discharge

Each indenture provides that we can elect to be discharged from our obligations with respect to one or more series of debt securities, except that the following obligations, among others survive until the maturity date or the redemption date:

register the transfer or exchange of debt securities of the series;

replace stolen, lost or mutilated debt securities of the series;

maintain paying agencies;

hold monies for payment in trust; and

appoint any successor trustee;

and the following obligations survive the maturity date or the redemption date:

recover excess money held by the debenture trustee; and

compensate and indemnify the debenture trustee.

As more fully set forth in the indentures, in order to exercise our rights to be discharged, we must either deliver for cancellation all securities of a series to the debenture trustee or must deposit with the debenture trustee money or government obligations sufficient to pay all the principal of, any premium, if any, and interest on, the debt securities of the series on the dates payments are due.

Form, Exchange and Transfer

We will issue the debt securities of each series only in fully registered form without coupons and, unless we otherwise specify in the applicable prospectus supplement, in denominations of \$1,000 and any integral multiple thereof. The indentures provide that we may issue debt securities of a series in temporary or permanent global form and as book-entry securities that will be deposited with, or on behalf of, The Depository Trust Company, New York, New York, known as DTC, or another depository named by us and identified in a prospectus supplement with respect to that series.

At the option of the holder, subject to the terms of the indentures and the limitations applicable to global securities described in the applicable prospectus supplement, the holder of the debt securities of any series can exchange the debt securities for other debt securities of the same series, in any authorized denomination and of like tenor and aggregate principal amount.

Subject to the terms of the indentures and the limitations applicable to global securities set forth in the applicable prospectus supplement, holders of the debt securities may present the debt securities for exchange or for registration of transfer, duly endorsed or with the form of transfer endorsed thereon duly executed if so required by us or the security registrar, at the office of the security registrar or at the office of any transfer agent designated by us for this purpose. Unless otherwise provided in the debt securities that the holder presents for transfer or exchange, we will make no service charge for any registration of transfer or exchange, but we may require payment of any taxes or other governmental charges.

We will name in a board resolution the security registrar, and any transfer agent in addition to the security registrar, that we initially designate for any debt securities. We may at any time designate additional transfer agents or rescind the designation of any transfer agent or approve a change in the office through which any transfer agent acts, except that we will be required to maintain a transfer agent in each place of payment for the debt securities of each series.

If we elect to redeem the debt securities of any series, we will not be required to:

issue, register the transfer of, or exchange any debt securities of any series being redeemed in part during a period beginning at the opening of business 15 days before the day of mailing of a notice of redemption of any debt securities that may be selected for redemption and ending at the close of business on the day of the mailing; or

register the transfer of or exchange any debt securities so selected for redemption, in whole or in part, except the unredeemed portion of any debt securities we are redeeming in part.

Information Concerning the Debenture Trustee

The debenture trustee, other than during the occurrence and continuance of an event of default under an indenture, undertakes to perform only those duties as are specifically set forth in the applicable indenture. Upon an event of default under an indenture, the debenture trustee must use the same degree of care as a prudent person would exercise or use in the conduct of his or her own affairs. Subject to this provision, the debenture trustee is under no obligation to exercise any of the powers given it by the indentures at the request of any holder of debt securities unless it is offered reasonable security and indemnity against the costs, expenses and liabilities that it might incur.

Payment and Paying Agents

Unless we otherwise indicate in the applicable prospectus supplement, we will make payment of the interest on any debt securities on any interest payment date to the person in whose name the debt securities, or one or more predecessor securities, are registered at the close of business on the regular record date for the interest.

We will name in the applicable board resolution any other paying agents that we initially designate for the debt securities of a particular series. We will maintain a paying agent in each place of payment for the debt securities of a particular series.

All money we pay to a paying agent or the debenture trustee for the payment of the principal of or any premium or interest on any debt securities that remains unclaimed at the end of two years after such principal, premium or interest has become due and payable will be repaid to us, and the holder of the debt security thereafter may look only to us for payment thereof.

Governing Law

The indentures and the debt securities will be governed by and construed in accordance with the laws of the State of New York, except to the extent that the Trust Indenture Act of 1939 is applicable.

Subordination of Subordinated Debt Securities

The subordinated debt securities will be subordinate and junior in priority of payment to certain of our other indebtedness to the extent described in a prospectus supplement. The indentures in the forms initially filed as exhibits to the Registration Statement of which this prospectus is a part do not limit the amount of indebtedness that we may incur, including senior indebtedness or subordinated indebtedness, and do not limit us from issuing any other debt, including secured debt or unsecured debt.

RIGHTS

We may issue rights to purchase common stock, preferred stock or warrants that we may offer to our securityholders. The rights may or may not be transferable by the persons purchasing or receiving the rights. In connection with any rights offering, we may enter into a standby underwriting or other arrangement with one or more underwriters or other persons pursuant to which such underwriters or other persons would purchase any offered securities remaining unsubscribed for after such rights offering. Each series of rights will be issued under a separate rights agent agreement to be entered into between us and a bank or trust company, as rights agent, that we will name in the applicable prospectus supplement. The rights agent will act solely as our agent in connection with the rights and will not assume any obligation or relationship of agency or trust for or with any holders of rights certificates or beneficial owners of rights. A copy of the form of rights agent or subscription agent agreement, including the form of rights certificate representing a series of rights, will be filed with the SEC in connection with the offering of a particular series of rights.

The prospectus supplement relating to any rights that we offer will include specific terms relating to the offering, including, among other matters:

the date of determining the security holders entitled to the rights distribution;

the aggregate number of rights issued and the aggregate number of shares of common stock or preferred stock or warrants purchasable upon exercise of the rights;

the exercise price;

the conditions to completion of the rights offering;

the date on which the right to exercise the rights will commence and the date on which the rights will expire; and

any applicable federal income tax considerations.

Each right would entitle the holder of the rights to purchase for cash the amount of shares of common stock or preferred stock or warrants at the exercise price set forth in the applicable prospectus supplement. Rights may be exercised at any time up to the close of business on the expiration date for the rights provided in the applicable prospectus supplement. After the close of business on the expiration date, all unexercised rights will become void.

If less than all of the rights issued in any rights offering are exercised, we may offer any unsubscribed securities directly to persons other than our security holders, to or through agents, underwriters or dealers or through a combination of such methods, including pursuant to standby arrangements, as described in the applicable prospectus supplement.

Until a holder exercises the rights to purchase shares of our common stock or preferred stock or warrants, the holder will not have any rights as a holder of shares of our common stock or preferred stock or warrants, as the case may be, by virtue of ownership of the rights.

UNITS

We may issue units comprised of one or more of the other securities described in this prospectus, in any prospectus supplement or a free writing prospectus in any combination. Each unit will be issued so that the holder of the unit is also the holder, with the rights and obligations of a holder, of each security included in the unit. The unit agreement under which a unit is issued may provide that the securities included in the unit may not be held or transferred separately, at any time or at any time before a specified date or upon the occurrence of a specified event or occurrence.

The applicable prospectus supplement or free writing prospectus will describe:

the designation and terms of the units and of the securities comprising the units, including whether and under what circumstances those securities may be held or transferred separately;

any unit agreement under which the units will be issued;

any provisions for the issuance, payment, settlement, transfer or exchange of the units or of the securities comprising the units; and

whether the units will be issued in fully registered or global form.

PLAN OF DISTRIBUTION

We may sell the securities offered pursuant to this prospectus from time to time in one or more transactions, including, without limitation:

to or through underwriters;

through broker-dealers (acting as agent or principal);

through agents;

directly by us to one or more purchasers (including our affiliates and shareholders), through a specific bidding or auction process, a rights offering or otherwise;

through a combination of any such methods of sale; or

through any other methods described in a prospectus supplement.

The distribution of securities may be effected, from time to time, in one or more transactions, including:

block transactions (which may involve crosses) and transactions on The Nasdaq Capital Market or any other organized market where the securities may be traded;

purchases by a broker-dealer as principal and resale by the broker-dealer for its own account pursuant to a prospectus supplement;

ordinary brokerage transactions and transactions in which a broker-dealer solicits purchasers;

sales "at the market" to or through a market maker or into an existing trading market, on an exchange or otherwise; and

sales in other ways not involving market makers or established trading markets, including direct sales to purchasers.

The applicable prospectus supplement will describe the terms of the offering of the securities, including:

the name or names of any underwriters, if, and if required, any dealers or agents;

the purchase price of the securities and the proceeds we will receive from the sale;

any underwriting discounts and other items constituting underwriters' compensation;

any discounts or concessions allowed or re-allowed or paid to dealers; and

any securities exchange or market on which the securities may be listed or traded.

We may distribute the securities from time to time in one or more transactions at:

a fixed price or prices, which may be changed;

market prices prevailing at the time of sale;

prices related to such prevailing market prices; or

negotiated prices.

Only underwriters named in the prospectus supplement are underwriters of the securities offered by the prospectus supplement.

If underwriters are used in an offering, we will execute an underwriting agreement with such underwriters and will specify the name of each underwriter and the terms of the transaction (including any underwriting discounts and other terms constituting compensation of the underwriters and any dealers) in a prospectus supplement. The securities may be offered to the public either through underwriting syndicates represented by managing underwriters or directly by one or more investment banking firms or others, as designated. If an underwriting syndicate is used, the managing underwriter(s) will be specified on the cover of the prospectus supplement. If underwriters are used in the sale, the offered securities will be acquired by the underwriters for their own accounts and may be resold from time to time in one or more transactions, including negotiated transactions, at a fixed public offering price or at varying prices

determined at the time of sale. Any public offering price and any discounts or concessions allowed or re-allowed or paid to dealers may be changed from time to time. Unless otherwise set forth in the prospectus supplement, the obligations of the underwriters to purchase the offered securities will be subject to conditions precedent, and the underwriters will be obligated to purchase all of the offered securities, if any are purchased.

We may grant to the underwriters options to purchase additional securities to cover over-allotments, if any, at the public offering price, with additional underwriting commissions or discounts, as may be set forth in a related prospectus supplement. The terms of any over-allotment option will be set forth in the prospectus supplement for those securities.

If a dealer is used in the sale of the securities, we, or an underwriter, will sell the securities to the dealer, as principal. The dealer may then resell the securities to the public at varying prices to be determined by the dealer at the time of resale. To the extent required, we will set forth in the prospectus supplement, document incorporated by reference or free writing prospectus, as applicable, the name of the dealer and the terms of the transactions.

We may sell the securities directly or through agents we designate from time to time. We will name any agent involved in the offering and sale of securities and we will describe any commissions we will pay the agent in the prospectus supplement.

We may authorize agents or underwriters to solicit offers by institutional investors to purchase securities from us at the public offering price set forth in the prospectus supplement pursuant to delayed delivery contracts providing for payment and delivery on a specified date in the future. We will describe the conditions to these contracts and the commissions we must pay for solicitation of these contracts in the prospectus supplement.

In connection with the sale of the securities, underwriters, dealers or agents may receive compensation from us or from purchasers of the securities for whom they act as agents, in the form of discounts, concessions or commissions. Underwriters may sell the securities to or through dealers, and those dealers may receive compensation in the form of discounts, concessions or commissions from the underwriters or commissions from the purchasers for whom they may act as agents. Underwriters, dealers and agents that participate in the distribution of the securities, and any institutional investors or others that purchase securities directly for the purpose of resale or distribution, may be deemed to be underwriters, and any discounts or commissions received by them from us and any profit on the resale of the common stock by them may be deemed to be underwriting discounts and commissions under the Securities Act. No FINRA member firm may receive compensation in excess of that allowable under FINRA rules, including Rule 5110, in connection with the offering of the securities.

We may provide agents, underwriters and other purchasers with indemnification against particular civil liabilities, including liabilities under the Securities Act, or contribution with respect to payments that the agents, underwriters or other purchasers may make with respect to such liabilities. Agents and underwriters may engage in transactions with, or perform services for, us in the ordinary course of business.

To facilitate the public offering of a series of securities, persons participating in the offering may engage in transactions that stabilize, maintain, or otherwise affect the market price of the securities. This may include over-allotments or short sales of the securities, which involves the sale by persons participating in the offering of more securities than have been sold to them by us. In addition, those persons may stabilize or maintain the price of the securities by bidding for or purchasing securities in the open market or by imposing penalty bids, whereby selling concessions allowed to underwriters or dealers participating in any such offering may be reclaimed if securities sold by them are repurchased in connection with stabilization transactions. The effect of these transactions may be to stabilize or maintain the market price of the securities at a level above that which might otherwise prevail in the open market. Such transactions, if commenced, may be discontinued at any time. We make no representation or prediction as to the direction or magnitude of any effect that the transactions described above, if implemented, may have on the price of our securities.

Unless otherwise specified in the applicable prospectus supplement, any common stock sold pursuant to a prospectus supplement will be eligible for trading as listed on The NASDAQ Capital Market. Any underwriters to whom securities are sold by us for public offering and sale may make a market in the securities, but such underwriters will not be obligated to do so and may discontinue any market making at any time without notice.

In order to comply with the securities laws of some states, if applicable, the securities offered pursuant to this prospectus will be sold in those states only through registered or licensed brokers or dealers. In addition, in some states securities may not be sold unless they have been registered or qualified for sale in the applicable state or an exemption from the registration or qualification requirement is available and complied with.

So long as the aggregate market value of our voting and non-voting common equity held by non-affiliates is less than \$75,000,000.00 and so long as required by the rules of the SEC, the amount of securities we may offer hereunder will be limited such that the aggregate market value of securities sold by us during a period of 12 calendar months cannot exceed one-third of the aggregate market value of the voting and non-voting common equity held by non-affiliates.

To the extent required, this prospectus may be amended or supplemented from time to time to describe a specific plan of distribution.

LEGAL MATTERS

Certain legal matters governed by New York law with respect to the validity of certain of the offered securities will be passed upon for us by Norton Rose Fulbright US LLP, New York, New York.

EXPERTS

The consolidated financial statements as of and for the year ended September 30, 2014 incorporated in this prospectus by reference to the Annual Report on Form 10-K for the year ended September 30, 2014, have been audited by Marcum LLP, an independent registered public accounting firm, as stated in their report incorporated by reference herein, and have been so incorporated in reliance upon such report and upon the authority of such firm as experts in accounting and auditing. The consolidated financial statements as of and for each of the two years in the period ended September 30, 2013 incorporated in this prospectus by reference to the Annual Report on Form 10-K for the year ended September 30, 2014, have been audited by RBSM LLP, an independent registered public accounting firm, as stated in their report incorporated by reference herein, and have been so incorporated in reliance upon such report and upon the authority of such firm as experts in accounting and auditing.

INDEMNIFICATION FOR SECURITIES ACT LIABILITIES

Our Certificate of Incorporation provides to the fullest extent permitted by Delaware law that our directors or officers shall not be personally liable to us or our stockholders for damages for breach of such director's or officer's fiduciary duty. The effect of this provision of our Certificate of Incorporation is to eliminate our rights and those of our stockholders (through stockholders' derivative suits on behalf of our company) to recover damages against a director or officer for breach of the fiduciary duty of care as a director or officer (including breaches resulting from negligent or grossly negligent behavior), except under certain situations defined by statute. We believe that the indemnification provisions in our Certificate of Incorporation are necessary to attract and retain qualified persons as directors and officers.

We have entered into an indemnification agreement (each, an "Indemnification Agreement") with each of our directors and executive officers. In general, the Indemnification Agreement obligates us to indemnify a director or executive officer, to the fullest extent permitted by applicable law, for certain expenses, including attorneys' fees, judgments, penalties, fines and settlement amounts actually and reasonably incurred by them in any action or proceeding arising out of their services as one of our directors or executive officers, or any of our subsidiaries or any other company or enterprise to which the person provides services at our request. In addition, the Indemnification Agreement provides for the advancement of expenses incurred by the indemnitee in connection with any covered proceeding to the fullest extent permitted by applicable law. The rights provided by the Indemnification Agreement are in addition to any other rights to indemnification or advancement of expenses to which the indemnitee may be entitled under applicable law, the Company's Certificate of Incorporation, as amended, or bylaws, or otherwise.

Insofar as indemnification for liabilities arising under the Securities Act, may be permitted to directors, officers or persons controlling us pursuant to the foregoing provisions, or otherwise, we have been advised that in the opinion of the SEC, such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable.

WHERE YOU CAN FIND MORE INFORMATION

This prospectus and any subsequent prospectus supplements do not contain all of the information in the Registration Statement. We have omitted from this prospectus some parts of the Registration Statement as permitted by the rules and regulations of the SEC. Statements in this prospectus concerning any document we have filed as an exhibit to the Registration Statement or that we otherwise filed with the SEC are not intended to be comprehensive and are qualified in their entirety by reference to these filings. In addition, we file annual, quarterly and current reports, proxy statements and other information with the SEC. You may read and copy any documents that we have filed with the SEC at the SEC's Public Reference Room at 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 operation of the Public Reference Room. The SEC also maintains an Internet site that contains reports, proxy and information statements and other information that registrants file electronically with the SEC, including us. The SEC's Internet site can be found at <http://www.sec.gov>. In addition, we make available on or through our Internet site copies of these reports as soon as reasonably practicable after we electronically file or furnished them to the SEC. Our Internet site can be found at <http://www.adnas.com>. Our website is not a part of this prospectus.

INFORMATION INCORPORATED BY REFERENCE

We have elected to incorporate certain information by reference into this prospectus. By incorporating by reference, we can disclose important information to you by referring you to other documents we have filed or will file with the SEC. The information incorporated by reference is deemed to be part of this prospectus, except for information incorporated by reference that is superseded by information contained in this prospectus. This means that you must look at all of the SEC filings that we incorporate by reference to determine if any statements in the prospectus or any document previously incorporated by reference have been modified or superseded. This prospectus incorporates by reference the documents set forth below that we have previously filed with the SEC, except in each case the information contained in such document to the extent "furnished" and not "filed":

Our Annual Report on Form 10-K for the fiscal year ended September 30, 2014, filed with the SEC on December 15, 2014.

Our Quarterly Report on Form 10-Q for the quarterly period ended December 31, 2014, filed with the SEC on February 9, 2015.

Our Current Report on Form 8-K filed with the SEC on February 10, 2015.

The description of our capital stock contained in our registration statement on Form 8-A (File No. 001-36745) filed with the Commission on November 13, 2014, pursuant to Section 12(b) of the Securities Exchange Act of 1934, as amended ("Exchange Act"), including any amendment or report filed for the purpose of updating such description.

We also incorporate by reference all documents we file in the future pursuant to Section 13(a), 13(c), 14 or 15(d) of the Exchange Act after the date of this prospectus and prior to the sale of all the securities covered by this prospectus (including all such documents filed with the SEC after the date of the initial filing of the Registration Statement that contains this prospectus and prior to effectiveness of the Registration Statement or after such effectiveness), except in each case the information contained in such document to the extent "furnished" and not "filed".

You may obtain copies of these documents on the website maintained by the SEC at <http://www.sec.gov>, or from us without charge (other than exhibits to such documents, unless such exhibits are specifically incorporated by reference into such documents) by writing us at Corporate Secretary, Applied DNA Sciences, Inc., 50 Health Sciences Drive, Stony Brook, New York 11790 or visiting our website at <http://www.adnas.com>.

Any statement contained in a document incorporated or deemed to be incorporated by reference in this prospectus shall be deemed to be modified or superseded for the purposes of this prospectus to the extent that a statement contained herein, any prospectus supplement or in any other subsequently filed document which also is or deemed to be incorporated by reference herein modifies or supersedes that statement. Any statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this prospectus.

PART II

INFORMATION NOT REQUIRED IN PROSPECTUS

Item 14. Other Expenses of Issuance and Distribution.

The following table sets forth our estimated costs and expenses in connection with the registration of our securities as described in this registration statement.

| | AMOUNT |
|---------------------------------|---------|
| SEC Registration Fee | \$2,905 |
| Legal Fees and Expenses | * |
| Accounting Fees and Expenses | * |
| Trustees' Fees and Expenses | * |
| Warrant Agent Fees and Expenses | * |
| Miscellaneous Expenses | * |
| Total | |

* Estimated expenses are not presently known because they depend upon, among other things, the number of offerings that will be made pursuant to this registration statement, the amount and type of securities being offered and the timing of such offerings. The foregoing sets forth the general categories of expenses (other than underwriting discounts and commissions) that we anticipate we will incur in connection with the offering of securities under this registration statement on Form S-3. An estimate of the aggregate expenses in connection with the issuance and distribution of the securities being offered will be included in the applicable prospectus supplement.

Item 15. Indemnification of Directors and Officers.

Our Certificate of Incorporation provides to the fullest extent permitted by Delaware law that our directors or officers shall not be personally liable to us or our shareholders for damages for breach of such director's or officer's fiduciary duty. The effect of this provision of our Certificate of Incorporation is to eliminate our right and the right of our shareholders (through shareholders' derivative suits on behalf of our company) to recover damages against a director or officer for breach of the fiduciary duty of care as a director or officer (including breaches resulting from negligent or grossly negligent behavior), except under certain situations defined by statute. We believe that the indemnification provisions in our Certificate of Incorporation are necessary to attract and retain qualified persons as directors and officers.

We have entered into an indemnification agreement (each, an "Indemnification Agreement") with each of our directors and executive officers. In general, the Indemnification Agreement obligates us to indemnify a director or executive officer, to the fullest extent permitted by applicable law, for certain expenses, including attorneys' fees, judgments, penalties, fines and settlement amounts actually and reasonably incurred by them in any action or proceeding arising out of their services as one of our directors or executive officers, or any of our subsidiaries or any other company or enterprise to which the person provides services at our request. In addition, the Indemnification Agreement provides for the advancement of expenses incurred by the indemnitee in connection with any covered proceeding to the fullest extent permitted by applicable law. The rights provided by the Indemnification Agreement are in addition to any other rights to indemnification or advancement of expenses to which the indemnitee may be entitled under applicable law, the Company's Certificate of Incorporation, as amended, or bylaws, or otherwise.

Insofar as indemnification for liabilities arising under the Securities Act of 1933, as amended, 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 Securities 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 Securities Act and will be governed by the final adjudication of such issue.

Item 16. Exhibits.

See Index of Exhibits immediately following the signature page of this registration statement and is incorporated herein by reference.

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;

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% 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) of this section do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the SEC by the Registrant pursuant to section 13 or section 15(d) of the Exchange Act 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, 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.

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

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

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

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

That, for the purpose of determining liability of the Registrant under the Securities Act to any purchaser in the initial distribution of the securities, the undersigned Registrant undertakes that in a primary offering of securities of the 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.

The undersigned Registrant hereby undertakes that, for purposes of determining any liability under the Securities Act, each filing of the registrant's annual report pursuant to section 13(a) or section 15(d) of the Exchange Act (and, where applicable, each filing of an employee benefit plan's annual report pursuant to section 15(d) of the Exchange Act) 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.

Insofar as indemnification for liabilities arising under the Securities Act 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 Securities 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 Securities Act and will be governed by the final adjudication of such issue.

(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.

d. (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.

The undersigned registrant hereby undertakes to file an application for the purpose of determining the eligibility of the trustee to act under subsection (a) of Section 310 of the Trust Indenture Act in accordance with the rules and regulations prescribed by the Commission under Section 305(b)(2) of the Trust Indenture

SIGNATURES

Pursuant to the requirements of the Securities Act, the Registrant certifies that it has reasonable grounds to believe that it meets all of 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 Stony Brook, State of New York on March 2, 2015.

APPLIED DNA SCIENCES, INC.,
a Delaware corporation

By: /s/ James A. Hayward
Dr. James A. Hayward
Chairman, President and Chief Executive Officer

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POWER OF ATTORNEY

Each person whose signature appears below appoints Dr. James A. Hayward and Ms. Beth Jantzen, and each of them, any of whom may act without the joinder of the other, as his true and lawful attorney-in-fact and agent, with full power of substitution and resubstitution, for him and in his name, place and stead, in any and all capacities, to sign any and all amendments (including post-effective amendments) to this Registration Statement and any Registration Statement (including any amendment thereto) for this offering that is to be effective upon filing pursuant to Rule 462 under the Securities Act of 1933 and to file the same, with all exhibits thereto, and all other documents in connection therewith, with the SEC, granting unto said attorneys-in-fact and agents full power and authority to do and perform each and every act and thing requisite and necessary to be done, as fully to all intents and purposes as he might or would do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents or any of them of their or his substitute and substitutes, may lawfully do or cause to be done by virtue hereof.

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

| Signature | Title | Date |
|-----------------------|--|------------------|
| /s/ JAMES A. HAYWARD | | |
| James A. Hayward | Chairman, President, Chief Executive Officer (Principal Executive Officer) and Director | March 2, 2015 |
| /s/ BETH JANTZEN | | |
| Beth Jantzen | Chief Financial Officer (Principal Financial and Accounting Officer) | March 2, 2015 |
| /s/ JOHN BITZER, III | | |
| John Bitzer, III | Director | March 2, 2015 |
| /s/ JOSEPH D. CECCOLI | | |
| Joseph D. Ceccoli | Director | March 2, 2015 |
| CHARLES S. RYAN | | |
| Charles S. Ryan | Director | March 2, 2015 |
| /s/ YACOV A. SHAMASH | | |
| Yacov A. Shamash | Director | March 2, 2015 |
| /s/ SANFORD R. SIMON | | |
| Sanford R. Simon | Director | March 2, 2015 |

INDEX OF EXHIBITS

The following documents are filed as exhibits to this registration statement, including those exhibits incorporated herein by reference to a prior filing under the Securities Act or the Exchange Act:

| Exhibit Number | Description | Incorporated by Reference | | | Filed or Furnished Herewith |
|----------------|---|---------------------------|-----------|------------|-----------------------------------|
| | | Form | File No. | Date Filed | |
| 1.1* | Form of Underwriting Agreement | | | | |
| 1.2* | Form of Subscription Agreement | | | | |
| 3.1 | Certificate of Incorporation | 8-K | 002-90539 | 1/16/2009 | |
| 3.2 | Certificate of Amendment of Certificate of Incorporation | 8-K | 002-90539 | 6/30/2010 | |
| 3.3 | Second Certificate of Amendment of Certificate of Incorporation | 8-K | 002-90539 | 1/30/2012 | |
| 3.4 | Third Certificate of Amendment of Certificate of Incorporation | 8-K | 002-90539 | 10/29/2014 | |
| 3.5 | Form of Certificate of Designations of the Series A Convertible Preferred Stock | 8-K | 002-90539 | 11/29/2012 | |
| 3.6 | Form of Certificate of Designations of the Series B Convertible Preferred Stock | 8-K | 002-90539 | 7/22/2013 | |
| 3.7 | By-Laws | 8-K | 002-90539 | 1/16/2009 | |
| 4.1 | Form of senior indenture, to be entered into between the registrant and the trustee designated therein | | | | Filed |
| 4.2* | Form of senior note with respect to each particular series of senior notes issued hereunder | | | | |
| 4.3 | Form of subordinated indenture to be entered into between the registrant and the trustee designated therein | | | | Filed |
| 4.4* | Form of subordinated note with respect to each particular series of subordinated notes issued hereunder | | | | |
| 4.5* | Form of Warrant Agreement and Warrant Certificate with respect to each warrant issued hereunder | | | | |
| 4.6* | Certificate of designation, preferences and rights with respect to any preferred stock issued hereunder | | | | |
| 4.7* | Form of Rights Certificate | | | | |
| 4.8* | Form of Rights Agent Agreement or Subscription Agent Agreement | | | | |
| 4.9* | Form of Unit Agreement | | | | |
| 5.1 | Opinion of Norton Rose Fulbright US LLP | | | | Filed |
| 12.1 | Statement of Computation of Ratio of Earnings to Fixed Charges | | | | Filed |
| 23.1 | Consent of Marcum LLP | | | | Filed |
| 23.2 | Consent of RBSM LLP | | | | Filed |
| 23.3 | Consent of Norton Rose Fulbright US LLP (included in Exhibit 5.1) | | | | Filed |
| 24.1 | Power of Attorney (see page II-6) | | | | Filed |
| 25.1** | Form T-1 Statement of Eligibility under the Trust Indenture Act of 1939, as amended, of designated trustee under the senior indenture | | | | |
| 25.2** | Form T-1 Statement of Eligibility under the Trust Indenture Act of 1939, as amended, of designated trustee under the subordinated indenture | | | | |

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- * To be filed, if necessary, subsequent to the effectiveness of this registration statement by an amendment or as an exhibit to a report pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended, in connection with the offering of securities.
- ** To be filed, if necessary, on Form 305B2 in accordance with the requirements of Section 305(b)(2) of the Trust Indenture Act of 1939, as amended.