

Advaxis, Inc.  
Form S-1  
June 27, 2011

File No. 333-\_\_\_\_\_

As filed with the Securities and Exchange Commission on June 24, 2011

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

FORM S-1

REGISTRATION STATEMENT  
UNDER  
THE SECURITIES ACT OF 1933

ADVAXIS, INC.

(Exact name of registrant as specified in its charter)

Delaware  
(State or other jurisdiction  
of incorporation or organization)

2836  
(Primary Standard Industrial  
Classification Code Number)

02-0563870  
(I.R.S. Employer  
Identification No.)

305 College Road East  
Princeton, New Jersey 08540  
(609) 452-9813

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

Mr. Thomas A. Moore  
Chief Executive Officer  
305 College Road East  
Princeton, New Jersey 08540  
(609) 452-9813

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

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Approximate date of commencement of proposed sale to the public. From time to time after this Registration Statement becomes effective, as determined by the selling stockholders named in the prospectus contained herein.

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, check the following box: x

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, 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(d) under the Securities Act, check the following box and list the Securities Act Registration Statement number of the earlier effective Registration Statement for the same offering: "

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

Large accelerated filer "

Accelerated filer "

Non-accelerated filer " (Do not check if smaller reporting company)

Smaller reporting company x

#### CALCULATION OF REGISTRATION FEE

Title of each class of securities to be registered	Amount to be registered(1)	Proposed maximum offering price per share(3)	Proposed maximum aggregate offering price	Amount of registration fee
Common Stock, par value \$0.001 per share, issuable upon conversion of convertible notes	47,186,245 shares (2)	\$ 0.145	\$6,842,005.53	\$ 794.36
Common Stock, par value \$0.001 per share, issuable upon conversion of warrants	25,480,570 shares (2)	\$ 0.145	\$3,694,682.65	\$ 428.95
<b>Total</b>	<b>72,666,815 shares</b>	<b>—</b>	<b>—</b>	<b>\$ 1,223.31</b>

(1) Pursuant to Rule 416 under the Securities Act of 1933, as amended, this Registration Statement shall be deemed to cover the additional securities (i) to be offered or issued in connection with any provision of any securities purported to be registered hereby to be offered pursuant to terms which provide for a change in the amount of securities being offered or issued to prevent dilution resulting from stock splits, stock dividends or similar transactions and (ii) of the same class as the securities covered by this Registration Statement issued or issuable prior to completion of the distribution of the securities covered by this Registration Statement as a result of a split of, or a stock dividend on, the registered securities.

(2) This registration Statement covers the resale by our selling stockholders of (i) up to 47,186,245 shares of common stock issuable upon conversion of the principal amount of the original discount convertible promissory notes (the "Notes") at a conversion price of \$0.15 per share, and (ii) up to 25,480,570 shares of common stock issuable upon exercise of warrants (the "Warrants") at an exercise price of \$0.15 per share.

(3) Estimated solely for purposes of calculating the registration fee pursuant to Rule 457(c) under the Securities Act of 1933, as amended, using the average of the high and low prices as reported on the OTCQB Marketplace on

June 23, 2011, which was \$0.145 per share

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

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The information in this prospectus is not complete and may be changed. The selling stockholders 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 it is not soliciting offers to buy these securities, in any state where the offer or sale of these securities is not permitted.

PROSPECTUS, SUBJECT TO COMPLETION, DATED JUNE 24, 2011

ADVAXIS, INC.

72,666,815 Shares

Common Stock

This prospectus relates to the resale by the selling stockholders of up to 72,666,815 shares of our common stock, including (i) 47,186,245 shares of common stock issuable upon conversion of the principal amount of Notes and (ii) 25,480,570 shares of common stock underlying the Warrants, which were issued in connection with our Series C convertible notes financing. The shares covered by this prospectus may be sold by the selling stockholders from time to time in the over-the-counter market or other national securities exchange or automated interdealer quotation system on which our common stock is then listed or quoted, through negotiated transactions at negotiated prices or otherwise at market prices prevailing at the time of sale.

The distribution of the shares by the selling stockholders is not subject to any underwriting agreement. We will receive none of the proceeds from the sale of shares by the selling stockholders. The selling stockholders identified in this prospectus will receive the proceeds from the sale of the shares. We will bear all expenses of registration incurred in connection with this offering, but all selling and other expenses incurred by the selling stockholders will be borne by them.

Our common stock is quoted on the Over-The-Counter Bulletin Board, or OTC Bulletin Board, under the symbol ADXS.OB. On June 20, 2011, the last reported sale price per share for our common stock as reported by the OTC Bulletin Board was \$0.149.

Investing in our common stock involves a high degree of risk. We urge you to carefully consider the “Risk Factors” beginning on page 8.

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

The date of this prospectus is \_\_\_\_\_, 2011.

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## ABOUT THIS PROSPECTUS

You should only rely on the information contained in this prospectus. We have not authorized anyone to give any information or make any representation about this offering that differs from, or adds to, the information in this prospectus or in its documents that are publicly filed with the SEC. Therefore, if anyone does give you different or additional information, you should not rely on it. The delivery of this prospectus does not mean that there have not been any changes in our condition since the date of this prospectus. If you are in a jurisdiction where it is unlawful to offer the securities offered by this prospectus, or if you are a person to whom it is unlawful to direct such activities, then the offer presented by this prospectus does not extend to you. This prospectus speaks only as of its date except where it indicates that another date applies.

Market data and certain industry forecasts used in this prospectus were obtained from market research, publicly available information and industry publications. We believe that these sources are generally reliable, but the accuracy and completeness of such information is not guaranteed. We have not independently verified this information, and we do not make any representation as to the accuracy of such information.

In this prospectus, the terms “we”, “us”, “our” and “our company” refer to Advaxis, Inc., a Delaware corporation, resulting from the reincorporation of our company from Colorado to Delaware described elsewhere in this prospectus (unless the context references such entity prior to the June 20, 2006 reincorporation from Colorado to Delaware, in which case it refers to the Colorado entity).

The name Advaxis is our trademark. Other trademarks and product names appearing in this prospectus are the property of their respective owners.

PROSPECTUS SUMMARY

This summary highlights some important information from this prospectus, and it may not contain all of the information that is important to you. You should read the following summary together with the more detailed information regarding us and our common stock being sold in this offering, including “Risk Factors” and our financial statements and related notes, included elsewhere in this prospectus.

Our Company

We are a development stage biotechnology company with the intent to develop safe and effective cancer vaccines that utilize multiple mechanisms of immunity. We are developing a live *Listeria* vaccine technology under license from the University of Pennsylvania, which we refer to as Penn, which secretes a protein sequence containing a tumor-specific antigen. We believe this vaccine technology is capable of stimulating the body’s immune system to process and recognize the antigen as if it were foreign, generating an immune response able to attack the cancer. We believe this to be a broadly enabling platform technology that can be applied to the treatment of many types of cancers, infectious diseases and auto-immune disorders.

The discoveries that underlie this innovative technology are based upon the work of Yvonne Paterson, Ph.D., Professor of Microbiology at Penn. This technology involves the creation of genetically engineered *Listeria* that stimulate the immune system to induce antigen-specific anti-tumor immune response involving both innate and adaptive arms of the immune system. In addition, this technology facilitates the immune response by altering tumors to make them more susceptible to immune attack, and increasing the number and maturation of development of specific cells that underlie a strong therapeutic immune response.

We have focused our initial development efforts upon therapeutic cancer vaccines targeting cervical cancer, its predecessor condition, cervical intraepithelial neoplasia, which we refer to as CIN, head and neck cancer, breast cancer, prostate cancer, and other cancers. Our lead products in development are as follows:

Product	Indication	Stage
ADXS11-001	Cervical Cancer	Phase I Company sponsored & completed in 2007.
	Cervical Intraepithelial Neoplasia	Phase II Company sponsored study, commenced in March 2010 (with patient dosing having commenced in June 2010).
	Cervical Cancer	Phase II Company sponsored study initiated in November 2010 in India. 110 Patients with advanced cervical cancer.
	Cervical Cancer	Phase II The Gynecologic Oncology Group of the National Cancer Institute has agreed to conduct a study which we expect will commence in early 2011.
	Head & Neck Cancer	Phase I The Cancer Research UK (CRUK) is funding a study of up to 45 patients at 3 UK facilities that we expect will commence in early 2011.



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ADXS31-142	Prostate Cancer	Phase I Company sponsored (timing to be determined).
ADXS31-164	Breast Cancer	Phase I Company sponsored (timing to be determined).
ADXS31-164	Canine Osteosarcoma	Phase I Company sponsored (timing to be determined).

We have sustained losses from operations in each fiscal year since our inception, and we expect these losses to continue for the indefinite future, due to the substantial investment in research and development. As of October 31, 2010 and April 30, 2011, we had an accumulated deficit of \$27,416,000 and \$36,294,750, respectively and shareholders' deficiency of \$14,802,631 and \$22,238,081, respectively.

To date, we have outsourced many functions of drug development including manufacturing and clinical trials management. Accordingly, the expenses of these outsourced services account for a significant amount of our accumulated loss. We cannot predict when, if ever, any of our product candidates will become commercially viable or approved by the United States Food and Drug Administration, which we refer to as the FDA. We expect to spend substantial additional sums on the continued administration and research and development of proprietary products and technologies, including conducting clinical trials for our product candidates, with no certainty that our products will become commercially viable or profitable as a result of these expenditures.

We intend to continue to devote a substantial portion of our resources to the continued pre-clinical development and optimization of our technology so as to develop it to its full potential and to find appropriate new drug candidates. Specifically, we intend to conduct research relating to developing our Listeria technology using new tumor antigens, and to develop new strains of Listeria, which may lead to additional cancer and infectious disease products, to improve the Listeria platform by developing new Listeria strains that are more suitable as live vaccine vectors, and to continue to develop the use of the Listeria virulence factor LLO as a component of a fusion protein based vaccine. These activities may require significant financial resources, as well as areas of expertise beyond those readily available. In order to provide additional resources and capital, we may enter into research, collaborative or commercial partnerships, joint ventures, or other arrangements with competitive or complementary companies, including major international pharmaceutical companies or universities.

## Recent Developments

### Preferred Equity Financings

On September 24, 2009, we entered into a Series A preferred stock purchase agreement with Optimus, which we refer to as the Series A purchase agreement, pursuant to which Optimus agreed to purchase, upon the terms and subject to the conditions set forth therein, up to \$5.0 million of non-convertible, redeemable Series A preferred stock, which we refer to as our Series A preferred stock, at a price of \$10,000 per share. As of May 13, 2010, we issued and sold to Optimus all 500 shares of Series A preferred stock. On July 19, 2010, we issued 500 shares of non-convertible, redeemable Series B preferred stock to Optimus, which we refer to as the Series B exchange shares, in exchange for such 500 shares of Series A preferred stock so that all shares of our preferred stock held or subsequently purchased by Optimus under the Series B purchase agreement described below, would be redeemable upon substantially identical terms.

In connection with the Series A preferred equity financing, on September 24, 2009, we also issued to an affiliate of Optimus a warrant to purchase up to 33,750,000 shares of our common stock at an exercise price of \$0.20 per share, which exercise price was subject to adjustment in connection with the sale of each tranche of Series A preferred stock under the Series A purchase agreement. We refer to such warrant as the initial Series A warrant. On January 11, 2010, March 29, 2010 and May 13, 2010, the affiliate of Optimus exercised a portion of the initial Series A warrant to purchase shares of our common stock in the amounts of 11,563,000 (at an adjusted exercise price of \$0.17 per share), 14,580,000 (at an exercise price of \$0.20 per share) and 7,607,000 (at an adjusted exercise price of \$0.18 per share), respectively. As permitted by the terms of the initial Series A warrant, the respective aggregate exercise prices of \$1,965,710, \$2,916,000 and \$1,369,260 were paid to us pursuant to four year full recourse promissory notes, each bearing interest at the rate of 2% per year. In addition, in connection with the sale of the final tranche of Series A preferred stock under the Series A purchase agreement, on May 13, 2010, we issued to an affiliate of Optimus an additional warrant to purchase up to 2,818,000 shares of our common stock on substantially the same terms as the initial Series A warrant. We refer to such warrant as the additional Series A warrant. None of the foregoing promissory notes are due or payable at any time that (a) we are in default under the Series A preferred stock purchase agreement, any loan agreement or other material agreement or (b) there are any Series B exchange shares issued or outstanding. In addition, the affiliate of Optimus is not required to make any payments to us in the event that the shares of common stock acquired upon exercise of the initial Series A warrant are sold prior to repayment of such promissory notes.

On July 19, 2010, we entered into a Series B preferred stock purchase agreement with Optimus, which was subsequently amended on April 4, 2011. We refer to the Series B preferred stock purchase agreement, as amended, as the Series B purchase agreement. Pursuant to the Series B purchase agreement, Optimus agreed to purchase, upon the terms and subject to the conditions set forth therein, up to \$7.5 million of non-convertible, redeemable Series B preferred stock, which we refer to as our Series B preferred stock, at a price of \$10,000 per share. As of May 15, 2011,

we issued and sold to Optimus 466 shares of Series B preferred stock. Under the terms of the Series B purchase agreement, Optimus remains obligated, from time to time until July 19, 2013, to purchase up to an additional 284 shares of Series B preferred stock, subject to the satisfaction of certain conditions, as set forth in the Series B purchase agreement. Among these conditions, we must have a current, valid and effective registration statement covering the resale of all shares of common stock underlying the additional Series B warrant (as described below).

In connection with the Series B preferred equity financing, on July 19, 2010, we issued to an affiliate of Optimus a warrant to purchase up to 40,500,000 shares of our common stock at an exercise price of \$0.25 per share, which exercise price was subject to adjustment in connection with the sale of each tranche of Series B preferred stock under the Series B purchase agreement. We refer to such warrant as the initial Series B warrant. In connection with the amendment to the Series B purchase agreement, on April 4, 2011, we issued to an affiliate of Optimus an additional warrant to purchase up to 25,560,000 shares of our common stock at an exercise price of \$0.15 per share, which exercise price is subject to adjustment in connection with the sale of each tranche of Series B preferred stock under the Series B purchase agreement. We refer to such warrant as the additional Series B warrant. The additional Series B warrant is not being issued to the affiliate of Optimus in connection with the sale of the 466 shares of Series B preferred stock described above. If the average closing sale price of our common stock on each tranche notice date is less than \$0.15 per share, we may not be able to require Optimus to purchase all of the remaining 284 shares of Series B preferred stock issuable under the Series B purchase agreement without issuing an additional warrant.

On August 13, 2010, September 28, 2010, November 15, 2010, December 30, 2010 and March 14, 2011, the affiliate of Optimus exercised a portion of the initial Series B warrant to purchase shares of our common stock in the amounts of 9,847,059 (at an adjusted exercise price of \$0.17 per share), 14,850,000 (at an adjusted exercise price of \$0.15 per share), 5,312,903 (at an adjusted exercise price of \$0.155 per share), 6,480,000 (at an adjusted exercise price of \$0.15 per share) and 3,960,000 (at an adjusted exercise price of \$0.15 per share), respectively. On September 22, 2010, the affiliate of Optimus exercised the additional Series A warrant in its entirety (at an adjusted exercise price of \$0.18 per share). As permitted by the terms of the initial Series B warrant and the additional Series A warrant, the respective aggregate exercise prices of \$1,674,000, \$2,227,500, \$823,500, \$972,000, \$594,000 and \$507,240 were paid to us pursuant to four year full recourse promissory notes, each bearing interest at the rate of 2% per year. None of the foregoing promissory notes are due or payable at any time that (a) we are in default under the Series B preferred stock purchase agreement, any loan agreement or other material agreement or (b) there are any shares of Series B preferred stock issued or outstanding. In addition, the affiliate of Optimus is not required to make any payments to us in the event that the shares of common stock acquired upon exercise of the foregoing warrants are sold prior to repayment of such promissory notes.

On December 30, 2010, we redeemed 226 shares of Series B preferred stock held by Optimus for an aggregate redemption price of \$3,141,004 consisting of (i) cash in an amount of \$76,622 and (ii) the cancellation of an aggregate amount of \$3,064,382 of the foregoing promissory notes. As of June 3, 2011, 740 shares of our Series B preferred stock and promissory notes in the aggregate amount of \$9,998,210 remain outstanding.

This offering does not register the resale of any of the preferred stock or common stock issuable upon exercise of the warrants described above.

#### May 2011 Note Financing

On May 9, 2011, we entered into a Note Purchase Agreement with certain accredited investors, which we refer to as the May 2011 purchase agreement, whereby the investors acquired approximately \$7.0 million of our convertible promissory notes, which we refer to as the Notes, for an aggregate purchase price of approximately \$6.0 million in a private placement, which we refer to as the May 2011 offering. The Notes were issued with an original issue discount of 15%. Each investor paid \$0.85 for each \$1.00 of principal amount of Notes purchased at the closing of the May 2011 offering, which took place on May 12, 2011. The Notes are convertible into shares of our common stock, at a per share conversion price equal to \$0.15. Additionally, each investor received a warrant, which we refer to as the Warrants, to purchase such number of shares of our common stock equal to 50% of such number of shares of our common stock issuable upon conversion of the Note at an exercise price of \$0.15 per share.

The Notes mature on May 12, 2012. We may redeem the Notes under certain circumstances. The Warrants are exercisable at any time on or before May 12, 2014. The Warrants may be exercised on a cashless basis under certain circumstances.

To the extent an investor does not elect to convert its Notes as described above, the principal amount of the Notes not so converted on or prior to the maturity date shall be payable in cash on the maturity date.

The Notes may be converted by the investors, at the option of such investor, in whole or in part. However, except as otherwise provided in the Notes, only 85% of the initial principal amount of each Note is convertible prior to maturity. The Notes and Warrants include a limitation on conversion or exercise, which provides that at no time will an investor be entitled to convert any portion of the Notes or exercise any of the Warrants, to the extent that after such conversion or exercise, such investor (together with its affiliates) would beneficially own more than 4.99% of the outstanding shares of our common stock as of such date.

In connection with the May 2011 offering, we entered into a Registration Rights Agreement, dated as of May 9, 2011 with the investors. Pursuant to such agreement, we agreed with the investors to provide certain rights to register under the Securities Act of 1933, as amended, the shares of our common stock issuable upon any conversion of the Notes and the exercise of the Warrants, and agreed to file a registration statement within 45 days of the closing of the May 2011 offering to register the offering of the shares of our common stock issuable upon conversion of the Notes and the exercise of the Warrants.

Rodman & Renshaw, LLC, which we refer to as Rodman, a subsidiary of Rodman & Renshaw Capital Group, Inc. (NASDAQ:RODM) acted as the exclusive placement agent in connection with the May 2011 offering and received compensation of a cash placement fee equal to 6% of the aggregate purchase price paid by investors in the May 2011 offering and Warrants to purchase 1,887,448 shares of our common stock (approximately 4% of the shares of our common stock issuable upon conversion of the Notes), which warrants are exercisable at \$0.15 per share and shall expire on May 12, 2014.

This offering registers the resale of the common stock issuable upon exercise of such notes and warrants. See “Description of May 2011 Offering” on page 61 below for a more detailed description of the terms and conditions of the May 2011 offering.

## Reduction of Indebtedness

On May 12, 2011, in connection with the closing of the May 2011 offering, we (i) received notices of conversion from holders of an aggregate principal amount of \$907,134 of our outstanding senior secured convertible promissory notes and junior unsecured convertible promissory notes pursuant to which we issued or will issue an aggregate of 6,047,561 shares of our common stock to such holders, (ii) entered into exchange agreements with certain other holders of an aggregate principal amount of \$152,631 of our outstanding junior unsecured convertible promissory notes, which we refer to as the old notes, pursuant to which we issued an aggregate principal amount of \$160,664 of junior unsecured convertible promissory notes, which we refer to as the new notes, in exchange for the old notes and (iii) repaid one junior unsecured convertible promissory note in the aggregate principal amount of \$26,316. The new notes are substantially the same as the old notes except that the new notes have an extended maturity date of August 2, 2011. The reduction of indebtedness described above reduced our aggregate amount of outstanding indebtedness from \$2,304,984 to \$1,405,883.

## JMJ Financial Note Issuance

On April 28, 2011 we issued and sold to MJM Financial, an accredited investor, a convertible promissory note in the aggregate principal amount of \$500,000, which we refer to as the series A-note, in return for the payment in cash of \$500,000. The series A-note bears interest in the form of a one time interest charge of 8% of the principal amount of such note, payable with the aggregate principal amount outstanding on the maturity date, April 28, 2014. The series A-note is convertible, in whole or in part, into shares of our common stock at a per share conversion price equal to 80% of the average of the two lowest trade prices for our common stock in the 20 trading days previous to the effective date of each such conversion, subject to a conversion floor of \$0.15. The series A-note may be prepaid by us without penalty beginning twelve months after its issue date. To the extent the series A-note is not converted as described above, the principal amount of such note not so converted shall be payable in cash on the maturity date.

On April 28, 2011, we also issued and sold to MJM Financial a convertible promissory note in the aggregate principal amount of \$800,000, which we refer to as the series B-note. The series B-note bears interest in the form of a one time interest charge of 8% of the principal amount of such note, payable with the aggregate principal amount outstanding on the maturity date, April 28, 2014. All or any portion of the aggregate principal and interest outstanding under the series B-note is convertible, at the option of MJM Financial from time to time (subject to the prior pre-payment of a principal amount of a promissory note issued by MJM Financial to us (which is described below) equal to the principal amount of the series B-note subject to such conversion), into shares of our common stock, at a per share conversion price equal to 80% of the average of the two lowest trade prices for our common stock in the 20 trading days previous to the effective date of each such conversion, subject to a conversion floor of \$0.15.

Concurrently with the issuance of the series B-note, MJM Financial issued and delivered to us a secured and collateralized promissory note, which we refer to as the series C-note, which served as the sole consideration paid to us for the issuance of the series B-note to MJM Financial. The series C-note was issued in the aggregate principal amount of \$800,000, bears interest in the form of a one time interest charge of 8% of the principal amount of such note, payable with aggregate principal amount outstanding on the maturity date, April 28, 2014. The series C-note is to be secured by \$800,000 of an unspecified money market fund, or other assets, having a value of at least \$800,000.

Immediately after the purchase by MJM Financial of the series B-note for the series C-note, MJM Financial delivered to us the sum of \$80,000 in cash as a pre payment on the principal amount outstanding under series C-note. While no further mandatory principal or interest payments are due on the series C-note until its maturity date, the series C-note contemplates (but does not require) further voluntary pre payments by MJM Financial on the series C-note to us at the approximate rate of \$250,000 per month, beginning seven months after the issuance of the series C-note, or commencing on or about November 28, 2011, but only provided: (i) all requests by MJM Financial for conversion of

principal and interest on the series B-note are honored and (ii) our common stock issued upon such conversions of portions of the principal and interest on the series B-note may be freely resold by JMJ Financial without the requirement of any restrictive legend pursuant to applicable securities laws, rules and regulations.

Additionally, JMJ Financial may purchase up to an additional \$2.4 million in aggregate principal amount of notes in the form of the series B-note from us, which we refer to as the additional series B-notes. The purchase price for each such additional series B-note issued to JMJ Financial will be paid by the issuance by JMJ Financial to us of an additional note in the form of the series C-note, which we refer to as the additional series C-notes, with such additional series B-notes and additional series C-notes containing the same terms and provisions described above.

This offering does not register the resale of any of the common stock issuable upon conversion of the convertible promissory notes or exercise of the warrants described above.

#### Recent Bridge Financings

From February 1, 2011 through March 15, 2011, we issued to certain accredited investors (i) junior unsecured convertible promissory notes in the aggregate principal face amount of \$246,000, for an aggregate net purchase price of \$225,000 and (ii) warrants to purchase 487,500 shares of our common stock at an exercise price of \$0.17 per share, subject to adjustments upon the occurrence of certain events. These notes were issued with original issue discounts ranging from 5% to 10% and are convertible into shares of our common stock. These notes have maturity dates ranging from April 30, 2011 to September 30, 2011. The indebtedness represented by these notes is expressly subordinate to our currently outstanding senior secured indebtedness (including the senior convertible promissory notes issued in June 2009, which we refer to as the senior bridge notes), as well as any future senior indebtedness of any kind. We will not make any payments to the holders of these notes until the earlier of the repayment in full or conversion of the senior indebtedness.

In March 2011, we repaid two junior unsecured convertible promissory notes in the aggregate principal amounts of \$29,412 and \$105,263, respectively, which had been originally issued in January 2010 and November 2010, respectively.

This offering does not register the resale of any of the common stock issuable upon conversion of the convertible promissory notes or exercise of the warrants described above.

#### Recent Warrant Exchanges

In an effort to reduce the number of our October 2007 warrants outstanding, we may from time to time enter into exchange agreements with the holders of such warrants pursuant to which such holders may receive shares of our common stock and/or additional warrants in amounts to be determined in such negotiations. As of June 20, 2011, we have exchanged October 2007 warrants to purchase 16,644,446 shares of our common stock with certain investors in return for 2,774,074 shares of our common stock and warrants to purchase an additional 11,096,297 shares of our common stock (which warrants are identical to the October 2007 warrants, except that such warrants do not contain any economic anti-dilution adjustment rights).

#### Our History

We were originally incorporated in the State of Colorado on June 5, 1987 under the name Great Expectations, Inc. We were administratively dissolved on January 1, 1997 and reinstated on June 18, 1998 under the name Great Expectations and Associates, Inc. In 1999, we became a reporting company under the Securities Exchange Act of 1934, as amended. We were a publicly-traded "shell" company without any business until November 12, 2004 when we acquired Advaxis, Inc., a Delaware corporation, through a Share Exchange and Reorganization Agreement, dated as of August 25, 2004, which we refer to as the Share Exchange, by and among Advaxis, the stockholders of Advaxis and us. As a result of the Share Exchange, Advaxis became our wholly-owned subsidiary and our sole operating company. On December 23, 2004, we amended and restated our articles of incorporation and changed our name to Advaxis, Inc. On June 6, 2006, our shareholders approved the reincorporation of our company from Colorado to Delaware by merging the Colorado entity into our wholly-owned Delaware subsidiary.

#### Principal Executive Offices

Our principal executive offices are located at 305 College Road East, Princeton, New Jersey 08540 and our telephone number is (609) 452-9813. We maintain a website at [www.advaxis.com](http://www.advaxis.com) which contains descriptions of our technology, our drugs and the trial status of each drug. The information on our website is not incorporated into this prospectus.



THE OFFERING

Shares of common stock offered by us	None
Shares of common stock which may be sold by the selling stockholders	A total of 72,666,815 shares of our common stock(1), including (i) 47,186,245 shares of common stock issuable upon conversion of the principal amount of the Notes and (ii) 25,480,570 shares of common stock underlying the Warrants, issued in connection with our May 2011 offering.
Use of proceeds	We will not receive any proceeds from the resale of the shares of common stock offered by the selling stockholders as all of such proceeds will be paid to the selling stockholders. Furthermore, we will not receive cash proceeds from the exercise of the Warrants by the selling stockholders to the extent such warrants are exercised pursuant to cashless exercise provisions contained therein, if then-permitted by the terms of the warrants.
Risk factors	The purchase of our common stock involves a high degree of risk. You should carefully review and consider the “Risk Factors” section of this prospectus for a discussion of factors to consider before deciding to invest in shares of our common stock.
OTC Bulletin Board market symbol	ADXS.OB

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(1) These shares represent approximately 31.5% of our currently outstanding shares of common stock (based on 230,083,519 shares of common stock outstanding as of June 20, 2011). These shares also represent approximately 17.0% of our currently outstanding shares of common stock (based on 425,625,749 shares of common stock outstanding as of June 20, 2011) on a fully diluted basis.

## RISK FACTORS

An investment in our common stock is highly speculative, involves a high degree of risk and should be made only by investors who can afford a complete loss of their investment. You should carefully consider, together with the other matters referred to in this prospectus, the following risk factors before you decide whether to buy our common stock.

### Risks Related to our Business

We are a development stage company.

We are an early stage development stage company with a history of losses and can provide no assurance as to future operating results. As a result of losses which will continue throughout our development stage, we may exhaust our financial resources and be unable to complete the development of our production. Our deficit will continue to grow during our drug development period.

We have sustained losses from operations in each fiscal year since our inception, and we expect losses to continue for the indefinite future, due to the substantial investment in research and development. As of October 31, 2010 and April 30, 2011, we had an accumulated deficit of \$27,416,000 and \$36,294,750, respectively and shareholders' deficiency of \$14,802,631 and \$22,238,081, respectively. We expect to spend substantial additional sums on the continued administration and research and development of proprietary products and technologies with no certainty that our products will become commercially viable or profitable as a result of these expenditures.

As a result of our current lack of financial liquidity and negative stockholders equity, our auditors have expressed substantial concern about our ability to continue as a "going concern".

Our limited capital resources and operations to date have been funded primarily with the proceeds from public and private equity and debt financings, NOL and Research tax credits and income earned on investments and grants. Based on our currently available cash, we do not have adequate cash on hand to cover our anticipated expenses for the next 12 months. If we fail to raise a significant amount of capital, we may need to significantly curtail operations, cease operations or seek federal bankruptcy protection in the near future. These conditions have caused our auditors to raise substantial doubt about our ability to continue as a going concern. Consequently, the audit report prepared by our independent public accounting firm relating to our financial statements for the year ended October 31, 2010 included a going concern explanatory paragraph.

There can be no assurance that we will receive funding from Optimus in connection with the Series B preferred equity financing.

We have entered into the Series B purchase agreement, as amended, pursuant to which Optimus remains obligated to purchase \$2.84 million of our Series B preferred stock from time to time, subject to our ability to effect and maintain an effective registration statement for the remaining 25,610,038 shares underlying the warrants issued to an affiliate of Optimus issued in connection with the transaction. As of June 20, 2011, Optimus had purchased an aggregate of 466 shares of Series B preferred stock and remains obligated, from time to time until July 19, 2013, to purchase up to an additional 284 shares of Series B preferred stock, for an aggregate purchase price of \$2,840,000, upon notice from us to Optimus, if certain conditions set forth in the Series B purchase agreement, as amended, are satisfied, including among other things that: (i) we must be in compliance with our SEC reporting obligations, (ii) our common stock must be quoted on an eligible trading market, (iii) a material adverse effect relating to, among other things, our results of operations, assets, business or financial condition must not have occurred since July 19, 2010, other than losses incurred in the ordinary course of business, (iv) we must not be in default under any material agreement, (v) Optimus and its affiliates must not own more than 9.99% of our outstanding common stock, and (vi) we must comply with

certain other requirements set forth in the Series B purchase agreement, as amended. If we fail to comply with any of these requirements, Optimus will not be obligated to purchase our Series B preferred stock and we will not receive any funding from Optimus. Moreover, if we exercise our option to require Optimus to purchase our Series B preferred stock, and our common stock has a closing price of less than \$0.15 per share on the trading day immediately preceding our delivery of the exercise notice, we may trigger at closing certain anti-dilution protection provisions in certain outstanding warrants that would result in an adjustment to the number and price of certain outstanding warrants.

If the average closing sale price of our common stock on each tranche notice date is less than \$0.15 per share, we may not be able to require Optimus to purchase the entire \$7.5 million of Series B preferred stock issuable under the Series B purchase agreement, as amended.

In connection with our Series B preferred equity financing, we originally issued to an affiliate of Optimus a three-year warrant to purchase up to 40,500,000 shares of our common stock, at an initial exercise price of \$0.25 per share, of which 50,038 shares of our common stock remain available to purchase. In connection with the amendment to the Series B purchase agreement, we subsequently issued to an affiliate of Optimus a three-year warrant to purchase up to an additional 25,560,000 shares of our common stock, at an initial exercise price of \$0.15 per share. The warrants provide that on each tranche notice date under the Series B purchase agreement, as amended, (i) that portion of the warrants, in the aggregate, equal to 135% of the tranche amount will vest and become exercisable (and such vested portion may be exercised at any time during the exercise period on or after such tranche notice date) and (ii) the exercise price will be adjusted to the closing sale price of a share of our common stock on such tranche notice date. We are not permitted to deliver a tranche notice under the Series B purchase agreement, as amended, and require Optimus to purchase shares of Series B preferred stock if the number of registered shares underlying the warrant issued to the affiliate of Optimus is insufficient to cover the portion of the warrant that will vest and become exercisable in connection with such tranche notice. If the average closing sale price of our common stock on each tranche notice date is less than \$0.15 per share, we may not be able to require Optimus to purchase the remaining \$2.84 million of Series B preferred stock issuable under the Series B purchase agreement, as amended, without issuing additional warrant shares. We cannot assure you that we will be able to timely effect and maintain a registration statement for the remaining 25,610,038 warrant shares (or any additional warrant shares that may be necessary) so as to permit us to require Optimus to purchase the remaining \$2,840,000 of Series B preferred stock under the Series B purchase agreement, as amended.

Our business will require substantial additional investment that we have not yet secured, and our failure to raise capital and/or pursue partnering opportunities will materially adversely affect our business, financial condition and results of operations.

We expect to continue to spend substantial amounts on research and development, including conducting clinical trials for our product candidates. However, we will not have sufficient resources to develop fully any new products or technologies unless we are able to raise substantial additional financing on acceptable terms, secure funds from new partners or consummate a preferred equity financing under the Series B purchase agreement, as amended. We cannot be assured that financing will be available at all. Our failure to raise a significant amount of capital in the near future, will materially adversely affect our business, financial condition and results of operations, and we may need to significantly curtail operations, cease operations or seek federal bankruptcy protection in the near future. Any additional investments or resources required would be approached, to the extent appropriate in the circumstances, in an incremental fashion to attempt to cause minimal disruption or dilution. Any additional capital raised through the sale of equity or convertible debt securities will result in dilution to our existing stockholders. No assurances can be given, however, that we will be able to achieve these goals or that we will be able to continue as a going concern.

We have significant indebtedness which may restrict our business and operations, adversely affect our cash flow and restrict our future access to sufficient funding to finance desired growth.

As of May 31, 2011, our total outstanding indebtedness was approximately \$9.6 million, which included the face value of all our outstanding junior bridge notes in the amount of approximately \$1.0 million, a note outstanding to our chief executive officer in the amount of approximately \$0.9 million and debt acquired in late April and early May 2011 in the aggregate principal amount of approximately \$7.7 million. Approximately \$7.1 of the \$9.6 million is due on May 12, 2012. Maturity dates for the remaining \$2.5 million range between August 2, 2011 and on or about April 30, 2014. Certain of our indebtedness contain restrictive covenants that limit our ability to issue certain types of indebtedness, which may prevent us from obtaining additional indebtedness on commercially reasonable terms, or at all. We dedicate a substantial portion of our cash to pay interest and principal on our debt. If we are not able to service our debt, we would need to refinance all or part of that debt, sell assets, borrow more money or sell securities, which we may not be able to do on commercially reasonable terms, or at all. In addition, our failure to timely repay (or extend) amounts due and owing under our outstanding senior bridge notes and the junior bridge notes issued in October 2009 may trigger the anti-dilution protection provisions in substantially all of our warrants (other than the warrants issued to the affiliate of Optimus and to certain bridge note holders), in which case holders of our common stock will experience significant additional dilution.

The terms of our notes include customary events of default and covenants that restrict our ability to incur additional indebtedness. These restrictions and covenants may prevent us from engaging in transactions that might otherwise be considered beneficial to us. A breach of the provisions of our indebtedness could result in an event of default under our outstanding notes. If an event of default occurs under our notes (after any applicable notice and cure periods), the holders would be entitled to accelerate the repayment of amounts outstanding, plus accrued and unpaid interest. In the event of a default under our senior indebtedness, the holders could also foreclose against the assets securing such obligations. In the event of a foreclosure on all or substantially all of our assets, we may not be able to continue to operate as a going concern.

Our limited operating history does not afford investors a sufficient history on which to base an investment decision.

We commenced our Listeria System vaccine development business in February 2002 and have existed as a development stage company since such time. Prior thereto we conducted no business. Accordingly, we have a limited operating history. Investors must consider the risks and difficulties we have encountered in the rapidly evolving vaccine and therapeutic biopharmaceutical industry. Such risks include the following:

- competition from companies that have substantially greater assets and financial resources than we have;
  - need for acceptance of products;
  - ability to anticipate and adapt to a competitive market and rapid technological developments;
- amount and timing of operating costs and capital expenditures relating to expansion of our business, operations and infrastructure;

- need to rely on multiple levels of complex financing agreements with outside funding due to the length of the product development cycles and governmental approved protocols associated with the pharmaceutical industry; and
  - dependence upon key personnel including key independent consultants and advisors.

We cannot be certain that our strategy will be successful or that we will successfully address these risks. In the event that we do not successfully address these risks, our business, prospects, financial condition and results of operations could be materially and adversely affected. We may be required to reduce our staff, discontinue certain research or development programs of our future products and cease to operate.

We can provide no assurance of the successful and timely development of new products.

Our products are at various stages of research and development. Further development and extensive testing will be required to determine their technical feasibility and commercial viability. Our success will depend on our ability to achieve scientific and technological advances and to translate such advances into reliable, commercially competitive products on a timely basis. Immunotherapy and vaccine products that we may develop are not likely to be commercially available until five to ten or more years. The proposed development schedules for our products may be affected by a variety of factors, including technological difficulties, proprietary technology of others, and changes in governmental regulation, many of which will not be within our control. Any delay in the development, introduction or marketing of our products could result either in such products being marketed at a time when their cost and performance characteristics would not be competitive in the marketplace or in the shortening of their commercial lives. In light of the long-term nature of our projects, the unproven technology involved and the other factors described elsewhere in “Risk Factors,” there can be no assurance that we will be able to successfully complete the development or marketing of any new products.

Our research and development expenses are subject to uncertainty.

Factors affecting our research and development expenses include, but are not limited to:

- competition from companies that have substantially greater assets and financial resources than we have;
  - need for acceptance of products;
- ability to anticipate and adapt to a competitive market and rapid technological developments;
- amount and timing of operating costs and capital expenditures relating to expansion of our business, operations and infrastructure;
- need to rely on multiple levels of outside funding due to the length of the product development cycles and governmental approved protocols associated with the pharmaceutical industry; and
  - dependence upon key personnel including key independent consultants and advisors.

We are subject to numerous risks inherent in conducting clinical trials.

We outsource the management of our clinical trials to third parties. Agreements with clinical investigators and medical institutions for clinical testing and with other third parties for data management services, place substantial responsibilities on these parties which, if unmet, could result in delays in, or termination of, our clinical trials. For example, if any of our clinical trial sites fail to comply with FDA-approved good clinical practices, we may be unable

to use the data gathered at those sites. If these clinical investigators, medical institutions or other third parties do not carry out their contractual duties or obligations or fail to meet expected deadlines, or if the quality or accuracy of the clinical data they obtain is compromised due to their failure to adhere to our clinical protocols or for other reasons, our clinical trials may be extended, delayed or terminated, and we may be unable to obtain regulatory approval for or successfully commercialize our agent ADXS11-001. We are not certain that we will successfully recruit enough patients to complete our clinical trials. Delays in recruitment and such agreements would delay the initiation of the Phase II trials of ADXS11-001.

We or our regulators may suspend or terminate our clinical trials for a number of reasons. We may voluntarily suspend or terminate our clinical trials if at any time we believe they present an unacceptable risk to the patients enrolled in our clinical trials. In addition, regulatory agencies may order the temporary or permanent discontinuation of our clinical trials at any time if they believe that the clinical trials are not being conducted in accordance with applicable regulatory requirements or that they present an unacceptable safety risk to the patients enrolled in our clinical trials.

Our clinical trial operations are subject to regulatory inspections at any time. If regulatory inspectors conclude that we or our clinical trial sites are not in compliance with applicable regulatory requirements for conducting clinical trials, we may receive reports of observations or warning letters detailing deficiencies, and we will be required to implement corrective actions. If regulatory agencies deem our responses to be inadequate, or are dissatisfied with the corrective actions we or our clinical trial sites have implemented, our clinical trials may be temporarily or permanently discontinued, we may be fined, we or our investigators may be precluded from conducting any ongoing or any future clinical trials, the government may refuse to approve our marketing applications or allow us to manufacture or market our products, and we may be criminally prosecuted.

The successful development of biopharmaceuticals is highly uncertain.

Successful development of biopharmaceuticals is highly uncertain and is dependent on numerous factors, many of which are beyond our control. Products that appear promising in the early phases of development may fail to reach the market for several reasons including:

- Preclinical study results that may show the product to be less effective than desired (e.g., the study failed to meet its primary objectives) or to have harmful or problematic side effects;
- Failure to receive the necessary regulatory approvals or a delay in receiving such approvals. Among other things, such delays may be caused by slow enrollment in clinical studies, length of time to achieve study endpoints, additional time requirements for data analysis, or Biologics License Application preparation, discussions with the FDA, an FDA request for additional preclinical or clinical data, or unexpected safety or manufacturing issues;
- Manufacturing costs, formulation issues, pricing or reimbursement issues, or other factors that make the product uneconomical; and
- The proprietary rights of others and their competing products and technologies that may prevent the product from being commercialized.

Success in preclinical and early clinical studies does not ensure that large-scale clinical studies will be successful. Clinical results are frequently susceptible to varying interpretations that may delay, limit or prevent regulatory approvals. The length of time necessary to complete clinical studies and to submit an application for marketing approval for a final decision by a regulatory authority varies significantly from one product to the next, and may be difficult to predict.

We must comply with significant government regulations.

The research and development, manufacture and marketing of human therapeutic and diagnostic products are subject to regulation, primarily by the FDA in the U.S. and by comparable authorities in other countries. These national agencies and other federal, state, local and foreign entities regulate, among other things, research and development activities (including testing in animals and in humans) and the testing, manufacturing, handling, labeling, storage, record keeping, approval, advertising and promotion of the products that we are developing. Noncompliance with applicable requirements can result in various adverse consequences, including delay in approving or refusal to approve product licenses or other applications, suspension or termination of clinical investigations, revocation of approvals previously granted, fines, criminal prosecution, recall or seizure of products, injunctions against shipping products and total or partial suspension of production and/or refusal to allow a company to enter into governmental supply contracts.



The process of obtaining requisite FDA approval has historically been costly and time-consuming. Current FDA requirements for a new human biological product to be marketed in the U.S. include: (1) the successful conclusion of preclinical laboratory and animal tests, if appropriate, to gain preliminary information on the product's safety; (2) filing with the FDA of an Investigational New Drug Application, which we refer to as an IND, to conduct human clinical trials for drugs or biologics; (3) the successful completion of adequate and well-controlled human clinical investigations to establish the safety and efficacy of the product for its recommended use; and (4) filing by a company and acceptance and approval by the FDA of a Biologic License Application, which we refer to as a BLA, for a biological product, to allow commercial distribution of a biologic product. A delay in one or more of the procedural steps outlined above could be harmful to us in terms of getting our product candidates through clinical testing and to market.

We can provide no assurance that our products will obtain regulatory approval or that the results of clinical studies will be favorable.

In February 2006, we received permission from the appropriate governmental agencies in Israel, Mexico and Serbia to conduct Phase I clinical testing in those countries of ADXS11-001, our Listeria -based cancer vaccine that targets cervical cancer in women. The study was completed in the fiscal quarter ended January 31, 2008. The next step was to manufacture and test our product for future sale or distribution in the U.S. which required a filing of an IND with the FDA for our Phase II CIN trial. The filing was based on information from the Phase I trial and other pre-clinical information. On January 6, 2009 we received permission to conduct our clinical trial under this IND from the FDA. However, even though we are allowed to conduct this trial, as with any experimental agent, we are always at risk to be placed on clinical hold by the FDA at any time as our product may have effects on humans that are not fully understood or documented. There can be delays in obtaining FDA or any other necessary regulatory approvals of any proposed product and failure to receive such approvals would have an adverse effect on the product's potential commercial success and on our business, prospects, financial condition and results of operations. In addition, it is possible that a product may be found to be ineffective or unsafe due to conditions or facts which arise after development has been completed and regulatory approvals have been obtained. In this event, we may be required to withdraw such product from the market. To the extent that our success will depend on any regulatory approvals from governmental authorities outside of the U.S. that perform roles similar to that of the FDA, uncertainties similar to those stated above will also exist.

We rely upon patents to protect our technology. We may be unable to protect our intellectual property rights and we may be liable for infringing the intellectual property rights of others.

Our ability to compete effectively will depend on our ability to maintain the proprietary nature of our technologies, including the Listeria System, and the proprietary technology of others with whom we have entered into licensing agreements.

As of June 20, 2011 we have 32 patents that have been issued and licenses for 33 patent applications that are pending (including the 23 patent applications obtained in May 2010). We have licensed most of these patents and applications from Penn and we have obtained the rights to all future patent applications originating in the laboratories of Dr. Yvonne Paterson and Dr. Fred Frankel. Further, we rely on a combination of trade secrets and nondisclosure, and other contractual agreements and technical measures to protect our rights in the technology. We depend upon confidentiality agreements with our officers, employees, consultants, and subcontractors to maintain the proprietary nature of the technology. These measures may not afford us sufficient or complete protection, and others may independently develop technology similar to ours, otherwise avoid the confidentiality agreements, or produce patents that would materially and adversely affect our business, prospects, financial condition, and results of operations. Such competitive events, technologies and patents may limit our ability to raise funds, prevent other companies from collaborating with us, and in certain cases prevent us from further developing our technology due to third party patent blocking rights.

We are aware of a private company, Anza Therapeutics, Inc (formerly Cerus Corporation), which is no longer in existence, but had been developing Listeria vaccines. We are also aware of Aduro Biotech, a company comprised in part of former Cerus and Anza employees that has recently formed to investigate Listeria vaccines. We believe that through our exclusive license with Penn we have earliest known and dominant patent position in the U.S. for the use of recombinant Listeria monocytogenes expressing proteins or tumor antigens as a vaccine for the treatment of infectious diseases and tumors. We successfully defended our intellectual property by contesting a challenge made by Anza to our patent position in Europe on a claim not available in the U.S. The European Patent Office, which we refer to as the EPO, Board of Appeals in Munich, Germany has ruled in favor of The Trustees of Penn and its exclusive licensee Advaxis and reversed a patent ruling that revoked a technology patent that had resulted from an opposition filed by Anza. The ruling of the EPO Board of Appeals is final and cannot be appealed. The granted claims, the subject matter of which was discovered by Dr. Yvonne Paterson, scientific founder of Advaxis, are directed to the method of preparation and composition of matter of recombinant bacteria expressing tumor antigens for treatment of patients with cancer. Based on searches of publicly available databases, we do not believe that Anza, Aduro or any other third party owns any published Listeria patents or has any issued patent claims that might materially and adversely affect our ability to operate our business as currently contemplated in the field of recombinant Listeria monocytogenes. Additionally, our proprietary position is that the issued patents and licenses for pending applications restricts anyone from using plasmid based Listeria constructs, or those that are bioengineered to deliver antigens fused to LLO, ActA, or fragments of LLO or ActA.

We are dependent upon our license agreement with Penn; if we fail to make payments due and owing to Penn under our license agreement, our business will be materially and adversely affected.

Pursuant to the terms of our Second Amendment Agreement with Penn, as amended, we have acquired exclusive licenses for an additional 23 patent applications related to our proprietary Listeria vaccine technology. As of April 30, 2011, we owed Penn approximately \$138,000 in patent expenses. We can provide no assurance that we will be able to make all payments due and owing thereunder, that such licenses will not be terminated or expire during critical periods, that we will be able to obtain licenses for other rights which may be important to us, or, if obtained, that such licenses will be obtained on commercially reasonable terms.

If we are unable to maintain and/or obtain licenses, we may have to develop alternatives to avoid infringing on the patents of others, potentially causing increased costs and delays in product development and introduction or precluding the development, manufacture, or sale of planned products. Some of our licenses provide for limited periods of exclusivity that require minimum license fees and payments and/or may be extended only with the consent of the licensor. We can provide no assurance that we will be able to meet these minimum license fees in the future or that these third parties will grant extensions on any or all such licenses. This same restriction may be contained in licenses obtained in the future. Additionally, we can provide no assurance that the patents underlying any licenses will be valid and enforceable. To the extent any products developed by us are based on licensed technology, royalty payments on the licenses will reduce our gross profit from such product sales and may render the sales of such products uneconomical.

We have no manufacturing, sales, marketing or distribution capability and we must rely upon third parties for such.

We do not intend to create facilities to manufacture our products and therefore are dependent upon third parties to do so. We currently have agreements with Recipharm Cobra Biologics Limited, which we refer to as Recipharm Cobra, and Vibalogics GmbH for production of our immunotherapies and vaccines for research and development and testing purposes. Our reliance on third parties for the manufacture of our products creates a dependency that could severely disrupt our research and development, our clinical testing, and ultimately our sales and marketing efforts if the source of such supply proves to be unreliable or unavailable. If the contracted manufacturing source is unreliable or unavailable, we may not be able to replace the development of our product candidates, our clinical testing program may not be able to go forward and our entire business plan could fail.

If we are unable to establish or manage strategic collaborations in the future, our revenue and product development may be limited.

Our strategy includes eventual substantial reliance upon strategic collaborations for marketing and commercialization of ADXS11-001, and we may rely even more on strategic collaborations for research, development, marketing and commercialization of our other product candidates. To date, we have not entered into any strategic collaborations with third parties capable of providing these services although we have been heavily reliant upon third party outsourcing for our clinical trials execution and production of our product for use in clinical trials. In addition, we have not yet marketed or sold any of our product candidates or entered into successful collaborations for these services in order to ultimately commercialize our product candidates. Establishing strategic collaborations is difficult and time-consuming. Our discussion with potential collaborators may not lead to the establishment of collaborations on favorable terms, if at all. For example, potential collaborators may reject collaborations based upon their assessment of our financial, regulatory or intellectual property position. If we successfully establish new collaborations, these relationships may never result in the successful development or commercialization of our product candidates or the generation of sales revenue. To the extent that we enter into co-promotion or other collaborative arrangements, our product revenues are likely to be lower than if we directly marketed and sold any products that we may develop.

Management of our relationships with our collaborators will require:

- significant time and effort from our management team;
- coordination of our research and development programs with the research and development priorities of our collaborators; and
- effective allocation of our resources to multiple projects.

If we continue to enter into research and development collaborations at the early phases of product development, our success will in part depend on the performance of our corporate collaborators. We will not directly control the amount or timing of resources devoted by our corporate collaborators to activities related to our product candidates. Our corporate collaborators may not commit sufficient resources to our research and development programs or the commercialization, marketing or distribution of our product candidates. If any corporate collaborator fails to commit sufficient resources, our preclinical or clinical development programs related to this collaboration could be delayed or terminated. Also, our collaborators may pursue existing or other development-stage products or alternative technologies in preference to those being developed in collaboration with us. Finally, if we fail to make required milestone or royalty payments to our collaborators or to observe other obligations in our agreements with them, our collaborators may have the right to terminate those agreements.

We may incur substantial liabilities from any product liability claims if our insurance coverage for those claims is inadequate.

We face an inherent risk of product liability exposure related to the testing of our product candidates in human clinical trials, and will face an even greater risk if the product candidates are sold commercially. An individual may bring a liability claim against us if one of the product candidates causes, or merely appears to have caused, an injury. If we cannot successfully defend ourselves against the product liability claim, we will incur substantial liabilities. Regardless of merit or eventual outcome, liability claims may result in:

- decreased demand for our product candidates;
- damage to our reputation;

- withdrawal of clinical trial participants;
- costs of related litigation;
- substantial monetary awards to patients or other claimants;
- loss of revenues;
- the inability to commercialize product candidates; and
- increased difficulty in raising required additional funds in the private and public capital markets.

We have insurance coverage on our Phase II CIN and cervical cancer trials for each clinical trial site. We do not have product liability insurance because we do not have products on the market. We currently are in the process of obtaining insurance coverage and to expand such coverage to include the sale of commercial products if marketing approval is obtained for any of our product candidates. However, insurance coverage is increasingly expensive and we may not be able to maintain insurance coverage at a reasonable cost and we may not be able to obtain insurance coverage that will be adequate to satisfy any liability that may arise.

We may incur significant costs complying with environmental laws and regulations.

We and our contracted third parties will use hazardous materials, including chemicals and biological agents and compounds that could be dangerous to human health and safety or the environment. As appropriate, we will store these materials and wastes resulting from their use at our or our outsourced laboratory facility pending their ultimate use or disposal. We will contract with a third party to properly dispose of these materials and wastes. We will be subject to a variety of federal, state and local laws and regulations governing the use, generation, manufacture, storage, handling and disposal of these materials and wastes. We may also incur significant costs complying with environmental laws and regulations adopted in the future.

If we use biological and hazardous materials in a manner that causes injury, we may be liable for damages.

Our research and development and manufacturing activities will involve the use of biological and hazardous materials. Although we believe our safety procedures for handling and disposing of these materials will comply with federal, state and local laws and regulations, we cannot entirely eliminate the risk of accidental injury or contamination from the use, storage, handling or disposal of these materials. We do not carry specific biological or hazardous waste insurance coverage, workers compensation or property and casualty and general liability insurance policies which include coverage for damages and fines arising from biological or hazardous waste exposure or contamination. Accordingly, in the event of contamination or injury, we could be held liable for damages or penalized with fines in an amount exceeding our resources, and our clinical trials or regulatory approvals could be suspended or terminated.

We need to attract and retain highly skilled personnel; we may be unable to effectively manage growth with our limited resources.

As of June 20, 2011, we had 12 employees, all of which were full time employees. We do not intend to significantly expand our operations and staff unless we get adequate financing. If we receive such funding then our new employees may include key managerial, technical, financial, research and development and operations personnel who will not have been fully integrated into our operations. We will be required to expand our operational and financial systems significantly and to expand, train and manage our work force in order to manage the expansion of our operations. Our failure to fully integrate any new employees into our operations could have a material adverse effect on our business, prospects, financial condition and results of operations.

We operate under an agreement with AlphaStaff, a professional employment organization that provides us with payroll and human resources services. Our ability to attract and retain highly skilled personnel is critical to our operations and expansion. We face competition for these types of personnel from other technology companies and more established organizations, many of which have significantly larger operations and greater financial, technical, human and other resources than we have. We may not be successful in attracting and retaining qualified personnel on a timely basis, on competitive terms, or at all. If we are not successful in attracting and retaining these personnel, our business, prospects, financial condition and results of operations will be materially adversely affected. In such circumstances we may be unable to conduct certain research and development programs, unable to adequately manage our clinical trials and other products, and unable to adequately address our management needs. In addition, from time to time, we are unable to make payroll due to our lack of cash.

We depend upon our senior management and key consultants and their loss or unavailability could put us at a competitive disadvantage.

We depend upon the efforts and abilities of our senior executives, as well as the services of several key consultants, including Yvonne Paterson, Ph.D. The loss or unavailability of the services of any of these individuals for any significant period of time could have a material adverse effect on our business, prospects, financial condition and

results of operations. We have not obtained, do not own, nor are we the beneficiary of, key-person life insurance.

#### Risks Related to the Biotechnology / Biopharmaceutical Industry

The biotechnology and biopharmaceutical industries are characterized by rapid technological developments and a high degree of competition. We may be unable to compete with more substantial enterprises.

The biotechnology and biopharmaceutical industries are characterized by rapid technological developments and a high degree of competition. Competition in the biopharmaceutical industry is based significantly on scientific and technological factors. These factors include the availability of patent and other protection for technology and products, the ability to commercialize technological developments and the ability to obtain governmental approval for testing, manufacturing and marketing. We compete with specialized biopharmaceutical firms in the U.S., Europe and elsewhere, as well as a growing number of large pharmaceutical companies that are applying biotechnology to their operations. Many biopharmaceutical companies have focused their development efforts in the human therapeutics area, including cancer. Many major pharmaceutical companies have developed or acquired internal biotechnology capabilities or made commercial arrangements with other biopharmaceutical companies. These companies, as well as academic institutions and governmental agencies and private research organizations, also compete with us in recruiting and retaining highly qualified scientific personnel and consultants. Our ability to compete successfully with other companies in the pharmaceutical field will also depend to a considerable degree on the continuing availability of capital to us.

We are aware of certain products under development or manufactured by competitors that are used for the prevention, diagnosis, or treatment of certain diseases we have targeted for product development. Various companies are developing biopharmaceutical products that potentially directly compete with our product candidates even though their approach to such treatment is different. The biotechnology and biopharmaceutical industries are highly competitive, and this competition comes from both biotechnology firms and from major pharmaceutical and chemical companies, including Aduro Biotech, Antigenics Inc., Avi BioPharma, Inc., Biomura Inc., Biovest International, Biosante Pharmaceuticals Inc., Dendreon Corporation, Pharmexa-Epimmune Inc., Genzyme Corp., Progenics Pharmaceuticals Inc. and Vical Incorporated each of which is pursuing cancer vaccines.

We expect that our products under development and in clinical trials will address major markets within the cancer sector with a superior technology that is both safer and more effective than our competitors. Our competition will be determined in part by the potential indications for which drugs are developed and ultimately approved by regulatory authorities. Additionally, the timing of market introduction of some of our potential products or of competitors' products may be an important competitive factor. Accordingly, the relative speed with which we can develop products, complete preclinical testing, clinical trials and approval processes and supply commercial quantities to market is expected to be important competitive factors. We expect that competition among products approved for sale will be based on various factors, including product efficacy, safety, reliability, availability, price and patent position.

#### Risks Related to the Securities Markets and Investments in our Common Stock

The price of our common stock may be volatile.

The trading price of our common stock may fluctuate substantially. The price of our common stock that will prevail in the market after the sale of the shares of common stock by a selling stockholder may be higher or lower than the price you have paid, depending on many factors, some of which are beyond our control and may not be related to our operating performance. These fluctuations could cause you to lose part or all of your investment in our common stock. Those factors that could cause fluctuations include, but are not limited to, the following:

- price and volume fluctuations in the overall stock market from time to time;
- fluctuations in stock market prices and trading volumes of similar companies;
- actual or anticipated changes in our net loss or fluctuations in our operating results or in the expectations of securities analysts;
- the issuance of new equity securities pursuant to a future offering, including issuances of preferred stock pursuant to the Series B purchase agreement, as amended;
  - general economic conditions and trends;
  - major catastrophic events;
  - sales of large blocks of our stock;
- significant dilution caused by the anti-dilutive clauses in our financial agreements;
  - departures of key personnel;
- changes in the regulatory status of our product candidates, including results of our clinical trials;



- events affecting Penn or any future collaborators;
- announcements of new products or technologies, commercial relationships or other events by us or our competitors;
- regulatory developments in the U.S. and other countries;
- failure of our common stock to be listed or quoted on the Nasdaq Stock Market, NYSE Amex Equities or other national market system;
- changes in accounting principles; and
- discussion of us or our stock price by the financial and scientific press and in online investor communities.

In the past, following periods of volatility in the market price of a company's securities, securities class action litigation has often been brought against that company. Due to the potential volatility of our stock price, we may therefore be the target of securities litigation in the future. Securities litigation could result in substantial costs and divert management's attention and resources from our business.

You may have difficulty selling our shares because they are deemed "penny stocks."

Our common stock is deemed to be "penny stock" as that term is defined in Rule 3a51-1, promulgated under the Exchange Act. Penny stocks are, generally, stocks:

- with a price of less than \$5.00 per share;
- that are neither traded on a "recognized" national exchange nor listed on an automated quotation system sponsored by a registered national securities association meeting certain minimum initial listing standards; and
- of issuers with net tangible assets less than \$2.0 million (if the issuer has been in continuous operation for at least three years) or \$5.0 million (if in continuous operation for less than three years), or with average revenue of less than \$6.0 million for the last three years.

Section 15(g) of the Exchange Act and Rule 15g-2 promulgated thereunder require broker-dealers dealing in penny stocks to provide potential investors with a document disclosing the risks of penny stocks and to obtain a manually signed and dated written receipt of the document before effecting any transaction in a "penny stock" for the investor's account. We urge potential investors to obtain and read this disclosure carefully before purchasing any shares that are deemed to be "penny stock."

Rule 15g-9 promulgated under the Exchange Act requires broker-dealers in penny stocks to approve the account of any investor for transactions in such stocks before selling any "penny stock" to that investor. This procedure requires the broker-dealer to:

- obtain from the investor information about his or her financial situation, investment experience and investment objectives;
- reasonably determine, based on that information, that transactions in penny stocks are suitable for the investor and that the investor has enough knowledge and experience to be able to evaluate the risks of "penny stock" transactions;
- provide the investor with a written statement setting forth the basis on which the broker-dealer made his or her determination; and
- receive a signed and dated copy of the statement from the investor, confirming that it accurately reflects the investor's financial situation, investment experience and investment objectives.

Compliance with these requirements may make it harder for investors in our common stock to resell their shares to third parties. Accordingly, our common stock should only be purchased by investors, who understand that such investment is a long-term and illiquid investment, and are capable of and prepared to bear the risk of holding our common stock for an indefinite period of time.

A limited public trading market may cause volatility in the price of our common stock.

Our common stock began trading on the OTC Bulletin Board on July 28, 2005 and is quoted under the symbol ADXS.OB. The quotation of our common stock on the OTC Bulletin Board does not assure that a meaningful, consistent and liquid trading market currently exists, and in recent years such market has experienced extreme price and volume fluctuations that have particularly affected the market prices of many smaller companies like us. Our common stock is thus subject to this volatility. Sales of substantial amounts of common stock, or the perception that such sales might occur, could adversely affect prevailing market prices of our common stock and our stock price may decline substantially in a short time and our stockholders could suffer losses or be unable to liquidate their holdings. Also there are large blocks of restricted stock that have met the holding requirements under Rule 144 that can be unrestricted and sold. Our stock is thinly traded due to the limited number of shares available for trading on the market thus causing large swings in price.

There is no assurance of an established public trading market.

A regular trading market for our common stock may not be sustained in the future. The effect on the OTC Bulletin Board of these rule changes and other proposed changes cannot be determined at this time. The OTC Bulletin Board is an inter-dealer, over-the-counter market that provides significantly less liquidity than the Nasdaq Stock Market. Quotes for stocks included on the OTC Bulletin Board are not listed in the financial sections of newspapers. As such, investors and potential investors may find it difficult to obtain accurate stock price quotations, and holders of our common stock may be unable to resell their securities at or near their original offering price or at any price. Market prices for our common stock will be influenced by a number of factors, including:

- the issuance of new equity securities pursuant to a future offering, including issuances of preferred stock pursuant to the Series B purchase agreement, as amended;

- changes in interest rates;
- significant dilution caused by the anti-dilutive clauses in our financial agreements;
- competitive developments, including announcements by competitors of new products or services or significant contracts, acquisitions, strategic partnerships, joint ventures or capital commitments;
  - variations in quarterly operating results;
  - change in financial estimates by securities analysts;
  - the depth and liquidity of the market for our common stock;
- investor perceptions of our company and the technologies industries generally; and
  - general economic and other national conditions.

We may not be able to achieve secondary trading of our stock in certain states because our common stock is not nationally traded.

Because our common stock is not listed for trading on a national securities exchange, our common stock is subject to the securities laws of the various states and jurisdictions of the U.S. in addition to federal securities law. This regulation covers any primary offering we might attempt and all secondary trading by our stockholders. If we fail to take appropriate steps to register our common stock or qualify for exemptions for our common stock in certain states or jurisdictions of the U.S., the investors in those jurisdictions where we have not taken such steps may not be allowed to purchase our stock or those who presently hold our stock may not be able to resell their shares without substantial effort and expense. These restrictions and potential costs could be significant burdens on our stockholders.

If we fail to remain current on our reporting requirements, we could be removed from the OTC Bulletin Board, which would limit the ability of broker-dealers to sell our securities and the ability of stockholders to sell their securities in the secondary market.

Companies trading on the OTC Bulletin Board, such as us, must be reporting issuers under Section 12 of the Exchange Act, as amended, and must be current in their reports under Section 13, in order to maintain price quotation privileges on the OTC Bulletin Board. For our third quarter 2009 and fiscal year ended October 31, 2009, we were unable to file our respective quarterly report on Form 10-Q and annual report on Form 10-K in a timely manner, but we were able to make the filings and cure our compliance deficiencies with the OTC Bulletin Board within the grace period allowed by the OTC Bulletin Board. If we fail to remain current on our reporting requirements, we could be removed from the OTC Bulletin Board. As a result, the market liquidity for our securities could be severely adversely affected by limiting the ability of broker-dealers to sell our securities and the ability of stockholders to sell their securities in the secondary market. In addition, we may not be able to deliver a tranche notice to Optimus under the Series B purchase agreement.

Our internal control over financial reporting and our disclosure controls and procedures have been ineffective in the past, and may be ineffective again in the future, and failure to improve them at such time could lead to errors in our financial statements that could require a restatement or untimely filings, which could cause investors to lose confidence in our reported financial information, and a decline in our stock price.

Our internal control over financial reporting and our disclosure controls and procedures have been ineffective in the past. We have taken steps to improve our disclosure controls and procedures and our internal control over financial reporting, and as of April 30, 2011, our chief executive officer and chief financial officer concluded that our disclosure controls and procedures and internal control over financial reporting were effective. However, there is no assurance that our disclosure controls and procedures will remain effective or that there will be no material weaknesses in our internal control over financial reporting in the future. Additionally, as a result of the historical material weaknesses in our internal control over financial reporting and the historical ineffectiveness of our disclosure controls and procedures, current and potential stockholders could lose confidence in our financial reporting, which would harm our business and the trading price of our stock.

Our executive officers and directors can exert significant influence over us and may make decisions that do not always coincide with the interests of other stockholders.

As of June 20, 2011, our officers and directors and their affiliates, in the aggregate, beneficially own approximately 12.3% of the outstanding shares of our common stock. As a result, such persons, acting together, have the ability to substantially influence all matters submitted to our stockholders for approval, including the election and removal of directors, any merger, consolidation or sale of all or substantially all of our assets, an increase in the number of shares authorized for issuance under our stock option plans, and to control our management and affairs. Accordingly, such concentration of ownership may have the effect of delaying, deferring or preventing a change in or discouraging a potential acquirer from making a tender offer or otherwise attempting to obtain control of our business, even if such a transaction would be beneficial to other stockholders.

Sales of additional equity securities may adversely affect the market price of our common stock and your rights in us may be reduced.

We expect to continue to incur product development and selling, general and administrative costs, and to satisfy our funding requirements, we will need to sell additional equity securities, which may be subject to registration rights and warrants with anti-dilutive protective provisions. The sale or the proposed sale of substantial amounts of our common stock in the public markets may adversely affect the market price of our common stock and our stock price may decline substantially. Our stockholders may experience substantial dilution and a reduction in the price that they are able to obtain upon sale of their shares. Also, new equity securities issued may have greater rights, preferences or privileges than our existing common stock.

Additional authorized shares of common stock available for issuance may adversely affect the market.

We are authorized to issue 500,000,000 shares of our common stock. As of June 20, 2011, we had 230,083,519 shares of our common stock issued and outstanding, excluding shares issuable upon exercise of our outstanding warrants, options and convertible promissory notes. As of April 30, 2011, we had outstanding options to purchase 27,317,424 shares of our common stock at a weighted average exercise price of approximately \$0.16 per share and outstanding warrants to purchase 91,530,196 shares of our common stock (excluding Optimus warrants in the amount of 25,610,038), with exercise prices ranging from \$0.15 to \$0.29 per share. To the extent the shares of common stock are issued, options and warrants are exercised or convertible promissory notes are converted, holders of our common stock will experience dilution. In addition, in the event of any future financing of equity securities or securities convertible into or exchangeable for, common stock, holders of our common stock may experience dilution. Moreover, the above-mentioned warrants to purchase our common stock are subject to "full ratchet" anti-dilution protection upon certain equity issuances below \$0.15 per share (as may be further adjusted).

Shares eligible for future sale may adversely affect the market.

Sales of a significant number of shares of our common stock in the public market could harm the market price of our common stock. This prospectus covers 72,666,815 shares of common stock issuable upon conversion of our outstanding convertible notes and upon exercise of our outstanding warrants, which represents approximately 17.0% of our outstanding shares of our common stock as of June 20, 2011 on a fully diluted basis. As additional shares of our common stock become available for resale in the public market pursuant to this offering, and otherwise, the supply of our common stock will increase, which could decrease its price. Some or all of the shares of common stock may be offered from time to time in the open market pursuant to Rule 144, and these sales may have a depressive effect on the market for our shares of common stock. In general, under Rule 144 as currently in effect, a non-affiliate of ours who has beneficially owned shares of our common stock for at least six months is entitled to sell his or her shares without any volume limitations, and an affiliate of ours can sell such number of shares within any three-month period as does not exceed the greater of 1% of the number of shares of our common stock then outstanding, which equaled approximately 2,300,835 shares as of June 20, 2011, or the average weekly trading volume of our common stock on the OTC Bulletin Board during the four calendar weeks preceding the filing of a notice on Form 144 with respect to that sale. Sales under Rule 144 by our affiliates are also subject to manner-of-sale provisions, notice requirements and the availability of current public information about us.

We are able to issue shares of preferred stock with rights superior to those of holders of our common stock. Such issuances can dilute the tangible net book value of shares of our common stock.

Our Amended and Restated Certification of Incorporation provides for the authorization of 5,000,000 shares of "blank check" preferred stock. Pursuant to our Amended and Restated Certificate of Incorporation, our board of directors is authorized to issue such "blank check" preferred stock with rights that are superior to the rights of stockholders of our

common stock, at a purchase price then approved by our board of directors, which purchase price may be substantially lower than the market price of shares of our common stock, without stockholder approval. Such issuances can dilute the tangible net book value of shares of our common stock.

We do not intend to pay cash dividends.

We have not declared or paid any cash dividends on our common stock, and we do not anticipate declaring or paying cash dividends for the foreseeable future. Any future determination as to the payment of cash dividends on our common stock will be at our board of directors' discretion and will depend on our financial condition, operating results, capital requirements and other factors that our board of directors considers to be relevant.

### Additional Risks Related to this Offering

We have Notes outstanding with an aggregate principal balance of \$7.1 million which mature on May 12, 2012 and which we may be unable to repay at maturity.

The Notes outstanding are due on May 12, 2012. We may not have the funds to repay the Notes at maturity. If we do not have the funds to repay the notes at maturity and we are unable to extend the maturity dates or otherwise refinance the Notes, we would be in default and the holder of the Notes would have rights senior to those of our common stockholders. Further, a default in the Notes would have a material adverse effect on our ability to continue as a going concern.

Conversion of outstanding Notes and exercise of Warrants could significantly dilute the ownership interests of existing stockholders.

The conversion or exercise of some or all of our outstanding Notes and Warrants could significantly dilute the ownership interests of existing stockholders. As of June 20, 2010, there were 47,186,245 shares of our common stock issuable upon conversion of the Notes, which have a conversion price of \$0.15 per share, and 25,480,570 shares of our common stock issuable upon the exercise of the Warrants, which have an exercise price of \$0.15 per share. Any sales in the public market of the common stock issuable upon such conversion or exercise could adversely affect prevailing market prices of our common stock. Moreover, the existence of the Notes may encourage short selling by market participants because the conversion of such Notes could be used to satisfy short positions, or the anticipated conversion of such Notes into shares of our common stock could depress the price of our common stock.

Covenants in our Notes restrict our financial and operational flexibility.

We are subject to certain covenants under the Notes that restrict our financial and operational flexibility. For example, we are restricted from incurring additional indebtedness, redeeming or declaring or paying any cash dividend or cash distribution on our common stock, or issuing or selling any rights, warrants or options to subscribe for or purchase our common stock or securities convertible into or exercisable for our common stock at a price which is less than \$0.13, other than in connection with a repayment or redemption of the Notes. As a result of these covenants, our ability to finance our operations through the incurrence of additional debt or the issuance of shares of our common stock is limited.

Our Notes provide that upon the occurrence of various events of default, one of our investors would be entitled to require us to prepay the Notes for cash, which could leave us with little or no working capital for operations or capital expenditures.

The terms of our Notes require us to prepay the Notes upon the occurrence of various events of default, such as the failure to pay any principal payments due and for the breach of any representations and warranties under the Notes, the Note Purchase Agreement, or the related transaction documents with the investors. The Convertible Notes also contain a cross-default provision, which means that a default of payment under any other obligations in an aggregate monetary amount in excess of \$1,000,000 would give each investor the right to accelerate repayment under the Notes, subject to notice to us and passage of a cure period. If we are unable to comply with the covenants under the Notes, an investor may declare us in default and may declare all amounts due under the notes, including any accrued interest and penalties. In addition, if an event of default occurs, we may be unable to prepay the entire amount due under the Notes in cash as required by their terms. Even if we are able to prepay the entire amount in cash, any such prepayment could leave us with little or no working capital for our business. We have not established a sinking fund for payment of our obligations under the Notes, nor do we anticipate doing so.



Our outstanding Warrants may significantly increase the volatility of our stock price.

All of our outstanding Warrants have been determined to represent liabilities under United States Generally Accepted Accounting Principles. These instruments were recorded at their fair value as of the date of issuance. At each revaluation date, any subsequent changes in fair value will be recorded as a non-cash gain or loss in the statement of operations. Based on the number of instruments issued and the potential volatility in the fair value of these instruments, the subsequent non-cash gains or losses in the statement of operations could be significant, which has the potential to increase the volatility of our stock price.

If we fail to effect and maintain registration of the common stock issued or issuable pursuant to conversion of the Notes or the Warrants, we may be obligated to pay the investors of those securities liquidated damages.

We have an obligation to file and obtain the effectiveness of the registration statement of which this prospectus is a part to register the common stock underlying outstanding Notes and Warrants. Once effective, this prospectus contained within a registration statement can only be used for a period of time as specified by statute without there being a post-effective amendment filed that has become effective under the Securities Act of 1933. If we are unable to meet these filing obligations (or effectiveness obligations), we will be obligated to pay the holders of these securities liquidated damages for each 30 day period after the applicable date as the case may be. The liquidated damages must be paid in cash. We cannot offer any assurances that we will be able to maintain the required current information contained in a prospectus or to obtain the effectiveness of any registration statement or post-effective amendments that we may file.

## SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus contains forward-looking statements. We have based these forward-looking statements on our current expectations and projections about future events. These statements include, but are not limited to:

- statements as to the anticipated timing of clinical studies and other business developments;
- statements as to the development of new products;
- expectations as to the adequacy of our cash balances to support our operations for specified periods of time and as to the nature and level of cash expenditures; and
- expectations as to the market opportunities for our products, as well as our ability to take advantage of those opportunities.

These statements may be found in the sections of this prospectus titled “Prospectus Summary,” “Risk Factors,” “Management’s Discussion and Analysis and Results of Operations,” and “Description of our Business,” as well as in this prospectus generally. Actual results could differ materially from those anticipated in these forward-looking statements as a result of various factors, including all the risks discussed in “Risk Factors” and elsewhere in this prospectus.

In addition, statements that use the terms “can,” “continue,” “could,” “may,” “potential,” “predicts,” “should,” “will,” “believe,” “plan,” “intend,” “estimate,” “anticipate,” “scheduled” and similar expressions are intended to identify forward-looking statements. All forward-looking statements in this prospectus reflect our current views about future events and are based on assumptions and are subject to risks and uncertainties that could cause our actual results to differ materially from future results expressed or implied by the forward-looking statements. Many of these factors are beyond our ability to control or predict. Forward-looking statements do not guarantee future performance and involve risks and uncertainties. Actual results will differ, and may differ materially, from projected results as a result of certain risks and uncertainties. The risks and uncertainties include, without limitation, those described under “Risk Factors” and those detailed from time to time in our filings with the SEC, and include, among others, the following:

- Our limited operating history and ability to continue as a going concern;
- Our ability to successfully develop and commercialize products based on our therapies and the Listeria System;
- A lengthy approval process and the uncertainty of FDA and other government regulatory requirements may have a material adverse effect on our ability to commercialize our applications;
- Clinical trials may fail to demonstrate the safety and effectiveness of our applications or therapies, which could have a material adverse effect on our ability to obtain government regulatory approval;
- The degree and nature of our competition;
- Our ability to employ and retain qualified employees; and
- The other factors referenced in this prospectus, including, without limitation, under the sections titled “Risk Factors,” “Management’s Discussion and Analysis and Results of Operations,” and “Description of our Business.”

These risks are not exhaustive. Other sections of this prospectus may include additional factors which could adversely impact our business and financial performance. Moreover, we operate in a very competitive and rapidly changing environment. New risk factors emerge from time to time and it is not possible for our management to predict all risk factors, nor can we assess the impact of all factors on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements. Given these risks and uncertainties, investors should not place undue reliance on forward-looking statements as a prediction of actual results. These forward-looking statements are made only as of the date of this prospectus. Except for our ongoing obligation to disclose material information as required by federal securities laws, we do not intend to update you concerning any future revisions to any forward-looking statements to reflect events or circumstances occurring after the date of this prospectus.

## USE OF PROCEEDS

We will not receive any proceeds from the resale of the shares of common stock offered by the selling stockholders as all of such proceeds will be paid to the selling stockholders. Furthermore, we will not receive cash proceeds from the exercise of the Warrants by the selling stockholders to the extent such warrants are exercised pursuant to cashless exercise provisions contained therein, if then-permitted by the terms of the warrants. No assurance can be given, however, as to when, if ever, any or all of such warrants will be exercised.

MARKET PRICE OF AND DIVIDENDS ON OUR COMMON STOCK  
AND RELATED STOCKHOLDER MATTERS

Since July 28, 2005, our common stock has been quoted on the OTC Bulletin Board under the symbol ADXS.OB. The following table shows, for the periods indicated, the high and low bid prices per share of our common stock as reported by the OTC Bulletin Board. These bid prices represent prices quoted by broker-dealers on the OTC Bulletin Board. The quotations reflect inter-dealer prices, without retail mark-up, mark-down or commissions, and may not represent actual transactions.

	Fiscal 2011		Fiscal 2010		Fiscal 2009	
	High	Low	High	Low	High	Low
First Quarter (November 1-January 31)	\$ 0.16	\$ 0.11	\$ 0.19	\$ 0.02	\$ 0.06	\$ 0.01
Second Quarter (February 1- April 30)(1)	\$ 0.22	\$ 0.11	\$ 0.26	\$ 0.12	\$ 0.05	\$ 0.02
Third Quarter (May 1 - July 31)	\$ 0.25(2)	\$ 0.14(2)	\$ 0.25	\$ 0.17	\$ 0.21	\$ 0.04
Fourth Quarter (August 1 - October 31)	\$ -	\$ -	\$ 0.19	\$ 0.10	\$ 0.19	\$ 0.06

(1)From March 1, 2011 through April 1, 2011, our common stock was traded on the OTCQB Market place, a new market for OTC-traded companies that are registered and current in their reporting obligations to the SEC or a U.S. banking or insurance regulator.

(2) Through June 20, 2011.

As of June 20, 2011, there were approximately 87 stockholders of record. Because shares of our common stock are held by depositaries, brokers and other nominees, the number of beneficial holders of our shares is substantially larger than the number of stockholders of record. Based on information available to us, we believe there are approximately 3,500 beneficial owners of our shares of our common stock in addition to the stockholders of record. On June 20, 2011, the last reported sale price per share for our common stock as reported by the OTC Bulletin Board was \$0.149.

We have not declared or paid any cash dividends on our common stock, and we do not anticipate declaring or paying cash dividends for the foreseeable future. We are not subject to any legal restrictions respecting the payment of dividends, except that we may not pay dividends if the payment would render us insolvent. Any future determination as to the payment of cash dividends on our common stock will be at our board of directors' discretion and will depend on our financial condition, operating results, capital requirements and other factors that our board of directors considers to be relevant.

Holders of Series B preferred stock will be entitled to receive dividends, which will accrue in shares of Series B preferred stock on an annual basis at a rate equal to 10% per annum from the issuance date. Accrued dividends will be payable upon redemption of the Series B preferred stock or upon the liquidation, dissolution or winding up of our company. The Series B preferred stock ranks, with respect to dividend rights and rights upon liquidation:

- senior to our common stock and any other class or series of preferred stock (other than Series A preferred stock or any class or series of preferred stock that we intend to cause to be listed for trading or quoted on Nasdaq, NYSE Amex or the New York Stock Exchange);
- pari passu with any outstanding shares of our Series A preferred stock (none of which are issued and outstanding as of the date hereof); and
- junior to all of our existing and future indebtedness and any class or series of preferred stock that we intend to cause to be listed for trading or quoted on Nasdaq, NYSE Amex or the New York Stock Exchange.

## MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

This Management's Discussion and Analysis of Financial Conditions and Results of Operations and other portions of this prospectus contain forward-looking information that involves risks and uncertainties. Our actual results could differ materially from those anticipated by the forward-looking information. Factors that may cause such differences include, but are not limited to, availability and cost of financial resources, product demand, market acceptance and other factors discussed in this prospectus under the heading "Risk Factors". This Management's Discussion and Analysis of Financial Conditions and Results of Operations should be read in conjunction with our financial statements and the related notes included elsewhere in this prospectus.

### Overview

Advaxis is a development stage biotechnology company with the intent to develop safe and effective cancer vaccines that utilize multiple mechanisms of immunity. We are developing a live *Listeria* vaccine technology under license from Penn which can be engineered to secrete a variety of different protein sequences containing tumor-specific antigens leading to the development of a variety of different products. We believe this vaccine technology is capable of stimulating the body's immune system to process and recognize the antigen that has a therapeutic effect upon cancer. We believe this to be a broadly enabling platform technology that can be applied to the treatment of many types of cancers, infectious diseases and auto-immune disorders.

The discoveries that underlie this innovative technology are based upon the work of Yvonne Paterson, Ph.D., Professor of Microbiology at Penn. This technology involves the creation of genetically engineered *Listeria* that stimulate the innate immune system and induce an antigen-specific immune response involving both arms of the adaptive immune system. In addition, this technology supports, among other things, the immune response by altering tumors to make them more susceptible to immune attack, stimulating the development of specific blood cells that underlie a strong therapeutic immune response.

We have no customers. Since our inception in 2002, we have focused our development efforts upon understanding our technology and establishing a product development pipeline that incorporates this technology in the therapeutic cancer vaccines area targeting cervical, head and neck, prostate, breast, and a pre cancerous indication of CIN. Although no products have been commercialized to date, research and development and investment continues to be placed behind the pipeline and the advancement of this technology. Pipeline development and the further exploration of the technology for advancement entail risk and expense. We anticipate that our ongoing operational costs will increase significantly when we begin several of our clinical trials.

The following factors, among others, could cause actual results to differ from those indicated in the above forward-looking statements: increased length and scope of our clinical trials, failure to recruit patients, increased costs related to intellectual property related expenses, increased cost of manufacturing and higher consulting costs. These factors or additional risks and uncertainties not known to us or that we currently deem immaterial may impair business operations and may cause our actual results to differ materially from any forward-looking statement.

Although we believe the expectations reflected in the forward-looking statements are reasonable, we cannot guarantee future results, levels of activity, performance or achievements.

We expect our future sources of liquidity to be primarily debt and equity capital raised from investors, as well as licensing fees and milestone payments in the event we enter into licensing agreements with third parties, and research collaboration fees in the event we enter into research collaborations with third parties. In August 2009, we received an NIH grant for \$210,739 for the development of a dual vector capable of attacking two immunologic targets

simultaneously. In October 2010, we received notice that the company was awarded an IRS grant under the Qualified Therapeutic Discovery Program for approximately \$245,000. This amount was included in grant revenue for the year ending October 31, 2010. We received the funds in November 2010.

On February 4, 2011 we received \$379,742 from the New Jersey Economic Development Authority. Under the State of New Jersey NOL Transfer Program for small business we received this cash amount from the sale of our State Net Operating Losses through December 31, 2009. We plan to sell our Net Operating Losses for the 2010 fiscal year under the same State of New Jersey Program for small business.

If additional capital were raised through the sale of equity or convertible debt securities, the issuance of such securities would result in additional dilution to our existing stockholders. If we fail to raise a significant amount of capital, we may need to significantly curtail operations or cease operations in the near future. Any sale of our common stock or issuance of rights to acquire our common stock below \$0.15 per share (as may be further adjusted) will trigger a significant dilution due to the anti-dilution protection provisions in certain of our outstanding warrants and debt instruments.

## Plan of Operations

If we are successful in our financing plans we intend to use the majority of the proceeds to complete our two Phase II trials of ADXS11-001, our initial Listeria construct targeting diseases caused by the Human Papilloma Virus, which we refer to as HPV. One trial is a 120 patient U.S. study in CIN, and the other trial is a 110 patient Indian study in highly advanced cervical cancer. We also anticipate using the funds to further our preclinical and clinical, research and development efforts in developing product candidates in prostate cancer, breast and brain cancer and for general and administrative activities.

During the next 24 months, our strategic focus will be to achieve the following goals and objectives:

- Complete our two Phase II clinical studies of ADXS11-001 in the therapeutic treatment of CIN and late-stage cervical cancer;
- Begin an additional Phase II clinical trial of our ADXS11-001 candidate in the treatment of advanced cervical cancer with the Gynecologic Oncology Group, which we refer to as the GOG, largely underwritten by the NCI;
- Continue to focus on our collaboration with the CRUK to carry out our Phase I/II clinical trial of our ADXS11-001 candidate in the treatment of head and neck cancer entirely underwritten by the CRUK;
- Continue to support our Collaborative Research and Development Agreement with the U.S. Department of Homeland Security to develop vaccines for the protection of our food supply;
  - Continue to execute our Canine Osteosarcoma Study with Penn with relevance to human adolescents;
- To support our new Collaborative Research and Development Agreement with the NCI to understand the mechanisms of action of attenuated Listeria vaccines, to develop new vaccines, and to advance them to clinical testing;
- Continue to further our structured collaboration with the University of British Columbia on innovative uses of Listeria constructs in infectious disease, parasitological disease and neonatal immunity;
- Continue to develop strategic and development collaborations with academic laboratories and potential commercial partners;
- Continue the development work necessary to bring ADXS31-142 in the therapeutic treatment of prostate cancer into clinical trials, and initiate that trial provided that funding is available;
- Continue the development work necessary to bring ADXS31-164 in the therapeutic treatment of breast, brain and other cancers into clinical trials, and initiate that trial when and if funding is available; and
- Continue the preclinical development of other product candidates, as well as continue research to expand our technology platform.

Our projected annual staff, overhead, laboratory and nonclinical expenses are estimated to be approximately \$4.1 million starting in fiscal year beginning November 1, 2010. The cost of our Phase II clinical studies in therapeutic treatment of CIN and late stage cervical cancer is estimated to be approximately \$11.2 million over the estimated 30 month period of the trial. While approximately \$4 million has already been paid towards these costs, we must raise additional funds in order to complete the Phase II trials. If we can raise additional funds we intend to commence the



clinical work in prostate cancer by late 2011 and breast and brain cancer by late 2011. The timing and estimated costs of these projects are difficult to predict.

If the clinical progress continues to be successful and the value of our company increases, we may attempt to accelerate the timing of the required financing and, conversely, if the trial or trials are not successful we may slow our spending and defer the timing of additional financing. While we will attempt to attract a corporate partnership and grants, we have not assumed the receipt of any additional financial resources in our cash planning.

We anticipate that our research and development expenses will increase significantly as a result of our expanded development and commercialization efforts related to clinical trials, product development, and development of strategic and other relationships required ultimately for the licensing, manufacture and distribution of our product candidates. We regard three of our product candidates as major research and development projects. The timing, costs and uncertainties of those projects are as follows:

ADXS11-001 - Phase II CIN Trial Summary Information (U.S.: target enrollment: 120 Patients)

- Cost incurred through April 30, 2011: approximately \$3.0 million.
- Estimated future clinical costs: approximately \$4.5 million.

- Anticipated Timing: commenced in March 2010 (with patient dosing having commenced in June 2010); reporting of low dose portion in late 2011, completion August 2012 or beyond.

Uncertainties:

- The FDA (or relevant foreign regulatory authority) may place the project on clinical hold or stop the project;
  - One or more serious adverse events in otherwise healthy patients enrolled in the trial;
    - Difficulty in recruiting patients;
    - Delays in the program;
    - Material cash flows; and
- Anticipated Timing: Unknown at this stage and dependent upon successful trials, adequate fund raising, entering a licensing deal or pursuant to a marketing collaboration subject to regulatory approval to market and sell the product.

ADX11-001 - Phase II Cervical Cancer Trial Summary Information (India: target enrollment: 110 Patients)

- Cost incurred through April 30, 2011: approximately \$1.5 million.
- Estimated future clinical costs: approximately \$2.2 million.
- Anticipated Timing: start July-August; reporting of survival beginning in late summer 2011, completion August 2012 or beyond.

Additional Uncertainties:

- One or more serious adverse events in these late stage cancer patients enrolled in the trial.

ADX11-001 - Phase II Cancer of the Cervix Trial Summary Information (U.S. GOG/NCI: target enrollment: up to 63 Patients)

- Cost incurred through April 30, 2011: Minimal.
- Estimated future clinical costs: \$500,000 (NCI underwriting costs of \$4.0 million to \$5.0 million).
- Anticipated Timing: The GOG of the NCI has agreed to conduct a study which we expect will commence in 2011.

Additional Uncertainties:

- Unknown timing in recruiting patients and conducting the study based on GOG/NCI controlled study; and
  - Delays in the program.

ADX11-001 - Phase II Cancer of the Head and Neck Trial Summary Information (U.K. CRUK: target enrollment: up to 45 Patients)

- Cost incurred through April 30, 2011: Minimal.
- Estimated future clinical costs: approximately \$50,000 (CRUK to underwrite costs of \$3.0 million to \$4.0 million).
- Anticipated Timing: The CRUK is funding a study of up to 45 patients at 3 UK facilities that we expect will commence in 2011.

Additional Uncertainties:

- Unknown timing in recruiting patients and conducting the study based on CRUK controlling the study; and
  - Delays in the program.

ADXS31-142 - GMP Production and Phase I Trial Summary Information (Prostate Cancer: target enrollment: 30 Patients)

- Cost incurred through April 30, 2011: Minimal.
- Estimated future costs: approximately \$3.5 million.
- Anticipated Timing: to be determined.

Additional Uncertainties:

- FDA (or foreign regulatory authority) may not approve the study.

ADXS31-164 - Phase I trial Summary Information (Breast or Brain Cancer: target enrollment: 24 Patients)

- Cost incurred through April 30, 2011: Minimal.
- Estimated future costs: to be determined.
- Anticipated Timing: to be determined.

Additional Uncertainties: See ADXS31-164 (see prior Uncertainties)

Results of Operations

Three months ended April 30, 2011 compared to the three months ended April 30, 2010

Revenue

We did not record any revenue for the three months ended April 30, 2011. For the same period a year ago, revenue increased by approximately \$87,000, representing grant revenue.

Research and Development Expenses

Research and development expenses increased by approximately \$1,362,000 to approximately \$2,447,000 for the three months ended April 30, 2011 as compared with approximately \$1,085,000 for the same period a year ago principally attributable to clinical trial expenses increasing significantly resulting from the continuation of our clinical trials in the United States and India, which were initiated during the first fiscal quarter of 2010. In addition, overall compensation expense was higher in the current period resulting from additional employees, increased stock-based compensation and increases in salaries to existing employees.

We anticipate continued increases in R&D expenses as a result of expanded development efforts primarily related to clinical trials and product development. In addition, expenses will be incurred in the development of strategic and other relationships required to license, manufacture and distribute our product candidates.

General and Administrative Expenses

General and administrative expenses increased by approximately \$182,000 or 23%, to approximately \$962,000 for the three months ended April 30, 2011 as compared with approximately \$779,000 for the same period a year ago. This

was the result of higher legal, professional and other consulting fees in the current period as compared with the same period a year ago due to the Company's capital raising efforts. Overall compensation expense was lower in the current period resulting from higher salary costs in the prior period that did not repeat in the current period. Additionally, office and related expenses increased in the current period due to the relocation of the Company's operations to Princeton, NJ in April 2011 but were offset somewhat by lower travel expenses.

#### Interest Expense

For the three months ended April 30, 2011, interest expense decreased to approximately \$419,000 from approximately \$1,647,000 primarily resulting from the conversion, repayment of and maturation of Bridge Notes from the second fiscal quarter of 2010 through the current quarter ending April 30, 2011.

#### Other Expense/ Income

Interest income increased to approximately \$48,000 as compared to approximately \$15,000 in the same period a year ago as a result of interest earned on additional Optimus notes receivable. These notes are classified in the equity section of the balance sheet as a stock subscription receivable.

Other expense increased to approximately \$28,000 as compared to \$0 in the same period a year ago as a result of changes in foreign exchange rates relating to transactions with certain vendors.

#### Gain on Note Retirement

For the three months ended April 30, 2011, income from the gain on note retirement decreased to approximately \$6,000 from \$64,354 in the same period a year ago due to repayments of bridge notes in the current period compared with the same period a year ago.

#### Changes in Fair Values

The change in fair value of the common stock warrant liability and embedded derivative liability for both periods was approximately \$5.8 million resulting from increased share prices. In the current period, the Company's the share price increased from \$0.15 at January 31, 2011 to \$0.21 at April 30, 2011. During the period a year ago, the Company's share price increased from \$0.135 at January 31, 2010 to \$0.21 at April 30, 2010.

Potential future increases or decreases in our stock price will result in increased or decreased warrant and embedded derivative liabilities, respectively, on our balance sheet and therefore increased or decreased expenses being recognized in our statement of operations in future periods.

#### Results of Operations for the Six Months Ended April 30, 2011 and 2010

##### Revenue

We did not record any revenue for the six months ended April 30, 2011. For the same period a year ago, revenue increased by approximately \$87,000, representing grant revenue.

##### Research and Development Expenses

Research and development expenses increased by approximately \$2,352,000 to approximately \$4,434,000 for the six months ended April 30, 2011 as compared with approximately \$2,082,000 for the same period a year ago. This is principally attributable to clinical trial expenses increasing significantly resulting from the continuation of our clinical trials in the United States and India which were initiated during the first fiscal quarter of 2010. In addition, overall compensation expense was higher in the current period resulting from additional employees, increased stock-based compensation and increases in salaries to existing employees.

We anticipate continued increases in R&D expenses as a result of expanded development efforts primarily related to clinical trials and product development. In addition, expenses will be incurred in the development of strategic and other relationships required to license, manufacture and distribute our product candidates.

##### General and Administrative Expenses

General and administrative expenses increased by approximately \$576,000 or 42%, to approximately \$1,944,000 for the six months ended April 30, 2011 as compared with approximately \$1,368,000 for the same period a year ago, primarily as a result of the following: overall compensation expense was higher in the current period resulting from additional employees, increases in salaries to existing employees and higher stock based compensation. Legal, professional and other consulting fees also increased in the current period, along with travel and entertainment expenses, due to the Company's capital raising efforts. Additionally, office and related expenses grew in the current period due to the relocation of the Company's corporate and scientific operations to Princeton, NJ in April 2011. Lastly, the Company experienced an increase in non-cash expenses: amortization expense increased in the current period due to additions to our patent portfolio since the same period last year; warrant expense increased in the current period due to the issuance of additional warrants to a vendor and an investor.

#### Interest Expense

For the six months ended April 30, 2011, interest expense decreased to approximately \$951,000 from approximately \$3,313,000 primarily resulting from the conversion, payoff and maturation of Bridge Notes from the second fiscal quarter of 2010 through the current quarter ending April 30, 2011.

#### Other Expense/ Income

Interest income increased to approximately \$102,000 as compared to approximately \$17,000 in the same period a year ago as a result of interest earned on additional Optimus transaction notes receivable. These notes are classified in the equity section of the balance sheet as a stock subscription receivable.

For the six months ended April 30, 2011, other expense increased approximately \$44,000 as a result of changes in foreign exchange rates relating to transactions with certain vendors.

#### Gain on Note Retirement

For the six months ended April 30, 2011, income from the gain on note retirement decreased to approximately \$6,000 from \$64,354 in the same period a year ago due to less repayments of bridge notes in the current period compared with the same period a year ago.

#### Changes in Fair Values

The change in fair value of the common stock warrant liability and embedded derivative liability decreased to an expense of approximately \$1.99 million for the six months ending April 30, 2011 compared to expense of approximately \$6.88 million in the same period a year ago. During the current period, the Company recorded expense of \$5.83 million due to the share price increasing from \$0.15 at January 31, 2011 to \$0.21 at April 30, 2011, resulting in substantially all of the expense that was recorded to the change in fair value account. This increase in expense was partially offset by income of \$3.84 million being recorded to the change in fair value account due to the following: a decrease in the volatility of the underlying stock price decreased the liability associated with substantially all warrants, resulting in most of the income that was recorded to the change in fair value account. In addition, the share price declined from approximately \$0.15 at November 1, 2010 to \$0.147 at January 31, 2011, resulting in some of the income that was recorded to the change in fair value account. In total, the Company recorded net expense of \$1.99 million for the six months ended April 30, 2010.

During the period a year ago, the Company recorded expense of \$6.88 million as the share price increased from approximately \$0.13 at November 1, 2009 to \$0.21 at April 30, 2010, resulting in most of the expense that was recorded to the change in fair value account. Secondly, the exercise price of substantially all warrants decreased from \$0.20 to \$0.17, as a result of the January 11, 2010 trigger of anti-dilution provisions in the warrant agreements, effectively increasing the liability associated with substantially all warrants, resulting in some of the expense that was recorded to the change in fair value account.

Potential future increases or decreases in our stock price will result in increased or decreased warrant and embedded derivative liabilities, respectively, on our balance sheet and therefore increased or decreased expenses being recognized in our statement of operations in future periods.

#### Income Tax Benefit

In the six months ended April 30, 2011 income tax benefit increased by \$100,494, to \$379,472 in income, due to a gain recorded from the receipt of a Net Operating Loss ("NOL") tax credit from the State of New Jersey tax program compared to the \$278,978 in NOL tax credits received from the State of New Jersey tax program in the six months ended April 30, 2010.

#### Fiscal Year 2010 Compared to Fiscal Year 2009



## Revenue

Revenue increased by approximately \$478,791 to \$508,481 for the year ended October 31, 2010, as compared with \$29,690 for the same period a year ago, as a result of grant revenue received by us.

## Research and Development Expenses

Research and development expenses increased by approximately \$2,589,000 to \$4,904,298 for the year ended October 31, 2010 as compared with \$2,315,557 for the same period a year ago. This increase is almost entirely attributable to clinical trial expenses, which increased significantly in the current fiscal year due to our clinical trial activity in the United States and India, initiated during the first fiscal quarter of 2010.

We anticipate a significant increase in research and development expenses as a result of expanded development and commercialization efforts primarily related to clinical trials and product development. In addition, expenses will be incurred in the development of strategic and other relationships required to license manufacture and distribute our product candidates.

### General and Administrative Expenses

General and administrative expenses increased by approximately \$829,000 or 22%, to \$3,530,198 for the year ended October 31, 2010 as compared with \$2,701,133 for the same period a year ago. This is primarily attributable to overall compensation expense being higher in the current fiscal year resulting from additional employees, costs related to a former employee and stock-based non cash compensation resulting from the issuance of 750,000 shares of our common stock pursuant to an executive's employment agreement with us. Overall professional fees also increased in the current year as a result of higher recruiting, legal and accounting fees in fiscal 2010 compared with a year ago. In addition, consulting and travel fees increased in the current fiscal year primarily due to increased efforts by us to present our scientific and business plans. We also recognized approximately \$206,000 in non-cash warrant expense, as compared to \$0 in the prior fiscal year, as a result of additional warrants that were issued to senior and junior bridge note holders in September 2010. All of the above increases were somewhat offset by higher offering expenses in fiscal 2009 that did not repeat in the current fiscal year.

### Interest Expense/Income

In the year ended October 31, 2010, net interest expense increased by approximately \$3 million to \$3,814,863 compared to \$851,008 for the same period a year ago, primarily because in the fiscal year ended October 31, 2010 we recognized both (i) twelve months of interest expense for notes sold during the third and fourth fiscal quarters of 2009 and (ii) partial-year interest expense for notes sold in the fiscal year ended October 31, 2010 whereas in the fiscal year ended October 31, 2009 we only recognized partial-year interest expense for notes sold during the third and fourth fiscal quarters of 2009. Additionally, the debt discount, warrant liabilities and embedded derivatives related to the notes are recorded as a liability on the balance sheet and are amortized to interest expense over the life of the notes. Interest income earned during the year ended October 31, 2010 of approximately \$80,000 was the result of interest earned from the Optimus notes receivable. These notes are classified in the equity section of the balance sheet as a stock subscription receivable.

### Changes in Fair Values

The change in fair value of the common stock warrant liability and embedded derivative liability increased income by approximately \$446,000 for the year ended October 31, 2010 compared to approximately \$5.8 million the same period a year ago. During the fiscal year ended October 31, 2009 we recorded income due to changes in management's assumptions used to calculate the fair value of our warrant and embedded derivative liability. This change in assumption substantially decreased both the number of warrants and related BSM values used in calculating the warrant liability, therefore decreasing the overall warrant and embedded derivative liability at October 31, 2009. For the first nine months of the fiscal year ended October 31, 2010, the BSM values associated with these warrants and embedded derivatives increased resulting from the increase in the price of our common stock, from \$0.135 at October 31, 2009 to \$0.17 at July 31, 2010. However, from July 31 to October 31, 2010, the number of outstanding warrants increased due to a decrease in their exercise price and the BSM values decreased due to a decline in the price of our common stock, resulting in our recording income for the full year.

Potential future increases or decreases in our stock price will result in increased or decreased warrant and embedded derivative liabilities, respectively, on our balance sheet and therefore increased expenses being recognized in our statement of operations in future periods.

For the fiscal year ended October 31, 2010, we recorded income of approximately \$124,000 on the non-cash gain on the early retirement of certain senior and junior bridge notes.

### Income Tax Benefit

For the fiscal year ended October 31, 2010, other income decreased by approximately \$643,000, to approximately \$279,000 as compared to approximately \$922,000 a year ago, primarily due to the fiscal 2009 period NOL being the first time we received funds from the program and so the award covered all prior fiscal years' NOLs from our inception whereas the award for the fiscal year ended October 31, 2010 covered only the current fiscal year's NOL and prior two fiscal years of the research tax credit.

#### Liquidity and Capital Resources

Since our inception through April 30, 2011, the Company has reported accumulated net losses of approximately \$37.5 million and recurring negative cash flows from operations. We anticipate that we will continue to generate significant losses from operations for the foreseeable future.

Cash used in operating activities, for the six months ending April 30, 2011, was approximately \$3.2 million, primarily as a result of the following: increased R&D spending on clinical trials and higher general and administrative spending.

Cash used in investing activities, for the six months ending April 30, 2011, was approximately \$191,000 resulting from legal cost spending in support of our intangible assets (patents) and costs paid to the University of Pennsylvania for patent research.

Cash provided by financing activities, for the six months ending April 30, 2011, was approximately \$4.2 million, primarily as a result of the sale of preferred stock to Optimus in addition to proceeds received from the sale of junior unsecured convertible notes.

Our limited capital resources and operations to date have been funded primarily with the proceeds from public, private equity and debt financings, NOL tax sales and income earned on investments and grants. We have sustained losses from operations in each fiscal year since our inception, and we expect losses to continue for the indefinite future, due to the substantial investment in research and development. As of October 31, 2010 and April 30, 2011, we had an accumulated deficit of \$27,416,000 and \$36,294,750, respectively and shareholders' deficiency of \$14,802,631 and \$22,238,081, respectively.

During May 2011 the Company sold \$7.1 million of Convertible promissory notes for a net purchase price of \$6.0 million and received cash from warrant exercises in the amount of approximately \$350,000. This cash was used to reduce overdue payables and finance day to day operations.

Based on our available cash of approximately \$3,400,000 on June 3, 2011, we do not have adequate cash on hand to cover our anticipated expenses for the next 12 months. If we fail to raise a significant amount of capital, we may need to significantly curtail or cease operations in the near future. These conditions have caused our auditors to raise substantial doubt about our ability to continue as a going concern. Consequently, the audit report prepared by our independent public accounting firm relating to our financial statements for the year ended October 31, 2010 included a going concern explanatory paragraph.

Our business will require substantial additional investment that we have not yet secured, and our failure to raise capital and/or pursue partnering opportunities will materially adversely affect our business, financial condition and results of operations. We expect to spend substantial additional sums on the continued administration and research and development of proprietary products and technologies, including conducting clinical trials for our product candidates, with no certainty that our products will become commercially viable or profitable as a result of these expenditures. Further, we will not have sufficient resources to develop fully any new products or technologies unless we are able to raise substantial additional financing on acceptable terms or secure funds from new partners. We cannot be assured that financing will be available at all. Any additional investments or resources required would be approached, to the extent appropriate in the circumstances, in an incremental fashion to attempt to cause minimal disruption or dilution. Any additional capital raised through the sale of equity or convertible debt securities will result in dilution to our existing stockholders. However, no assurances can be given that we will be able to achieve these goals or that we will be able to continue as a going concern.

We are pursuing additional investments, grants, partnerships as well as collaborations and exploring other financing options, with the objective of minimizing dilution and disruption.

Pursuant to the Series B purchase agreement, as amended, Optimus has agreed to purchase, upon the terms and subject to the conditions set forth therein and described below, up to \$7.5 million of our newly authorized, non-convertible, redeemable Series B preferred stock at a price of \$10,000 per share, of which \$2.84 million of Series B preferred stock remains available for purchase. Under the terms of the Series B purchase agreement, as amended, we may from time to time until July 19, 2013, present Optimus with a notice to purchase a specified amount of Series B preferred stock. Subject to satisfaction of certain closing conditions, Optimus is obligated to purchase such shares of Series B preferred stock on the 10th trading day after the date of the notice. We will determine, in our sole discretion, the timing and amount of Series B preferred stock to be purchased by Optimus, and may sell such shares in multiple tranches. Optimus will not be obligated to purchase the Series B preferred stock upon our notice (i) in the event the closing price of our common stock during the nine trading days following delivery of our notice falls below 75% of the closing price on the trading day prior to the date such notice is delivered to Optimus or (ii) to the extent such

purchase would result in Optimus and its affiliates beneficially owning more than 9.99% of our outstanding common stock.

As of April 30, 2011, we had issued and sold 466 shares of Series B preferred stock to Optimus pursuant to the terms of the Series B purchase agreement, as amended. We received net proceeds of approximately \$4.19 million from this transaction. The aggregate purchase price for the Series B preferred stock was \$4.66 million. As of April 30, 2011, under the terms of the Series B purchase agreement, as amended, Optimus remained obligated, from time to time until July 19, 2013, to purchase up to an additional 284 shares of Series B preferred stock at a purchase price of \$10,000 per share upon notice from us to Optimus, if certain conditions set forth in the Series B purchase agreement, as amended, are satisfied.

On December 30, 2010, immediately following the closing of the sale of 72 shares of Series B preferred stock to Optimus pursuant to the terms of the Series B purchase agreement, we redeemed 226 shares of Series B Preferred Stock held by Optimus for an aggregate redemption price of \$3,141,004 consisting of (i) cash in an amount of \$76,622 and (ii) the cancellation of certain promissory notes issued by an affiliate of Optimus to us in the aggregate amount of \$3,064,382. The Company redeemed the shares of Series B Preferred Stock, at a price per share equal to 136% of the Liquidation Value (defined as the original price per share plus all accrued dividends thereon) since the redemption was prior to the first anniversary of the issuance date, as stated in the Series B Preferred Stock Agreement.

In connection with the Series B preferred equity financing, an affiliate of Optimus was granted on July 19, 2010 a warrant to purchase up to 40,500,000 shares of our common stock at an exercise price of \$0.25 to be adjusted in connection with the draw down of each tranche. As permitted by the terms of such warrant, the aggregate exercise price of \$6,291,000 received by us as of April 30, 2011 is payable pursuant to four year full recourse promissory notes each bearing interest at the rate of 2% per year.

On September 24, 2009, we entered into a preferred stock purchase agreement with Optimus, which we refer to as the Series A purchase agreement, pursuant to which Optimus agreed to purchase, upon the terms and subject to the conditions set forth therein, up to \$5.0 million of Series A preferred stock at a price of \$10,000 per share. As of May 13, 2010, all 500 shares of Series A preferred stock were issued and sold to Optimus. On July 19, 2010, we issued 500 shares of Series B preferred stock to Optimus, which we refer to as the Series B exchange shares, in exchange for the 500 shares of Series A preferred stock so that all shares of our preferred stock held or subsequently purchased by Optimus under the Series B purchase agreement, as amended, would be redeemable upon substantially identical terms. In connection with the Series A preferred equity financing, an affiliate of Optimus was granted on September 24, 2009 a warrant to purchase up to 33,750,000 shares of our common stock at an exercise price of \$0.20 to be adjusted in connection with the draw down of each tranche. On January 11, 2010, the draw down date of the first tranche, the affiliate of Optimus exercised a portion of the warrant to purchase 11,563,000 shares of common stock at an adjusted exercise price of \$0.17 per share. On March 29, 2010, the draw down date of the second tranche, the affiliate of Optimus exercised a portion of the warrant to purchase 14,580,000 shares of common stock at an exercise price of \$0.20 per share. On May 13, 2010, the draw down date of the final tranche, the affiliate of Optimus exercised the remainder of the warrant to purchase 7,607,000 shares of common stock at an adjusted exercise price of \$0.18 per share. In each case, we agreed with Optimus and its affiliate to waive certain terms and conditions in the Series A purchase agreement and the warrant in order to permit the affiliate of Optimus to exercise the warrant at such adjusted exercise prices prior to the closing of the purchase of the Series A preferred stock and acquire beneficial ownership of more than 4.99% of our common stock on the date of each exercise. As permitted by the terms of such warrant, the aggregate exercise prices of \$1,965,710, \$2,916,000 and \$1,369,260 for the first tranche, second tranche and final tranche, respectively, received by us is payable pursuant to three separate four year full recourse promissory notes each bearing interest at the rate of 2% per year. In addition, in connection with the draw down of the final tranche, we issued an additional warrant to an affiliate of Optimus to purchase up to 2,818,000 shares of common stock at an exercise price of \$0.18 per share, subject to customary anti-dilution adjustments (the exercise price of which may also be paid at the option of the affiliate of Optimus in cash or by its issuance of a promissory note on the same terms as the foregoing promissory notes). The foregoing promissory notes are not due or payable at any time that (a) we are in default of under the Series A preferred stock purchase agreement, any loan agreement or other material agreement or (b) there are any Series B exchange shares issued or outstanding.

On June 18, 2009, we completed the senior bridge financing. The senior bridge financing was a private placement with certain accredited investors pursuant to which we issued (i) senior bridge notes in the aggregate principal face amount of \$1,131,353, for an aggregate net purchase price of \$961,650 and (ii) senior bridge warrants to purchase 2,404,125 shares of our common stock at an exercise price of \$0.20 per share (prior to giving effect to anti-dilution adjustments which have subsequently reduced the exercise price to \$0.15 per share), subject to adjustments upon the occurrence of certain events. Each of the senior bridge notes were issued with an original issue discount of 15% and were convertible into shares of our common stock in certain circumstances. The senior bridge notes had an initial maturity date of December 31, 2009. During January and February 2010, we repaid \$834,852 of the \$1,131,353 in face value of our senior bridge notes. In addition, holders of the remaining \$296,501 of our senior bridge notes agreed to extend the maturity dates from December 31, 2009 to periods into February and March 2010. We have agreed to issue additional consideration, including warrants to senior bridge note holders, all of whom agreed to extend the maturity period beyond December 31, 2009. As of April 30, 2011, we had one outstanding senior bridge note with approximately \$89,000 in principal value and \$26,471 in accrued interest remaining. In May 2011, we received a notice of intent to convert the principal and accrued interest on the outstanding senior bridge note into shares of our common stock.

From November 1, 2009 through January 31, 2011, we issued to certain accredited investors (i) junior bridge notes in the aggregate principal face amount of approximately \$2,860,000 for an aggregate net purchase price of approximately \$2,490,000 and (ii) warrants to purchase 8,816,745 shares of our common stock (including additional warrants issued as a result of anti-dilution provisions triggered in January 2010 and/or note exchanges), which we

refer to as junior bridge warrants, at original exercise prices ranging from \$0.15 to \$0.25 per share, subject to adjustments upon the occurrence of certain events. These junior bridge notes were issued with original issue discounts ranging from 5% to 18% and are convertible into shares of our common stock. These junior bridge notes mature on or before May 31, 2011.

As a result of anti-dilution provisions in the senior bridge warrants, certain of the junior bridge warrants and the warrants issued in connection with the equity financings completed in October 2007 being triggered by the tranche take down under the Series B purchase agreement in September 2010, we agreed to issue an additional 616,136 warrants to some of the junior bridge note investors at an exercise price of \$0.15 per share and agreed to reduce the exercise price of the warrants held by such senior and junior bridge note investors to \$0.15 per share (formerly ranging from \$0.17 to \$0.25 per share).

From November 1, 2009 through April 30, 2011, we repaid a total of approximately \$1,730,000 in principal value of junior bridge notes and converted \$2,420,000 in principal value of junior bridge notes into 14,237,489 shares of our common stock. At April 30, 2011, approximately \$2,216,000 in principal value of junior bridge notes remained outstanding and is classified as a current liability on the balance sheet. The indebtedness represented by these junior bridge notes is expressly subordinate to our currently outstanding senior secured indebtedness (approximately \$89,000 of senior bridge notes at April 30, 2011).

As a result of anti-dilution protection provisions contained in certain of our outstanding warrants, we (i) reduced the exercise price from \$0.20 to \$0.17 per share in January 2010 and further reduced the exercise price from \$0.17 to \$0.15 per share in September 2010 with respect to substantially all the warrants to purchase shares of our common stock and (ii) correspondingly adjusted the amount of warrant shares issuable such that approximately 11.4 million additional warrant shares are issuable related to the January 2010 repricing and approximately 10.4 million additional warrant shares are issuable related to the September 2010 repricing. As of April 30, 2011, approximately 87.6 million warrant shares are currently exercisable at \$0.15 per share.

On September 22, 2008 we entered into a note purchase agreement with our Chief Executive Officer, Thomas A. Moore, pursuant to which we agreed to sell to Mr. Moore, from time to time, Moore Notes, which we refer to as the Moore Agreement. The Moore Notes have been amended from time to time. During 2010, we agreed to amend the terms of the Moore Notes such that Mr. Moore may elect, at his option, to receive accumulated interest thereon (of which we paid \$130,000 on March 17, 2010) and that we will begin to make installment payments on the outstanding principal beginning on April 15, 2010 (of which \$250,000 was paid during the year ended October 31, 2010); provided, however, that the balance of the principal will be repaid in full as a result of either (i) consummation of our next equity financing resulting in gross proceeds to the company of at least \$6.0 million or (ii) default by the company as defined under the terms of the Moore Agreement. Additionally, we agreed to retain \$200,000 of the repayment amount for investment in our next equity financing (Mr. Moore exchanged debt with the principal amount of \$200,000 into 1,176,471 shares of our common stock in May 2010).

In connection with a loan made by Mr. Moore to the company in the amount of \$230,000, we agreed to amend and restate the terms of the Moore Notes on March 17, 2011 to increase the principal amount by \$230,000. Under the terms of the amended and restated Moore Notes: (i) the maturity date is the earlier of (x) the date of consummation of an equity financing by us in an amount of \$6.0 million or more and (y) the occurrence of any event of default as defined in the Moore Notes, (ii) Mr. Moore may elect, at his option, to receive accumulated interest thereon on or after April 15, 2011 (which we expect will amount to approximately \$91,000), (iii) we will make monthly installment payments of \$100,000 on the outstanding principal amount beginning on June 15, 2011, and (iv) we may retain, at the option of Mr. Moore, \$200,000 of the repayment amount for investment in our next equity financing.

For the three months ending April 2011, Mr. Moore loaned the Company, in total, \$295,000 under the terms of the amended and restated Moore Notes as described above.

The Moore Notes bear interest at a rate of 12% per annum and may be prepaid in whole or in part at our option without penalty at any time prior to maturity.

For the three months ending April 30, 2011, the Company did not make any interest or principal payments to Mr. Moore. As of April 30, 2011, the Company was not in default under the terms of the Moore Agreement. As of April 30, 2011, the Company owed Mr. Moore approximately \$873,000 in principal and approximately \$97,000 in accrued interest under the Moore Notes.

In October 2010, we received an IRS grant under the Qualified Therapeutic Discovery Program for approximately \$245,000. We plan to sell our Net Operating Losses and research tax credits for the 2009 fiscal year under the same State of New Jersey NOL Transfer Program for small business.

#### Off-Balance Sheet Arrangements

As of April 30, 2011, we had no off-balance sheet arrangements, other than our lease for space. There were no changes in significant contractual obligations during the six months ended April 30, 2011.



### Critical Accounting Estimates

The preparation of financial statements in accordance with GAAP accepted in the U.S. requires management to make estimates and assumptions that affect the reported amounts and related disclosures in the financial statements. Management considers an accounting estimate to be critical if:

- It requires assumption to be made that were uncertain at the time the estimate was made, and
- Changes in the estimate of difference estimates that could have been selected could have material impact in our results of operations or financial condition.

Actual results could differ from those estimates and the differences could be material. The most significant estimates impact the following transactions or account balances: stock compensation, liabilities, warrant valuation, impairment of intangibles, fixed assets and projected operating results.

**Share-Based Payment.** We record compensation expense associated with stock options in accordance with Financial Accounting Standards Board (“FASB”) Accounting Standards Codification (“ASC”) Topic 718, Stock Compensation (formerly, FASB Statement 123R). We adopted the modified prospective transition method provided under SFAS No. 123R. Under this transition method, compensation expense associated with stock options recognized in the first quarter of fiscal year 2007, and in subsequent quarters, includes expense related to the remaining unvested portion of all stock option awards granted prior to April 1, 2006, the estimated fair value of each option award granted was determined on the date of grant using the Black-Scholes option valuation model, based on the grant date fair value estimated in accordance with the original provisions of SFAS No. 123.

We estimate the value of stock options awards on the date of grant using the Black-Scholes-Merton option-pricing model. The determination of the fair value of the share-based payment awards on the date of grant is affected by our stock price as well as assumptions regarding a number of complex and subjective variables. These variables include our expected stock price volatility over the term of the awards, expected term, risk-free interest rate, expected dividends and expected forfeiture rates. The forfeiture rate is estimated using historical option cancellation information, adjusted for anticipated changes in expected exercise and employment termination behavior. Our outstanding awards do not contain market or performance conditions; therefore we have elected to recognize share based employee compensation expense on a straight-line basis over the requisite service period.

If factors change and we employ different assumptions in the application of ASC 718 in future periods, the compensation expense that we record under ASC 718 relative to new grants may differ significantly from what we have recorded in the current period. There is a high degree of subjectivity involved when using option-pricing models to estimate share-based compensation under ASC 718. Consequently, there is a risk that our estimates of the fair values of our share-based compensation awards on the grant dates may bear little resemblance to the actual values realized upon the exercise, expiration, early termination or forfeiture of those share-based payments in the future. Employee stock options may expire worthless or otherwise result in zero intrinsic value as compared to the fair values originally estimated on the grant date and reported in our financial statements. Alternatively, value may be realized from these instruments that are significantly in excess of the fair values originally estimated on the grant date and reported in our financial statements.

#### Warrants.

Warrants were issued in connection with the equity financings completed in October 2007, the sale of preferred stock and the issuance of our senior and junior bridge notes. At April 30, 2011, we estimated the fair value of the outstanding instruments using the Black-Scholes valuation model, which takes into account a variety of factors, including historical stock price volatility, risk-free interest rates, remaining term and the closing price of our common stock. Changes in assumptions used to estimate the fair value of these derivative instruments could result in a material change in the fair value of the instruments. We believe the assumptions used to estimate the fair values of the warrants are reasonable.

As of April 30, 2011, we had outstanding warrants to purchase 117,140,234 shares of our common stock (adjusted for anti-dilution provisions to-date) including approximately 87.6 million warrants with an exercise price of \$0.15 per share. These warrants include 25,610,038 warrants owned by Optimus as part of the Series B purchase agreement.

#### New Accounting Pronouncements

In April 2010, FASB issued Accounting Standards Update (ASU) 2010-17, Revenue Recognition—Milestone Method (Topic 605) - Milestone Method of Revenue Recognition - a consensus of the FASB Emerging Issues Task Force . This ASU provides guidance to vendors on the criteria that should be met for determining whether the milestone method of revenue recognition is appropriate. This guidance is effective prospectively for revenue arrangements

entered into or materially modified in fiscal years beginning on or after June 15, 2010. Early adoption is permitted.

Management does not believe that any other recently issued, but not yet effective, accounting standards if currently adopted would have a material effect on the accompanying financial statements.

## DESCRIPTION OF BUSINESS

### General

We are a development stage biotechnology company with the intent to develop safe and effective cancer vaccines that utilize multiple mechanisms of immunity. We are developing a live *Listeria* vaccine technology under license from Penn, which secretes a protein sequence containing a tumor-specific antigen. We believe this vaccine technology is capable of stimulating the body's immune system to process and recognize the antigen as if it were foreign, generating an immune response able to attack the cancer. We believe this to be a broadly enabling platform technology that can be applied to the treatment of many types of cancers, infectious diseases and auto-immune disorders.

The discoveries that underlie this innovative technology are based upon the work of Yvonne Paterson, Ph.D., Professor of Microbiology at Penn. This technology involves the creation of genetically engineered Listeria that stimulate the immune system to induce antigen-specific anti-tumor immune response involving both innate and adaptive arms of the immune system. In addition, this technology facilitates the immune response by altering tumors to make them more susceptible to immune attack, and increasing the number and maturation of development of specific cells that underlie a strong therapeutic immune response.

We have focused our initial development efforts upon therapeutic cancer vaccines targeting cervical cancer, its predecessor condition, CIN, head and neck cancer, breast cancer, prostate cancer, and other cancers. Our lead products in development are as follows:

Product	Indication	Stage
ADX11-001	Cervical Cancer	Phase I Company sponsored & completed in 2007.
	Cervical Intraepithelial Neoplasia	Phase II Company sponsored study; commenced in March 2010 (with patient dosing having commenced in June 2010).
	Cervical Cancer	Phase II Company sponsored study initiated in November 2010 in India. 110 Patients with advanced cervical cancer.
	Cervical Cancer	Phase II The Gynecologic Oncology Group of the National Cancer Institute has agreed to conduct a study which we expect will commence in early 2011.
	Head & Neck Cancer	Phase I The Cancer Research UK (CRUK) is funding a study of up to 45 patients at 3 UK facilities that we expect will commence in early 2011.
ADX31-142	Prostate Cancer	Phase I Company sponsored (timing to be determined).
ADX31-164	Breast Cancer	Phase I Company sponsored (timing to be determined).
ADX31-164	Canine Osteosarcoma	Phase I Company sponsored (timing to be determined).

We have sustained losses from operations in each fiscal year since our inception, and we expect these losses to continue for the indefinite future, due to the substantial investment in research and development. As of October 31, 2010 and April 30, 2011, we had an accumulated deficit of \$27,416,000 and \$36,294,750, respectively and shareholders' deficiency of \$14,802,631 and \$22,238,081, respectively.

To date, we have outsourced many functions of drug development including; manufacturing, and clinical trials management. Accordingly, the expenses of these outsourced services account for a significant amount of our accumulated loss. We cannot predict when, if ever, any of our product candidates will become commercially viable or approved by the FDA. We expect to spend substantial additional sums on the continued administration and research and development of proprietary products and technologies, including conducting clinical trials for our product candidates, with no certainty that our products will become commercially viable or profitable as a result of these expenditures.

## Strategy

During the next 24 months, we will focus on developing sufficient human clinical data on ADXS11-001, our first *Listeria* construct, to demonstrate clinical effectiveness in cervical cancer and its medical predecessor condition, CIN. Beyond effectiveness specifically against HPV oncogenes, we also want to demonstrate more broadly that attenuated *Listeria* that secretes an antigen adjuvant fusion protein is an effective platform for multiple therapies against cancer and infectious disease. In the U.S., we have initiated a single blind, placebo controlled Phase II clinical trial of ADXS11-001 with three dosage arms in Cervical Intraepithelial Neoplasia (cervical dysplasia, CIN), a pre cancerous condition. In India, we have launched a 110 patient Phase II trial in advanced cervical cancer in women who have progressed after receiving cytotoxic therapy.

Within the next three months we will initiate in the U.S. another NCI-supported study in late stage cervical cancer, and a head and neck cancer study with CRUK in the United Kingdom, which we refer to as the U.K. We have signed an agreement to collaborate in a clinical trial with the Gynecologic Oncology Group (GOG), one of NIH's clinical research groups, which will underwrite the cost and whose members will execute the trial. It is expected that this U.S. Phase II multi-center study will result in a cost avoidance benefit to us valued at between \$7 million to \$8 million in trial expenses. The CRUK initial study is expected to be worth between \$2.5 and 3.5 million.

We have entered into a clinical trials agreement with the School of Veterinary Medicine at Penn to investigate the use of our compound ADXS31-164 for the treatment of osteosarcoma in dogs. This disease is the leading cancer killer of large dogs and is a model for the treatment of human osteosarcoma, the leading fatal bone cancer in adolescents.

We have also initiated production of two new human grade vaccines for which we expect to begin clinical development in 2011. Planning has begun for Phase I trials for ADXS31-142 for the treatment of prostate cancer, and ADXS31-164 for the treatment of breast, brain and other cancers.

Although we have been successful in obtaining clinical funding from the U.S. and the U.K., in order to implement our strategy, we will require substantial additional investment in the near future. Our failure to raise capital or pursue partnering opportunities will materially and adversely affect both our ability to commence or continue the clinical trials described above and our business, financial condition and results of operations, and could force us to significantly curtail or cease operations. Further, we will not have sufficient resources to develop fully any new products or technologies unless we are able to raise substantial additional financing over and above the preferred stock financing on acceptable terms or secure funds from new partners.

Given our expertise in genetically modifying *Listeria* to create vaccines for many different diseases, our longer term strategy will be to license the commercial development of ADXS11-001 for the indications of CIN, cervical and head and neck cancers, and other HPV related diseases. On a global basis, these indications are extremely large and will require one or more significant partners. We do not intend to engage in commercial development beyond Phase II without entering into one or more partnerships or a license agreement.

We intend to continue to devote a substantial portion of our resources to basic science and the continued pre-clinical development and optimization of our technology so as to develop it to its full potential and to find additional new drug candidates. These activities may require significant financial resources, as well as areas of expertise beyond those readily available. In order to provide additional resources and capital, we may enter into research, collaborative or commercial partnerships, joint ventures, or other arrangements with competitive or complementary companies, including major international pharmaceutical companies or universities.

## Background

### Cancer

Cancer is the second largest cause of death in the U.S., exceeded only by heart disease. The cost of treating cancer patients in 2008 was estimated to be \$228.1 billion in healthcare costs and another \$188 billion in indirect costs resulting from morbidity and lost productivity (source: Facts & Figures 2009, American Cancer Society). The American Cancer Society's most recent estimates for newly diagnosed cervical cancer in the U.S. in 2010 was 12,200 and numbers for newly diagnosed CIN are approximately about 250,000 patients per year based on 3.5 million abnormal Pap smears (source: Jones HW, Cancer 1995;76:1914-18; Jones BA and Davey, Arch Pathol Lab Med 2000; 124:672-81). Overall predicted incidence and mortality rates for 2009 are set forth below:

### US Cancer Rates (2009 Estimated)

Percent of U.S. deaths due to cancer in 2006

### Immune System and Normal Antigen Processing

People, are continually confronted with potentially infectious agents. The immune system has evolved multiple mechanisms to fight disease, including innate immunity, two forms of adaptive immunity humoral (antibody), and cellular immunity that mobilize the body's natural defenses against these foreign agents to eliminate them.

#### Innate Immunity:

Innate immunity is the first step in the recognition of a foreign antigen. It is a non-specific protective response that also underlies the generation of an adaptive (antigen- specific) immune responses. It is characterized by the release of various soluble mediators of immune response such as cytokines, chemokines and other molecules.

#### Exogenous pathway of Adaptive Immunity (Class II pathway):

Proteins and foreign molecules ingested by Antigen Presenting Cells, or APCs, are broken down inside digestive vacuoles into small pieces, and the pieces are combined with proteins called Class 2 MHC (for Major Histocompatibility Complex) in a part of the cell called the endoplasmic reticulum. The MHC-peptide, termed and MHC-2 complex from the Class 2 (or exogenous) pathway, migrates to the cell surface where it interacts with certain classes of lymphocytes (CD4+) called helper T-cells that support the function of cytotoxic T-lymphocytes (killer T cells). This interaction renders CD4+ cells antigen specific, and they express their function whenever they encounter the antigen to which they've been activated. This system is called the exogenous pathway, since it is the prototypical response to an antigen from outside of the cell, like bacteria.

#### Endogenous pathway of Adaptive Immunity (Class I pathway):

The endogenous pathway provides immune protection against antigens created within the cytoplasm of the APC (as opposed to exogenous molecules contained within the digestive phagosome). These intracellular antigens are typically broken down by within the cell and directed to the endoplasmic reticulum, where they are incorporated into an MHC-1 protein and trafficked to the cell surface. MHC-1 complexes activate CD8+ cytotoxic T-lymphocytes, which then kill cells that express the specific antigen to which these cells are now activated. The endogenous pathway is needed for elimination of virus-infected or cancerous cells.

Listeria generated adaptive immune responses are directed at the activation of T cells. Listeria tends not to stimulate antibody formation.

Listeria based vaccines are unique for many reasons, one of which is that unlike viral vectors, DNA or peptide antigens or other vaccines, Listeria stimulates all of the above mechanisms of immune action. We use a bioengineered form of Listeria to activate the immune system to treat cancer, infectious diseases, or allergic syndromes. Our technology allows the body to recognize tumor-associated or tumor-specific antigens as foreign, thus creating the immune response needed to attack the cancer. It does this by utilizing a number of biological characteristics of the Listeria bacteria and Advaxis proprietary antigen-fusion protein technology to stimulate multiple therapeutic immune mechanisms simultaneously in an integrated and coordinated manner.

#### Mechanism of Action

Listeria monocytogenes ( Lm ) is a bacterium well known to medical science because it can cause an infection in humans. Listeria is a rare, but serious, cause of food poisoning, typically in the very old, the very young, people who are either immunocompromised or who eat a large quantity of the microbe as can occur in spoiled food. It is not laterally transmitted from person to person. As Lm is in the soil and thus found on leafy vegetables, in meat and dairy products, and is a common microbe in our environment, we are exposed to it constantly. Most people ingest Listeria without being aware of it, but in high quantities or in immune suppressed people Listeria can cause various clinical conditions, including sepsis, meningitis and placental infections in pregnant women. This is rare, and fortunately, many common antibiotics can kill and sterilize Listeria. Advaxis has a number of strains of Listeria that are bioengineered for use as a human vaccine vector. These vaccines are highly attenuated, which means they are much less pathogenic. Advaxis vaccines are between 10,000 and 100,000 times weaker (and less able to cause disease) than wild type Listeria.

Live Listeria is one of the strongest known stimulators of the innate immune system, thereby priming the adaptive immune system to better respond to the specific antigens that the Listeria carries, which viruses and other vectors do not do. This is a non-specific stimulation of the overall immune system that results when certain classes of pathogens such as bacteria are detected. It provides some level of immune protection and also serves to prime the elements of adaptive immunity to respond in a stronger way to the specific antigenic stimulus. Listeria stimulates a strong innate response which engenders a strong adaptive response.

APCs are scavenging cells in the body that circulate looking for foreign invaders. When they find one, they ingest it, break it down, and provide the fragments as molecular targets for the immune system to attack. In this way they are the cells that direct a specific immune response, and Listeria has the ability to infect them. Because Listeria infects APC, and our vaccines secrete biologically active molecules from within APC, our live attenuated Lm vaccines have the ability to direct an immune attack in a way no other therapy can.





When *Listeria* enters the body, it is seen as foreign by the antigen presenting cells and ingested into cellular compartments called phagolysosomes, whose destructive enzymes kill most of the bacteria. A certain percentage of these bacteria, however, are able to break out of the phagolysosomes and enter into the cytoplasm of the cell, where they are relatively safe from the immune system. The bacteria multiply in the cell, and the *Listeria* is able to move to its cell surface so it can push into neighboring cells and spread.

Figs 1-7. When *Listeria* enters the body, it is seen as foreign by the antigen presenting cells and ingested into cellular compartments called phagolysosomes, whose destructive enzymes kill most of the bacteria, fragments of which are then presented to the immune system via the exogenous pathway.

Figs 8-10. A certain percentage of bacteria is able to break out of the lysosomes and enter into the cytoplasm of the cell, where they are safe from lysosomal destruction. The bacteria multiply in the cell, and the *Listeria* is able to migrate into neighboring cells and spread without entering the extracellular space. Antigens produced by these bacteria enter the Class I pathway and directly stimulate a cytotoxic T cell response.

It is the details of *Listeria* intracellular activity that are important for understanding Advaxis technology. Inside the lysosome, *Listeria* produces listeriolysin-O, or LLO, a protein that creates a hole in the membrane of the lysosome that allows the bacteria to escape into the cytoplasm. Once in the cytoplasm, however, LLO is also capable of creating a hole in the outer cell membrane. This would destroy the host cell. To prevent this, the body has evolved a mechanism for recognizing enzymes with this capability based upon their amino acid sequence. The sequence of approximately 30 amino acids in LLO and similar molecules is called the PEST sequence (for the predominant amino acids it contains). When a PEST sequence is detected it is used by normal cells to force the termination of proteins that need only have a short life in the cytoplasm. This PEST sequence serves as a routing tag that tells the cells to route the LLO in the cytoplasm to the proteasome for digestion, which terminates its action and provides fragments that then go to the endoplasmic reticulum, where it is processed just like a protein antigen in the endogenous pathway to generate MHC-1 complexes.

This mechanism is used by *Listeria*, to its benefit, because the actions of LLO enable the bacteria to avoid digestion in the lysosome and escape to the cytosol where they can multiply and spread and then be neutralized so that it does not kill the host cell. Advaxis is using a technology that co-opts this mechanism by creating a protein that is comprised of the cancer antigen fused to a non-hemolytic portion of the LLO molecule that contains the PEST sequence. This serves to route the molecule for accelerated proteolytic degradation which accelerates both the rate of antigen breakdown and the amount of antigen fragments available for incorporation in to MHC-1 complexes; thus increasing the stimulus to activate cytotoxic T cells against a tumor -specific antigen. Moreover, LLO is a very strong adjuvant, which means it is a strong stimulator of innate immunity.

Other mechanisms that Advaxis vaccines employ include *Listeria*'s ability to increase the synthesis of myeloid cells such as APCs and macrophages, and to stimulate the maturation of immature myeloid cells to increase the number of available activated immune cells that underlie a cancer-killing response. Immature myeloid cells actually inhibit the immune system and *Listeria* removes this inhibition within the actual tumor. Also, *Listeria* and LLO both stimulate the synthesis, release, and expression of various chemicals which stimulate a therapeutic immune response. These chemicals are called cytokines, chemokines and co-stimulatory molecules. By doing this, not only are immune cells activated to kill cancers and clear them from the body, but local environments within tumors are created that support and facilitate a therapeutic response.

Finally, in a manner that appears to be unique to Advaxis live attenuated *Listeria* vaccines: they can reduce the number and function of immunosuppressive cells that tumors recruit to protect them from therapeutic immune attack. Over the past few years it has become known that the reason many previous immunologic cancer treatments have failed is that although they were able to strongly activate the immune system, they were rendered ineffective by endogenous sources of immune inhibition within the tumors themselves. Advaxis has either published scientific papers or presented data at scientific meetings about the ability of our vaccines to reduce the number of regulatory T cells (Tregs) and Myeloid Derived Suppressor Cells (MDSC); and that MDSC which remain are less immunosuppressive. This renders tumors susceptible to immune attack. The ability to reduce the effect of immunosuppressive cells within tumors is currently under clinical investigation by other companies and is believed to be a significant mechanism of achieving a therapeutic response.



Advaxis live attenuated *Listeria* vaccines also have the ability to modify the function of vascular endothelial cells in a way that facilitates the trafficking of activated immune cells out of the blood and into the tumor, where they are therapeutically effective. One property of cancer is the modification of vascular cells to prevent activated immune cells from transiting into the tumor. Our vaccines appear to overcome this source of anti-tumor inhibition.

Many of the immune effector cells, such as dendritic cells, macrophages, mast cells, Langerhans cells and others are myeloid cells. Our vaccines have the ability to accelerate the synthesis and maturation of these cells, as well as their antigen specific activation, to increase the power and efficiency of the immune response.

It should also be noted that the live *Listeria* vaccines Advaxis creates are attenuated from 10,000 to 100,000 times in order that they will not cause disease themselves. The strains of *Listeria* that we use are cleared by animals such as SCID mice or IFN-gamma knockout mice that lack adaptive immune responses and are thus profoundly immunocompromised.

Thus, *Listeria* vaccines stimulate every immune pathway simultaneously, and in an integrated manner. It has long been recognized that cytotoxic T lymphocytes, or CTL, are the elements of the immune system that kill and clear cancer cells. The amplified CTL response to *Listeria* vaccines are one of the strongest stimulators of CTL yet developed, but just as important is the ability Advaxis vaccines have to create a local tumor environment in which these cells can be effective. This efficacy likely results in part from the fusion of LLO to the secreted tumor antigen since many investigators have shown that LLO is a very strong source of immune stimulation independent of *Listeria*. By fusing a molecule with strong adjuvant properties to a tumor antigen, and then having it synthesized and secreted by live bacteria directly into the cytoplasm of Antigen Presenting Cells, vascular endothelium and other relevant tissues an unusually powerful and complete immune response is generated.

Recently we have shown that Lm -LLO vaccines can cause epitope spreading. This means that these vaccines can stimulate the immune system to respond to more antigens than the one they are designed to attack. This happens when tumor cells are killed by the immune system in response to the administered vaccine and portions of those killed cells are then recognized by the immune system and they too become targets of an immune attack. This broadens the immune attack and results in a more therapeutic response.

Thus, what makes Advaxis live *Listeria* vaccines so effective are a combination of effects that stimulate multiple arms of the immune system simultaneously in a manner that generates an integrated physiologic response conducive to the killing and clearing of tumor cells. These mechanisms include:

1. One of the strongest known stimulators of innate immunity
- a. Lm -LLO vaccines are cleared in SCID mice by innate immunity alone
2. Stimulate a very strong adaptive immune response
- a. High titers of activated CD4+, CD8+, APC, and TIL
3. Alters Tumor Microenvironment
- a. Reduces both Tregs, MDSC & TAM in tumors but not in surrounding tissue
4. Stimulate synthesis of new immune cells and maturation of existing cells
- a. Marrow, tissue and blood born effects
5. Stimulates chemotaxis and extravasation of activated immune cells
- a. Chemokine mediated effects and effects directly on vascular endothelium increase TIL
6. Lm infects tumors with Intra-tumoral effects
- a. Tumor killing, chemotactic focus, & local innate immune effects
7. Initiates epitope spreading
- a. Vaccines directed against one antigen result in immune activation against other antigens

Importantly, Advaxis live attenuated *Listeria* vaccines do not stimulate antibody formation, which is important because other types of cancer vaccines such as those that use viruses develop antibody responses which inactivate them and prevent them being used repetitively in a vaccine regimen. These types of vaccines are inactivated by antibody responses before they can effectively deliver their immune payload which prevents them from stimulating a therapeutic response. Advaxis vaccines can be used effectively in a multidose vaccine regimen as they are not inactivated by antibody responses.

## Research and Development Program

### Overview

We use genetically engineered and highly attenuated *Listeria monocytogenes* as a therapeutic agent. We start with an attenuated strain of *Listeria*, and then add to this bacterium multiple copies of a plasmid that encodes a fusion protein sequence that includes a fragment of the LLO molecule joined to the tumor antigen of interest. This protein is secreted by the *Listeria* inside the antigen presenting cells, and other cells that *Listeria* infects which then results in the immune response as discussed above.

We can use different tumor, infectious disease, or other antigens in this system. By varying the antigen, we create different therapeutic agents. Our lead agent, ADXS11-001, uses a HPV derived antigen that is present in cervical cancers. ADXS31-162 uses Her2/neu, an antigen found in many breast cancer and melanoma cells, to induce an immune response that should be useful in treating these conditions. ADXS31-142 is directed against PSA, and antigen of importance in prostate cancer.

## Partnerships and Agreements

### University of Pennsylvania

On July 1, 2002 we entered into a 20-year exclusive worldwide license agreement with Penn with respect to the innovative work of Yvonne Paterson, Ph.D., Professor of Microbiology in the area of innate immunity, or the immune response attributed to immune cells, including dendritic cells, macrophages and natural killer cells, that respond to pathogens non-specifically. This agreement has been amended from time to time and was amended and restated as of February 13, 2007.

This license, unless sooner terminated in accordance with its terms, terminates upon the later (a) expiration of the last to expire Penn patent rights; or (b) twenty years after the effective date of the license. The license provides us with the exclusive commercial rights to the patent portfolio developed at Penn as of the effective date of the license, in connection with Dr. Paterson and requires us to raise capital and pay various milestone, legal, filing and licensing payments to commercialize the technology. In exchange for the license, Penn received shares of our common stock which currently represents approximately 0.2% of our common stock outstanding on a fully-diluted basis. In addition, Penn is entitled to receive a non-refundable initial license fee, license fees, royalty payments and milestone payments based on net sales and percentages of sublicense fees and certain commercial milestones. Under the licensing agreement, Penn is entitled to receive 1.5% royalties on net sales in all countries. Notwithstanding these royalty rates, we have agreed to pay Penn a total of \$525,000 over a three-year period as an advance minimum royalty after the first commercial sale of a product under each license (which we are not expecting to begin paying within the next five years). In addition, under the license, we are obligated to pay an annual maintenance fee of \$100,000 on December 31, 2010, 2011 and 2012 and each December 31st thereafter for the remainder of the term of the agreement until the first commercial sale of a Penn licensed product. Overall the amended and restated agreement payment terms reflect lower near term requirements but the savings are offset by higher long term milestone payments for the initiation of a Phase III clinical trial and the regulatory approval for the first Penn licensed product. We are responsible for filing new patents and maintaining and defending the existing patents licensed to use and we are obligated to reimburse Penn for all attorneys fees, expenses, official fees and other charges incurred in the preparation, prosecution and maintenance of the patents licensed from Penn.

Furthermore, upon the achievement of the first sale of a product in certain fields, Penn will be entitled to certain milestone payments, as follows: \$2.5 million will be due for first commercial sale of the first product in the cancer field. In addition, \$1.0 million will be due upon the date of first commercial sale of a product in each of the secondary strategic fields sold.

As a result of our payment obligations under the license, assuming we have net sales in the aggregate amount of \$100.0 million from our cancer products, our total payments to Penn over the next ten years could reach an aggregate of \$5.4 million. If over the next 10 years our net sales total an aggregate amount of only \$10.0 million from our cancer products, total payments to Penn could be \$4.4 million.

On May 10, 2010, we entered into a second amendment to the Penn license agreement pursuant to which we acquired exclusive licenses for an additional 27 patent applications related to our proprietary Listeria vaccine technology. As per the terms of the second amendment, we acknowledged that we owed Penn approximately \$249,000 in patent

expenses and \$130,000 in sponsored research agreement fees; such fees being paid prior to October 31, 2010. As part of this amendment we exercised our option for the rights to seven additional patent dockets, including 23 additional patent applications, for (i) an option exercise fee payable in the form of \$35,000 in cash and \$70,000 in our common stock (approximately 388,889 shares of our common stock based on a price of \$0.18 per share) and (ii) the assumption of certain historical costs of approximately \$462,000 associated with the 23 additional patents applications acquired under the second amendment. As of June 20, 2011, \$138,000 of these additional costs remained outstanding.

Strategically we intend to maintain our relationship with Dr. Paterson and Penn to generate new intellectual property and to exploit all existing intellectual property covered by the license.

Penn is not involved in the management of our company or in our decisions with respect to exploitation of the patent portfolio, except that Dr. Paterson is the Chairperson of our Scientific Advisory Board.



#### Dr. Yvonne Paterson

Dr. Paterson is a Professor in the Department of Microbiology at Penn and the inventor of our licensed technology. She is a fellow of the American Academy for the Advancement of Science, and has been an invited speaker at national and international health field conferences and leading academic institutions. She has served on many federal advisory boards, such as the NIH expert panel to review primate centers, the Office of AIDS Research Planning Fiscal Workshop, and the Allergy and Immunology NIH Study Section. She has written over one hundred publications in immunology with emphasis during the last several years on the areas of HIV, AIDS and cancer research. She has trained over forty post-doctoral and doctoral students in the fields of Biochemistry and Immunology. Dr. Paterson is also the Chairman of our Scientific Advisory Board.

Consulting Agreement. On January 28, 2005 we entered into a consulting agreement with Dr. Paterson, which expired on January 31, 2009. Dr. Paterson has advised us on an exclusive basis on various issues related to our technology, manufacturing issues, establishing our lab, knowledge transfer, and our long-term research and development program. Pursuant to the expired agreement, Dr. Paterson received \$7,000 per month. Upon the closing of an additional \$9.0 million in equity capital, Dr. Paterson's rates would have increased to \$9,000 per month. Also, under the prior Agreement, on February 1, 2005, she received options to purchase 400,000 shares of our common stock at an exercise price of \$0.287 per share which are now fully vested. In total she holds 704,365 shares of our common stock and 569,048 fully vested options to purchase shares of our common stock.

#### Cancer Research UK

On February 9, 2010, we announced that Cancer Research UK (CRUK), the UK organization dedicated to cancer research, has agreed to fund the cost of a clinical trial to investigate the use of ADXS11-001, our lead vaccine candidate, for the treatment of head and neck cancer. This sponsored clinical trial will investigate the safety and efficacy of ADXS11-001 in head and neck cancer patients who have previously failed treatment with surgery, radiotherapy and chemotherapy – alone or in combination. We will provide the vaccines, with all other associated costs to be funded by CRUK. The study is to be conducted at Aintree Hospital at the University of Liverpool, The Royal Marsden Hospital in London, and Cardiff Hospital at the University of Wales. At such time, enrollment officials anticipate recruiting a maximum of 45 patients.

#### National Cancer Institute Gynecologic Oncology Group

On December 15, 2009, we announced our Phase II Trial Collaboration with the GOG to study ADXS11-001 in a study of up to 63 patients. We will collaborate in a multicenter, Phase II clinical trial of our lead drug candidate, ADXS11-001, in the treatment of advanced cervix cancer in women who have failed prior cytotoxic therapy. This Phase II trial is underwritten by GOG and will be conducted by GOG investigators. The study's patients are very sick and rapidly progressing similar to the population that was treated in our Phase I trial of ADXS11-001. Under this agreement we are responsible for covering the costs of translational research and have agreed to pay a total of \$8,003 per patient, with the bulk of the costs of this study underwritten by NCI.

On November 1, 2010 we entered into a Collaborative Research and Development Agreement (CRADA) with the Vaccine Section of National Cancer Institute for the development of live attenuated Listeria vaccines for the treatment of cancer. We will provide all live Listeria vaccines. NCI will use different in vitro and in vivo models to elucidate the effect of our live attenuated Listeria vaccines on many different types of immune cells, and will investigate the mechanisms by which live Listeria vaccines reduce cancer induced immune inhibition that protects tumors from immune attack. We and NCI will use the results of this work to enhance the anti-tumor effects of live Listeria vaccines as therapeutic agents for the treatment of cancer and as therapeutic immune adjuvants that alter the tumor milieu which will enable them to be used with other modalities of cancer treatment. The cost of the CRADA is \$150,000

annually and the length of the agreement is three years.

#### University of British Columbia

We entered into a structured collaboration with the laboratory of Dr. Tobias Kollmann at the University of British Columbia to develop live attenuated *Listeria* vaccines for the treatment of infectious disease and to develop new dosage forms of *Listeria* vaccines. The same immune-stimulating properties that we have under development to develop live *Listeria* vaccines as safe and effective therapies for the treatment of cancer, also may have application for the treatment of infectious disease. Dr. Kollmann is an immunologist and neonatal vaccinologist who has published extensively on the use of *Listeria* vaccines as potential therapeutic agents for the treatment of childhood diseases. Under the terms of this collaboration, Dr. Kollmann will use our proprietary *Listeria* vaccine vectors for the development of novel infectious disease applications.

#### Recipharm Cobra Biologics Limited (formerly Cobra Biomanufacturing PLC)

In July 2003, we entered into an agreement with Cobra Biomanufacturing PLC, which has recently been purchased by Recipharm AB, for the purpose of manufacturing our cervical cancer vaccine ADXS11-001. Recipharm Cobra has extensive experience in manufacturing gene therapy products for investigational studies. Recipharm Cobra is a manufacturing organization that manufactures and supplies biologic therapeutics for the pharmaceutical and biotech industry. These services include the Good Manufacturing Practices, or GMP, manufacturing of DNA, recombinant protein, viruses, mammalian cell products and cell banking. Recipharm Cobra's manufacturing plan for us involves several manufacturing stages, including process development, manufacturing of non-GMP material for toxicology studies and manufacturing of GMP material for the Phase I trial. The agreement to manufacture expired in December 2005 upon the delivery and completion of stability testing of the GMP material for the Phase I trial. Recipharm Cobra has agreed to surrender the right to \$300,000 of its outstanding fees for manufacturing in exchange for future royalties from the sales of ADXS11-001 at the rate of 1.5% of net sales, with royalty payments not to exceed \$2.0 million.

On October 20, 2007, we entered into a production agreement with Recipharm Cobra to manufacture our Phase II clinical materials using a new methodology now required by the U.K., and likely to be required by other regulatory bodies in the future. Currently we have two agreements with Recipharm Cobra; one to conduct ongoing stability testing of the ADXS11-001 vaccine which they have manufactured, and another to provide analytic services and certification necessary to import ADXS11-001 for use in the U.K. head and neck study mentioned above. For the nineteen month period ended June 20, 2011, we have paid Recipharm Cobra approximately \$33,000 under the agreement.

#### Vibalogs GmbH

In April of 2008, we entered into a series of agreements with Vibalogs GmbH in Cuxhaven Germany to provide fill and finish services for our final clinical materials that were made for the scheduled clinical trials described above. These agreements cover the fill and finish operations as well as specific tests that have to be performed in order to release the clinical materials for human use. We have recently entered into agreements with Vibalogs to produce two new vaccines, ADXS31-142 and ADXS31-164 for human use and clinical development. As of June 20, 2011, approximately \$145,000 in invoices from Vibalogs GmbH remain outstanding.

#### Numoda Corporation

On June 19, 2009, we entered into a Master Agreement and on July 8, 2009 we entered into a Project Agreement with Numoda, a leading clinical trial and logistics management company, to oversee Phase II clinical activity with ADXS11-001 for the multicenter Phase II U.S. trial of ADXS11-001 in CIN and to act as our U.S. CRO for the multicenter Phase II study of ADXS11-001 in progressive cervix cancer being conducted in India. The scope of this agreement covers over three years and is estimated to cost \$11.2 million for both trials. In May 2010, we issued 3,500,000 shares of common stock to Numoda Capital at a price per share of \$0.17 in satisfaction of \$595,000 of services rendered to us by the Numoda Corporation. As of June 20, 2011, we have paid Numoda approximately \$5.66 million for clinical trial activities.

#### Pharm-Olam International Ltd.

In April 2005, we entered into a consulting agreement with Pharm-Olam International Ltd., which we refer to as POI, whereby POI is to execute and manage our Phase I clinical trial in ADXS11-001 for a fee of \$430,000 plus reimbursement of certain expenses. As of June 20, 2011 we have an outstanding balance due to POI of \$223,620.

#### Patents and Licenses

Dr. Paterson and Penn have invested significant resources and time in developing a broad base of intellectual property around the cancer vaccine platform technology for which on July 1, 2002 we entered into a 20-year exclusive worldwide license and a right to grant sublicenses pursuant to our license agreement with Penn. As of October 31, 2010 Penn has 32 issued and 33 pending patents in the U.S. and other large countries including Japan, and the European Union, through the Patent Cooperation Treaty system pursuant to which we have an exclusive license to exploit the patents. On May 10, 2010, we entered into a second amendment to the 20-year exclusive worldwide license agreement with Penn, which we refer to as the Second Amendment Agreement. Pursuant to the Second Amendment Agreement, we acquired exclusive licenses for additional patent applications related to our proprietary Listeria vaccine technology that were not included in the initial agreement. As of April 30, 2011, we acknowledged that we owe Penn approximately \$138,000 in patent expenses pursuant to the Second Amendment Agreement.

Our approach to the intellectual property portfolio is to create significant offensive and defensive patent protection for every product and technology platform that we develop. We work closely with our patent counsel to maintain a

coherent and aggressive strategic approach to building our patent portfolio with an emphasis in the field of cancer vaccines.

We are aware of a private company, Anza Therapeutics, Inc (formerly Cerus Corporation), which is no longer in existence, but had been developing Listeria vaccines. We are also aware of Aduro Biotech, a company comprised in part of former Cerus and Anza employees that has recently formed to investigate Listeria vaccines based upon Anza's technology. We believe that through our exclusive license with Penn, we have the earliest known and dominant patent position in the U.S. for the use of recombinant Listeria monocytogenes expressing proteins or tumor antigens as a vaccine for the treatment of infectious diseases and tumors. We successfully defended our intellectual property by contesting a challenge made by Anza to our patent position in Europe on a claim not available in the U.S. The European Patent Office ( EPO) Board of Appeals in Munich, Germany has ruled in favor of The Trustees of Penn and its exclusive licensee Advaxis and reversed a patent ruling that revoked a technology patent that had resulted from an opposition filed by Anza. The ruling of the EPO Board of Appeals is final and cannot be appealed. The granted claims, the subject matter of which was discovered by Dr. Yvonne Paterson, scientific founder of Advaxis, are directed to the method of preparation and composition of matter of recombinant bacteria expressing tumor antigens for treatment of patients with cancer.

Based on searches of publicly available databases, we do not believe that Anza, Aduro or any other third party owns any published Listeria patents or has any issued patent claims that might materially and adversely affect our ability to operate our business as currently contemplated in the field of recombinant Listeria monocytogenes. Additionally, our proprietary position that is the issued patents and licenses for pending applications restricts anyone from using plasmid based Listeria constructs, or those that are bioengineered to deliver antigens fused to LLO, ActA, or fragments of LLO or ActA.

On January 7, 2009, we made the decision to discontinue our use of the Trademark Lovaxin and write-off of our intangible assets for trademarks resulting in an asset impairment of \$91,453 as of October 31, 2008. We developed a classic coding system for our constructs. The rationale for this decision stemmed from several legal challenges to the Lovaxin name over the last two years and certain rules in Title 21 of the Code of Federal Regulations, which we refer to as the CFR, which do not allow companies to use names that are assigned to drugs in development after marketing approval. We will therefore focus company resources on product development and not the defense of the Lovaxin name.

On May 26, 2009, the United States Patent and Trademark Office, which we refer to as the PTO, approved our patent application “ Compositions and Methods for Enhancing the Immunogenicity of Antigens ”. This patent application covers the use of Listeria monocytogenes protein ActA and fragments of this protein for use in the creation of antigen fusion proteins. This intellectual property protects a unique strain of Listeria monocytogenes for use as a vaccine vector.

On February 10, 2009 the PTO issued patent 7,488,487 “ Methods of Inducing Immune response Through the Administration of Auxotrophic Attenuated DAT/DAL Double Mutant Listeria Strains ”, assigned to Penn and licensed to us. This intellectual property protects a unique strain of Listeria monocytogenes for use as a vaccine vector. This new strain of Listeria is an improvement over the strain currently in clinical testing as it is more attenuated, more immunogenic, and does not have an antibiotic resistance gene inserted. We believe that this technology will make our product more effective and easier to obtain FDA regulatory approval.

Between February and December of 2009 the U.S., Japanese, and European patent offices have approved patents for a newly developed strain of Listeria that uses a novel method of attenuation. This strain is attenuated by deleting genes that are responsible for making a protein that is essential for the bacterial cell wall, and by engineering back the ability to make this protein at a reduced level. In developing this strain, the objective was to improve upon the useful properties of Listeria while reducing potential disease causing properties of the bacterium, and, in preliminary testing this strain of Listeria monocytogenes, which we refer to as Lm , appears to be more immunogenic and less virulent than prior vaccine strains.

Between January and March of 2010, the USPTO issued two patents to Penn (each of which are covered by the Penn license agreement) that cover the composition of matter, uses and methods using the Lm protein Act A in antigen fusion proteins. We are currently holding patents relating to two families of antigen-adjuvant fusion proteins; one based on LLO and one based on ActA.

## Governmental Regulation

### The Drug Development Process

The FDA requires that pharmaceutical and certain other therapeutic products undergo significant clinical experimentation and clinical testing prior to their marketing or introduction to the general public. Clinical testing, known as clinical trials or clinical studies, is either conducted internally by pharmaceutical or biotechnology companies or is conducted on behalf of these companies by Clinical Research Organizations, which we refer to as

CROs.

The process of conducting clinical studies is highly regulated by the FDA, as well as by other governmental and professional bodies. Below, we describe the principal framework in which clinical studies are conducted, as well as describe a number of the parties involved in these studies.

Protocols . Before commencing human clinical studies, the sponsor of a new drug must typically receive governmental and institutional approval. In the U.S., Federal approval is obtained by submitting an IND to the FDA and amending it for each new proposed study. The clinical research plan is known in the industry as a protocol . A protocol is the blueprint for each drug study. The protocol sets forth, among other things, the following:

- Criteria for participant inclusion/exclusion;
- Dosing requirements and timing;

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- Tests to be performed; and
- Evaluations and data assessment.

Institutional Review Board (Ethics Committee) . An institutional review board is an independent committee of professionals and lay persons which reviews clinical research studies involving human beings and is required to adhere to guidelines issued by the FDA. The institutional review board does not report to the FDA and its members are not appointed by the FDA, but its records are audited by the FDA. All clinical studies must be approved by an institutional review board. The institutional review board is convened by the institution where the protocol will be conducted and its role is to protect the rights of the participants in the clinical studies. It must approve the protocols to be used and then oversee the conduct of the study, including oversight of the communications which we or the CRO conducting the study at that specific site proposes to use to recruit participants, and the form of consent which the participants will be required to sign prior to their participation in the clinical studies.

Clinical Trials. Human clinical studies or testing of a potential product prior to Federal approval are generally done in three stages known as Phase I, Phase II, and Phase III testing. The names of the phases are derived from the CFR 21 that regulates the FDA. Generally, there are multiple studies conducted in each phase.

Phase I. Phase I studies involve testing a drug or product on a limited number of participants. Phase I studies determine a drug's basic safety and how the drug is absorbed by, and eliminated from, the body. This phase lasts an average of six months to a year. Typically, cancer therapies are initially tested on late stage cancer patients.

Phase II. Phase II trials involve larger numbers of participants at a time who suffer from the targeted disease or condition. Phase II testing typically lasts an average of one to three years. In Phase II, the drug is tested to determine its safety and effectiveness for treating a specific illness or condition. Phase II testing also involves determining acceptable dosage levels of the drug. If Phase II studies show that a new drug has an acceptable range of safety risks and probable effectiveness, a company will continue to review the drug in Phase III studies.

Phase III. Phase III studies involve testing even larger numbers of participants, typically several hundred to several thousand persons. The purpose is to verify effectiveness and long-term safety on a large scale. These studies generally last two to six years. Phase III studies are conducted at multiple locations or sites. Like the other phases, Phase III requires the site to keep detailed records of data collected and procedures performed.

Biologic License Application. The results of the clinical trials using biologics are submitted to the FDA as part of Biologic License Application, which we refer to as BLA. Following the completion of Phase III studies, if the sponsor of a potential product in the U.S. believes it has sufficient information to support the safety and effectiveness of their product, the sponsor submits a BLA to the FDA requesting that the product be approved for sale. The application is a comprehensive, multi-volume filing that includes the results of all preclinical and clinical studies, information about the drug's composition, and the sponsor's plans for producing, packaging, labeling and testing the product. The FDA's review of an application can take a few months to many years, with the average review lasting 18 months. Once approved, drugs and other products may be marketed in the U.S., subject to any conditions imposed by the FDA.

The drug approval process is time-consuming, involves substantial expenditures of resources, and depends upon a number of factors, including the severity of the illness in question, the availability of alternative treatments, and the risks and benefits demonstrated in the clinical trials.

On November 21, 1997, former President Clinton signed into law the FDA Modernization Act. That act codified the FDA's policy of granting "Fast Track" approval for cancer therapies and other therapies intended to treat serious or life

threatening diseases and that demonstrate the potential to address unmet medical needs. The Fast Track program emphasizes close, early communications between the FDA and the sponsor to improve the efficiency of preclinical and clinical development, and to reach agreement on the design of the major clinical efficacy studies that will be needed to support approval. Under the Fast Track program, a sponsor also has the option to submit and receive review of parts of the NDA or BLA on a rolling schedule approved by FDA, which expedites the review process.

The FDA's Guidelines for Industry Fast Track Development Programs require that a clinical development program must continue to meet the criteria for Fast Track designation for an application to be reviewed under the Fast Track Program. Previously, the FDA approved cancer therapies primarily based on patient survival rates or data on improved quality of life. While the FDA could consider evidence of partial tumor shrinkage, which is often part of the data relied on for approval, such information alone was usually insufficient to warrant approval of a cancer therapy, except in limited situations. Under the FDA's new policy, which became effective on February 19, 1998, Fast Track designation ordinarily allows a product to be considered for accelerated approval through the use of surrogate endpoints to demonstrate effectiveness. As a result of these provisions, the FDA has broadened authority to consider evidence of partial tumor shrinkage or other surrogate endpoints of clinical benefit for approval. This new policy is intended to facilitate the study of cancer therapies and shorten the total time for marketing approvals. Under accelerated approval, the manufacturer must continue with the clinical testing of the product after marketing approval to validate that the surrogate endpoint did predict meaningful clinical benefit. To the extent applicable, we intend to take advantage of the Fast Track Program to obtain accelerated approval on our future products, however, it is too early to tell what effect, if any, these provisions may have on the approval of our product candidates.



## Other Regulations

Various Federal and state laws, regulations, and recommendations relating to safe working conditions, laboratory practices, the experimental use of animals, and the purchase, storage, movement, import, export, use, and disposal of hazardous or potentially hazardous substances, including radioactive compounds and infectious disease agents, are used in connection with our research or applicable to our activities. They include, among others, the U.S. Atomic Energy Act, the Clean Air Act, the Clean Water Act, the Occupational Safety and Health Act, the National Environmental Policy Act, the Toxic Substances Control Act, and Resources Conservation and Recovery Act, national restrictions on technology transfer, import, export, and customs regulations, and other present and possible future local, state, or federal regulation. The extent of governmental regulation which might result from future legislation or administrative action cannot be accurately predicted.

There is a series of international harmonization treaties, known as the ICH treaties, that enable drug development to be conducted on an international basis. These treaties specify the manner in which clinical trials are to be conducted, and if trials adhere to the specified requirements, then they are accepted by the regulatory bodies in the signatory countries. In this way, the Advaxis Phase I study conducted outside of the U.S. is accepted by the FDA.

## Manufacturing

The FDA requires that any drug or formulation to be tested in humans be manufactured in accordance with its GMP regulations. This has been extended to include any drug that will be tested for safety in animals in support of human testing. The GMPs set certain minimum requirements for procedures, record-keeping, and the physical characteristics of the laboratories used in the production of these drugs.

We have entered into agreements with Recipharm Cobra and Vibalogics GmbH for the manufacture of a portion of our vaccines. Both companies have extensive experience in manufacturing gene therapy products for investigational studies. Both companies are full service manufacturing organizations that manufacture and supply biologic based therapeutics for the pharmaceutical and biotech industry. These services include the GMP manufacturing of stability testing and cell banking. Recipharm's manufacturing plan for us calls for several manufacturing stages, including process development, manufacturing of non-GMP material for toxicology studies and manufacturing of GMP material for the Phase I and Phase II trials.

Beginning in April 2008, we entered into a number of Agreements with Vibalogics to manufacture clinical grade material for two new vaccines to develop in the clinic as new drugs; ADXS31-142, a vaccine for the treatment of prostate cancer, and ADXS31-164, a vaccine for the treatment of breast, brain and other cancers. Recipharm Cobra's manufacturing plan for us calls for GMP manufacturing in several stages, including process development, manufacturing of non-GMP material for toxicology studies and manufacturing of GMP material for the Phase I and Phase II trials, filling, finishing, and the development of a storage stable, room temperature, dried form of our vaccines.

## Competition

The biotechnology and biopharmaceutical industries are characterized by rapid technological developments and a high degree of competition. As a result, our actual or proposed products could become obsolete before we recoup any portion of our related research and development and commercialization expenses. The biotechnology and biopharmaceutical industries are highly competitive, and this competition comes from both biotechnology firms and from major pharmaceutical and chemical companies, including Aduro Biotech, Antigenics Inc., Avi BioPharma, Inc., Biomura Inc., Biovest International, Biosante Pharmaceuticals Inc., Dendreon Corporation, Pharmexa-Epimmune Inc., Genzyme Corp., Progenics Pharmaceuticals Inc. and Vical Incorporated each of which is pursuing cancer vaccines.

Many of these companies have substantially greater financial, marketing, and human resources than we do (including, in some cases, substantially greater experience in clinical testing, manufacturing, and marketing of pharmaceutical products). We also experience competition in the development of our products from universities and other research institutions and compete with others in acquiring technology from such universities and institutions. In addition, certain of our products may be subject to competition from products developed using other technologies, some of which have completed numerous clinical trials.

We expect that our products under development and in clinical trials will address major markets within the cancer sector. Our competition will be determined in part by the potential indications for which drugs are developed and ultimately approved by regulatory authorities. Additionally, the timing of market introduction of some of our potential products or of competitors' products may be an important competitive factor. Accordingly, the speed with which we can develop products, complete preclinical testing, clinical trials and approval processes and supply commercial quantities to market are expected to be important competitive factors. We expect that competition among products approved for sale will be based on various factors, including product efficacy, safety, reliability, availability, price and patent position.

Merck has developed the drug Gardasil and GSK has developed the drug Cervarix which can prevent cervical cancer by vaccinating women against the virus HPV, the cause of the disease. Gardasil is directed against four HPV strains while Cervarix is directed against two. Neither of these agents has an approved indication for women who have a prior exposure to the HPV strains that they protect against, nor are women protected from other strains of HPV that the drugs do not treat. It has been written that these are cancer vaccines, which is not true. They are anti-virus vaccines intended to protect against strains of the HPV virus.

The presence of these agents in the market does not eliminate the market for a therapeutic vaccine directed against invasive cervical cancer and CIN for a number of reasons:

HPV is the most common sexually transmitted disease in the U.S., and since prior exposure to the virus renders these anti-viral agents ineffective they tend to be limited to younger women and do not offer protection for women who are already infected. The number of women who are already infected with HPV is estimated to be as much as (or more than) 25% of the female population of the U.S.

There are approximately 10 high risk strains of HPV, but these agents only protect against the most common 2-4 strains. If a woman contracts a high risk HPV species that is not one of those, the drugs will not work.

Women with HPV are typically infected for over twenty years or more before they manifest cervical cancer. Thus, the true prophylactic effect of these drugs can only be inferred at this time. We believe that there currently exists a significant population of young woman who have not received these agents, or for whom they will not work, and who will manifest HPV related cervical disease for the next 40+ years. We believe this population will continue to grow until such time as a significant percentage of women who have not been exposed to HPV are vaccinated; which we believe is not likely to occur within the next decade or longer. We do not know at this time whether a significant number of women will be vaccinated to have an effect on the epidemiology of this disease.

With the exception of the campaign to eradicate polio in which vaccination was mandatory for all school age children, vaccination is a difficult model to accomplish because it is virtually impossible to treat everyone in any given country, much less the entire world. This is especially true for cervical cancer, as the incentive for men to be vaccinated is small, and infected men keep the pathogen circulating in the population.

Taken together, experts believe that there will be a cervical cancer and CIN market for the foreseeable future.

#### Scientific Advisory Board

We maintain a Scientific Advisory Board consisting of internationally recognized scientists who advise us on scientific and technical aspects of our business. The Scientific Advisory Board meets on an as needed basis to review specific projects and to assess the value of new technologies and developments to us. In addition, individual members of the Scientific Advisory Board meet with us periodically to provide advice in particular areas of expertise. The scientific advisory board consists of the following members, information with respect to whom is set forth below: Yvonne Paterson, Ph.D.; Pramod Srivastava, Ph.D.; Bennett Lorber, M.D.; David Weiner, Ph.D.; and Mark Einstein, M.D.

Dr. Yvonne Paterson. For a description of our relationship with Dr. Paterson, please see "Partnerships and Agreements-Dr. Yvonne Paterson."

Pramod Srivastava, Ph.D. Dr. Srivastava is Professor of Immunology at the University of Connecticut School of Medicine, where he is also Director of the Center for Immunotherapy of Cancer and Infectious Diseases. He holds the Physicians Health Services Chair in Cancer Immunology at the University of Connecticut School of Medicine.

Professor Srivastava is the Scientific Founder of Antigenics, Inc. He serves on the Scientific Advisory Council of the Cancer Research Institute, New York, and was a member of the Experimental Immunology Study Section of the National Institutes of Health of the U.S. Government from 1994 to 1999. He serves presently on the board of directors of two privately held companies: Ikonisys, in New Haven, Connecticut and CambriaTech, Lugano, Switzerland. In 1997, he was inducted into the Roll of Honor of the International Union Against Cancer and was listed in Who's Who in Science and Engineering. He is among the twenty founding members of the Academy of Cancer Immunology, New York. Dr. Srivastava obtained his bachelor's degree in biology and chemistry and a master's degree in botany (paleontology) from the University of Allahabad, India. He then studied yeast genetics at Osaka University, Japan. He completed his Ph.D. in biochemistry at the Center for Cellular and Molecular Biology, Hyderabad, India, where he began his work on tumor immunity, including identification of the first proteins that can mediate tumor rejection. He trained at Yale University and Sloan-Kettering Institute for Cancer Research. Dr. Srivastava has held faculty positions at the Mount Sinai School of Medicine and Fordham University in New York City.

Bennett Lorber, M.D. Dr. Lorber attended Swarthmore College where he studied zoology and art history. He graduated from the University of Pennsylvania School of Medicine and did his residency in internal medicine and fellowship in infectious diseases at Temple University, following which he joined the Temple faculty. At Temple he rose through the ranks to become Professor of Medicine and, in 1988, was named the first recipient of the Thomas Durant Chair in Medicine. He is also a Professor of Microbiology and Immunology and served as the Chief of the Section of Infectious Diseases until 2006. He is a Fellow of the American College of Physicians, a Fellow of the Infectious Diseases Society of America, and a Fellow of the College of Physicians of Philadelphia where he serves as College Secretary and as a member of the Board of Trustees. Dr. Lorber's major interest in infectious diseases is in human listeriosis, an area in which he is regarded as an international authority. He has also been interested in the impact of societal changes on infectious disease patterns as well the relationship between infectious agents and chronic illness, and he has authored papers exploring these associations. He has been repeatedly honored for his teaching. Among his honors are 10 golden apples, the Temple University Great Teacher Award, the Clinical Practice Award from the Pennsylvania College of Internal Medicine, and the Bristol Award from the Infectious Diseases Society of America. In 1996 he was the recipient of an honorary Doctor of Science degree from Swarthmore College.

David B. Weiner, Ph.D. Dr. David Weiner received his B.S in Biology from the State University of New York and performed undergraduate research in the Department of Microbiology, Chaired by Dr. Arnie Levine, at Stony Brook University. He completed his MS and Ph.D. in Developmental Biology/Immunology from the Children's Hospital Research Foundation at the University of Cincinnati in 1986. He completed his Post Doctoral Fellowship in the Department of Pathology at Penn in 1989, under the direction of Dr. Mark Greene. At that time he joined the Faculty at the Wistar Institute in Philadelphia. He was recruited back to Penn in 1994. He is currently an Associate Professor with Tenure in the Department of Pathology, and he is the Associate Chair of the Gene Therapy and Vaccines Graduate Program at Penn. Of relevance during his career he has worked extensively in the areas of molecular immunology, the development of vaccines and vaccine technology for infectious diseases and in the area of molecular oncology and immune therapy. His laboratory is considered one of the founders of the field of DNA vaccines as his group not only was the first to report on the use of this technology for vaccines against HIV, but was also the first group to advance DNA vaccine technology to clinical evaluation. In addition he has worked on the identification of novel approaches to inhibit HIV infection by targeting the accessory gene functions of the virus. Dr. Weiner has authored over 260 articles in peer reviewed journals and is the author of over 28 awarded U.S. patents as well as their international counterparts. He has served and still serves on many national and international review boards and panels including the NIH Study section, WHO advisory panels, the National Institute for Biological Standards and Control, Department of Veterans Affairs Scientific Review Panel, as well as the FDA Advisory panel - Center for Biologics Evaluation and Research, and Adult AIDS Clinical Trial Group, among others. He also serves or has served in an advisory capacity to several Biotechnology and Pharmaceutical Companies. Dr. Weiner has, through training of young people in his laboratory, advanced over 35 undergraduate scientists to Medical School or Doctoral Programs and has trained 28 Post Doctoral Fellows and 7 Doctoral Candidates as well as served on fourteen Doctoral Student Committees.

Mark Einstein, M.D. Dr. Einstein received his BS degree in Biology from the University of Miami, where he also received his MD with Research Distinction in Clinical Immunology. He also has an MS in Clinical Research Methods, which he received with Distinction. Dr. Einstein completed his residency in OB/GYN at Saint Barnabas Medical Center, and was a Galloway Fellow in Gynecologic Oncology at the Sloan-Kettering Cancer Center. Dr. Einstein has been at the Albert Einstein Cancer Center and Montefiore Medical Center since 1999, where he has been an attending physician, Assistant Professor of Gynecologic Oncology, and currently the Director of Clinical Research of the Division of Gynecologic Oncology at the Albert Einstein College of Medicine and Cancer Center, and at the Montefiore Medical Center. He is a Fellow of the American College of Obstetrics and Gynecology and the American College of Surgeons, as well as belonging to various research groups such as the American Association for Cancer Research and the American Society for Clinical Oncology. Dr. Einstein's honors and awards include; American Cancer Society Research Scholar, American Professors in Gynecology and Obstetrics McNeil Faculty Award, ACOG/3M Research Award, ACOG/Solvay Research Award, Berlex Oncology Foundation Scholar Award, and others. Dr. Einstein is a member of the GOG Vaccine subcommittee, chairs the Gynecologic Cancer Foundation National Cervical Cancer Education Campaign, sits on the Translational Research Working Group Roundtable at NIH/NCI, the NIH AIDS Malignancy Consortium, the Gynecologic Cancer Foundation Task Force for Cervical Cancer Screening and Prevention, as well as three separate committees for the Society of Gynecologic Oncologists. Dr. Einstein is very active in the clinical assessment of new immunological technologies for the treatment of gynecologic cancers.

## Employees

As of June 20, 2011, we had 12 employees, all of which were full time employees. We believe our relations with employees are good.

We do not anticipate any significant increase in the number of employees in the clinical area and the research and development area to support clinical requirements, and in the general and administrative and business development areas over the next two years.

#### Description of Property

Our corporate offices are currently located at 305 College Road East, Princeton, New Jersey 08540. We intend to enter into a Sublease Agreement for such office, which is a 9143 square foot leased facility in Princeton, NJ approximately 12 miles south of our prior location. The proposed agreement is for a period of approximately twenty months at the rate of approximately \$15,600 per month plus utilities. Utility costs are estimated to be \$7,200 per month and are capped at approximately \$10,700 per month. The proposed agreement calls for an initial payment of approximately \$54,000 prior to entering the new facility, which we have paid. As an inducement to enter into the proposed agreement, the company will receive abatement for a specified number of months. The proposed agreement has a termination date of November 29, 2012 and we are in discussions with building owner for lease terms beyond this date.

Legal Proceedings

As of the date hereof, there are no material pending legal proceedings to which we are a party or of which any of our property is the subject. In the ordinary course of our business we may become subject to litigation regarding our products or our compliance with applicable laws, rules, and regulations.

## MANAGEMENT

## Executive Officers, Directors and Key Employees

The following are our executive officers and directors and their respective ages and positions as of June 20, 2011:

Name	Age	Position
Thomas A. Moore	60	Chief Executive Officer and Chairman of our Board of Directors
Dr. James Patton	52	Director
Roni A. Appel	43	Director
Dr. Thomas McKearn	61	Director
Richard Berman	68	Director
John Rothman, Ph.D.	62	Executive Vice President of Clinical and Scientific Operations
Mark J. Rosenblum	57	Chief Financial Officer, Senior Vice President and Secretary

Thomas A. Moore. Mr. Moore joined our Board as an independent director in September 2006. Effective December 15, 2006, Mr. Moore was appointed our Chairman and Chief Executive Officer. He is currently also a director of MD Offices, an electronic medical records provider, and Opt-e-scrip, Inc., which markets a clinical system to compare multiple drugs in the same patient. He also serves as Chairman of the board of directors of Mayan Pigments, Inc., which has developed and patented Mayan pigment technology. Previously, from June 2002 to June 2004 Mr. Moore was President and Chief Executive Officer of Biopure Corporation, a developer of oxygen therapeutics that are intravenously administered to deliver oxygen to the body's tissues. From 1996 to November 2000 he was President and Chief Executive Officer of Nelson Communications. Prior to 1996, Mr. Moore had a 23-year career with the Procter & Gamble Company in multiple managerial positions, including President of Health Care Products where he was responsible for prescription and over-the-counter medications worldwide, and Group Vice President of the Procter & Gamble Company. Mr. Moore is a graduate of Princeton University. Mr. Moore's extensive business, managerial, executive and leadership experience in the healthcare industry make him particularly qualified to serve on our Board.

Mr. Moore is subject to a five year injunction, which came about because of a civil action captioned Securities & Exchange Commission v. Biopure Corp. et al. , No. 05-11853-PBS (D. Mass.), filed on September 14, 2005, which alleged that Mr. Moore made and approved misleading public statements about the status of FDA regulatory proceedings concerning a product manufactured by his former employer, Biopure Corp. Mr. Moore vigorously defended the action. On December 11, 2006, the SEC and Mr. Moore jointly sought a continuance of all proceedings based upon a tentative agreement in principle to settle the SEC action. The SEC's Commissioners approved the terms of the settlement, and the court formally adopted the settlement.

Dr. James Patton. Dr. Patton has served as a member of our board of directors since February 2002, as Chairman of our board of directors from November 2004 until December 31, 2005 and as Advaxis' Chief Executive Officer from February 2002 to November 2002. Since February 1999, Dr. Patton was the Vice President of Millennium Oncology Management, Inc., which provides management services for radiation oncology care to four sites. Dr. Patton has been a trustee of Dundee Wealth US, a mutual fund family since October 2006. In addition, he has been President of Comprehensive Oncology Care, LLC since 1999, a company which owned and operated a cancer treatment facility in Exton, Pennsylvania until its sale in 2008. From February 1999 to September 2003, Dr. Patton also served as a consultant to LibertyView Equity Partners SBIC, LP, a venture capital fund based in Jersey City, New Jersey. From July 2000 to December 2002, Dr. Patton served as a director of Pinpoint Data Corp. From February 2000 to November 2000, Dr. Patton served as a director of Healthware Solutions. From June 2000 to June 2003, Dr. Patton served as a director of LifeStar Response. He earned his B.S. from the University of Michigan, his Medical Doctorate from Medical College of Pennsylvania, and his M.B.A. from Penn's Wharton School. Dr. Patton was also a Robert



Wood Johnson Foundation Clinical Scholar. He has published papers regarding scientific research in human genetics, diagnostic test performance and medical economic analysis. Dr. Patton's experience as a trustee and consultant to funds that invest in life science companies provide him with the perspective from which we benefit. Additionally, Dr. Patton's medical experience and service as a principal and director of other life science companies makes Dr. Patton particularly qualified to serve as our director.

Roni A. Appel. Mr. Appel has served as a member of our board of directors since November 2004. He was our President and Chief Executive Officer from January 1, 2006 and Secretary and Chief Financial Officer from November 2004, until he resigned as our Chief Financial Officer on September 7, 2006 and as our President, Chief Executive Officer and Secretary on December 15, 2006. From 1999 to 2004, he was a partner and managing director of LV Equity Partners (f/k/a LibertyView Equity Partners). From 1998 until 1999, he was a director of business development at Americana Financial Services, Inc. From 1994 to 1998 he was an attorney and completed his MBA at Columbia University. Mr. Appel's longstanding service with us and his entrepreneurial investment career in early stage biotech businesses qualify him to serve as our director.

Dr. Thomas McKearn. Dr. McKearn has served as a member of our board of directors since July 2002. He brings more than 25 years of experience in the translation of biotechnology science into oncology products. First as one of the founders of Cytogen Corporation, then as an Executive Director of Strategic Science and Medicine at Bristol-Myers Squibb and now as the VP of Strategic Medical Affairs at Agennix, Inc. (formerly GPC-Biotech), he has worked at bringing the most innovative laboratory findings into the clinic and through the FDA regulatory process for the benefit of cancer patients who need better ways to cope with their afflictions. Prior to entering the biotechnology industry in 1981, Dr. McKearn received his medical, graduate and post-graduate training at the University of Chicago and served on the faculty of the Medical School at the University of Pennsylvania. Dr. McKearn's experience in managing life science companies, his knowledge of medicine and his commercialization of biotech products particularly qualify him to serve as our director.

Richard Berman. Mr. Berman has served as a member of our board of directors since September 1, 2005. In the last five years, he served as a professional director and/or officer of about a dozen public and private companies. He is currently Chairman of NexMed, Inc., a public biotech company, and National Investment Managers. Mr. Berman is a director of six public companies: Broadcaster, Inc., Easy Link Services International, Inc., NexMed, Inc., National Investment Managers, Advaxis, Inc., and NeoStem, Inc. Previously, Mr. Berman worked at Goldman Sachs and was Senior Vice President of Bankers Trust Company, where he started the M&A and Leverage Buyout Departments. He is a past Director of the Stern School of Business of New York University, where he earned a B.S. and an M.B.A. He also has law degrees from Boston College and The Hague Academy of International Law. Mr. Berman's extensive knowledge of our industry, his role in the governance of publically held companies and his directorships in other life science companies qualify him to serve as our director.

John Rothman, Ph.D. Dr. Rothman joined our company in March 2005 as Vice President of Clinical Development and as of December 12, 2008 he was appointed to Executive Vice President of Clinical and Scientific Operations. From 2002 to 2005, Dr. Rothman was Vice President and Chief Technology Officer of Princeton Technology Partners. Prior to that he was involved in the development of the first interferon at Schering Inc., was director of a variety of clinical development sections at Hoffman LaRoche, and the Senior Director of Clinical Data Management at Roche. While at Roche his work in Kaposi's Sarcoma became the clinical basis for the first filed BLA which involved the treatment of AIDS patients with interferon. Dr. Rothman completed his doctorate at City University of Los Angeles.

Mark J. Rosenblum. Effective as of January 5, 2010, Mr. Rosenblum joined our company as our Chief Financial Officer, Senior Vice President and Secretary. Mr. Rosenblum was the Chief Financial Officer of HemobioTech, Inc., a public company primarily engaged in the commercialization of human blood substitute technology licensed from Texas Tech University, from April 1, 2005 until December 31, 2009. From August 1985 through June 2003, Mr. Rosenblum was employed by Wellman, Inc., a public chemical manufacturing company. Between 1996 and 2003, Mr. Rosenblum was the Chief Accounting Officer, Vice President and Controller at Wellman, Inc. Mr. Rosenblum holds both a Masters in Accountancy and a B.S. degree from the University of South Carolina. Mr. Rosenblum is a certified public accountant.

#### Board of Directors

Each director is elected for a period of one year and serves until the next annual meeting of stockholders, or until his or her successor is duly elected and qualified. Officers are elected by, and serve at the discretion of, our board of directors. The board of directors may also appoint additional directors up to the maximum number permitted under our by-laws, which is currently nine.

#### Director Independence

In accordance with the disclosure requirements of the SEC, and since the OTC Bulletin Board does not have its own rules for director independence, we have adopted the NASDAQ listing standards for independence effective April 2010. Although we are not presently listed on any national securities exchange, each of our directors, other than Mr. Thomas A. Moore and Mr. Roni Appel, is independent in accordance with the definition set forth in the NASDAQ rules. Each current member of the Audit Committee and Compensation Committee is an independent director under the NASDAQ standards. The Board considered the information included in transactions with related parties as outlined below along with other information the Board considered relevant, when considering the independence of each director.

#### Committees of the Board of Directors

Our board of directors has three standing committees: the audit committee, the compensation committee, and the nominating and corporate governance committee.

#### Audit Committee

The audit committee of our board of directors is currently composed of two directors, both of whom satisfy the independence standards for audit committee members under the NASDAQ rules (although our securities are not listed on the NASDAQ stock market but are quoted on the OTC Bulletin Board). For fiscal 2010, the audit committee was composed of Mr. Berman and Dr. Patton, with Mr. Berman serving as the audit committee's financial expert as defined under Item 407 of Regulation S-K of the Securities Act of 1933, as amended, which we refer to as the Securities Act. Our board of directors has determined that the audit committee financial expert is independent as defined in (i) Rule 10A-3(b)(i)(ii) under the Exchange Act and (ii) under Section 121 B(2)(a) of the NYSE Amex Equities Company Guide (although our securities are not listed on the NYSE Amex Equities but are quoted on the OTC Bulletin Board).

The audit committee is responsible for the following:

- reviewing the results of the audit engagement with the independent registered public accounting firm;
- identifying irregularities in the management of our business in consultation with our independent accountants, and suggesting an appropriate course of action;
- reviewing the adequacy, scope, and results of the internal accounting controls and procedures;
- reviewing the degree of independence of the auditors, as well as the nature and scope of our relationship with our independent registered public accounting firm;
- reviewing the auditors' fees; and
- recommending the engagement of auditors to the full board of directors.

#### Compensation Committee

The compensation committee of our board of directors consists of Mr. Berman and Dr. McKearn. The compensation committee determines the salaries and incentive compensation of our officers subject to applicable employment agreements, and provides recommendations for the salaries and incentive compensation of our other employees and consultants.

#### Nominating and Corporate Governance Committee

The nominating and corporate governance committee of our board of directors currently consists of Mr. Berman and Mr. Moore. The nominating and corporate governance committee did not meet in fiscal 2010. The functions of the nominating and corporate governance committee include the following:

- identifying and recommending to the board of directors individuals qualified to serve as members of our board of directors and on the committees of the board;
- advising the board with respect to matters of board composition, procedures and committees;
- developing and recommending to the board a set of corporate governance principles applicable to us and overseeing corporate governance matters generally including review of possible conflicts and transactions with persons affiliated with directors or members of management; and
- overseeing the annual evaluation of the board and our management.

The nominating and corporate governance committee will consider director candidates recommended by eligible stockholders. Stockholders may recommend director nominees for consideration by the nominating and corporate governance committee by writing to the Nominating and Corporate Governance, Attention: Chairman, Advaxis, Inc., 305 College Road East, Princeton, New Jersey 08540 . Any recommendations for director made to the nominating and corporate governance committee should include the nominee's name and qualifications for membership on our board of directors, and should include the following information for each person being recommended or nominated for election as a director:

- The name, age, business address and residence address of the person;

- The principal occupation or employment of the person;
- The number of shares of our common stock which the person owns beneficially or of record; and
- Any other information relating to the person that must be disclosed in a proxy statement or other filings required to be made in connection with solicitations of proxies for election of directors under Section 14 of the Exchange Act and its rules and regulations.

In addition, the stockholder's notice must include the following information about such stockholder:

- The stockholder's name and record address;
- The number of shares of our common stock that the stockholder owns beneficially or of record;

- A description of all arrangements or understandings between the stockholder and each proposed nominee and any other person or persons, including their names, pursuant to which the nomination is to be made;
- A representation that the stockholder intends to appear in person or by proxy at the annual meeting to nominate the person or persons named in such stockholder's notice; and
- Any other information about the stockholder that must be disclosed in a proxy statement or other filings required to be made in connection with solicitations of proxies for election of directors under Section 14 of the Exchange Act and its rules and regulations.

The notice must include a written consent by each proposed nominee to being named as a nominee and to serve as a director if elected. No person will be eligible for election as a director of ours unless recommended by the nominating and corporate governance committee and nominated by our board of directors or nominated in accordance with the procedures set forth above. Candidates proposed by stockholders for nomination are evaluated using the same criteria as candidates initially proposed by the nominating and corporate governance committee.

We must receive the written nomination for an annual meeting not less than 90 days and not more than 120 days prior to the first anniversary of the previous year's annual meeting of stockholders, or, if no annual meeting was held the previous year or the date of the annual meeting is advanced more than 30 days before or delayed more than 60 days after the anniversary date, we must receive the written nomination not more than 120 days prior to the annual meeting and not less than the later of 90 days prior to the annual meeting or ten days following the day on which public announcement of the date of the annual meeting is first made. For a special meeting, we must receive the written nomination not less than the later of 90 days prior to the special meeting or ten days following the day on which public announcement of the date of the special meeting is first made.

The nominating and corporate governance committee expects, as minimum qualifications, that nominees to our board of directors (including incumbent directors) will enhance our board of director's management, finance and/or scientific expertise, will not have a conflict of interest and will have a high ethical standard. A director nominee's knowledge and/or experience in areas such as, but not limited to, the medical, biotechnology, or life sciences industry, equity and debt capital markets and financial accounting are likely to be considered both in relation to the individual's qualification to serve on our board of directors and the needs of our board of directors as a whole. Other characteristics, including but not limited to, the director nominee's material relationships with us, time availability, service on other boards of directors and their committees, or any other characteristics which may prove relevant at any given time as determined by the nominating and corporate governance committee shall be reviewed for purposes of determining a director nominee's qualification.

Candidates for director nominees are evaluated by the nominating and corporate governance committee in the context of the current composition of our board of directors, our operating requirements and the long-term interests of our stockholders. The nominating and corporate governance committee then uses its network of contacts to compile a list of potential candidates, but may also engage, if it deems appropriate, a professional search firm. The nominating and corporate governance committee conducts any appropriate and necessary inquiries into the backgrounds and qualifications of possible candidates after considering the function and needs of our board of directors. In the case of incumbent directors whose terms of office are set to expire, the nominating and corporate governance committee reviews such directors' overall service to us during their term, including the number of meetings attended, level of participation, quality of performance, and any other relationships and transactions that might impair such directors' independence. The nominating and corporate governance committee meets to discuss and consider such candidates' qualifications and then selects a nominee for recommendation to our board of directors by majority vote. To date, the nominating and corporate governance committee has not paid a fee to any third party to assist in the process of identifying or evaluating director candidates.

#### Compensation Committee Interlocks and Insider Participation

The current members of the compensation committee are Mr. Berman and Dr. McKearn. Currently, none of such persons is an officer or employee of us or any of our subsidiaries. During fiscal 2010, none of our executive officers served as a director or member of a compensation committee (or other committee serving an equivalent function) of any other entity, whose executive officers served as a director or member of our compensation committee. No interlocking relationship, as defined by the Securities Exchange Act of 1934, as amended, exists between our board of directors or our Compensation Committee and the board of directors or compensation committee of any other company.

## EXECUTIVE COMPENSATION

## Summary Compensation Table

The following table sets forth the information as to compensation paid to or earned by our Chief Executive Officer and our two other most highly compensated executive officers during the fiscal years ended October 31, 2010 and 2009. These individuals are referred to in this prospectus as our named executive officers. As none of our named executive officers received non-equity incentive plan compensation or nonqualified deferred compensation earnings during the fiscal years ended October 31, 2010 and 2009, we have omitted those columns from the table.

Name and Principal Position	Fiscal Year	Salary	Bonus	Stock Award(s) (1)	Option Award(s) (1)	All Other Compensation	Total
Thomas A. Moore, CEO and Chairman	2010	\$ 350,000	\$ -	\$ 135,000 (7)	\$ 224,800	\$ 142,174 (3)	\$ 851,974
	2009	350,000	-	71,250 (7)	223,500	17,582 (2)	662,332
Dr. John Rothman, Executive VP of Science & Operations	2010	250,000	50,000	30,000 (4)	252,900	29,451 (5)	612,351
	2009	250,000	-	30,000 (4)	156,450	23,797 (5)	460,247
Mark J. Rosenblum, Chief Financial Officer	2010	225,000	-	-	134,880	8,494 (6)	368,374
	2009	-	-	-	-	-	-

(1) The amounts shown in this column represent the fair value on grant date in accordance with ASC 718 using the assumptions described under Stock Compensation in Note 2 to our financial statements included elsewhere in this prospectus.

(2) Based on our cost of Mr. Moore's coverage for health care.

(3) Based on our cost of Mr. Moore's coverage for health care and interest received for the Moore Notes.

(4) Represents \$30,000 of base salary paid in shares of our common stock in lieu of cash, based on the average monthly stock price.

(5) Based on our cost of his coverage for health care and the 401K company match he received.

(6) Based on our cost of his coverage for health care.

(7) For 2010, represents 750,000 shares of our common stock granted to Mr. Moore based on the financial raise milestone in his employment agreement valued at the market close price on June 29, 2010. For 2009, represents 750,000 shares of the Company's common stock granted to him based on the financial raise milestone in his employment agreement valued at the market close price on April 4, 2008.



## Discussion of Summary Compensation Table

We are party to an employment agreement with each of our named executive officers who is presently employed by us, other than Mr. Rosenblum. Each employment agreement sets forth the terms of that officer's employment, including among other things, salary, bonus, non-equity incentive plan and other compensation, and its material terms are described below. In fiscal 2009 and fiscal 2010, we granted stock options to our named executive officers to purchase shares of our common stock and issued stock to our Chief Executive Officer. The material terms of these grants are also described below.

**Moore Employment Agreement and Option Agreements.** We are party to an employment agreement with Mr. Moore, dated as of August 21, 2007 (memorializing an oral agreement dated December 15, 2006), that provides that he will serve as our Chairman of the Board and Chief Executive Officer for an initial term of two years. For so long as Mr. Moore is employed by us, Mr. Moore is also entitled to nominate one additional person to serve on our board of directors. Following the initial term of employment, the agreement was renewed for a one year term, and is automatically renewable for additional successive one year terms, subject to our right and Mr. Moore's right not to renew the agreement upon at least 90 days' written notice prior to the expiration of any one year term.

Under the terms of the agreement, Mr. Moore was entitled to receive a base salary of \$250,000 per year, subject to increase to \$350,000 per year upon our successful raise of at least \$4.0 million (which condition was satisfied on November 1, 2007) and subject to annual review for increases by our board of directors in its sole discretion. The agreement also provides that Mr. Moore is entitled to receive family health insurance at no cost to him. Mr. Moore's employment agreement does not provide for the payment of a bonus.

In connection with our hiring of Mr. Moore, we agreed to grant Mr. Moore up to 1,500,000 shares of our common stock, of which 750,000 shares were issued on November 1, 2007 upon our successful raise of \$4.0 million and 750,000 shares were issued on June 29, 2010 upon our successful raise of an additional \$6.0 million (which condition was satisfied in January 2010). In addition, on December 15, 2006, we granted Mr. Moore options to purchase 2,400,000 shares of our common stock. Each option is exercisable at \$0.143 per share (which was equal to the closing sale price of our common stock on December 15, 2006) and expires on December 15, 2016. The options vested in 24 equal monthly installments. On July 21, 2009, we granted Mr. Moore options to purchase 2,500,000 shares of our common stock. Each option is exercisable at \$0.10 per share (which was equal to the closing sale price of our common stock on July 21, 2009) and expires on July 21, 2019. One-third of these options vested on the grant date, one-third of these options vested on the first anniversary of the grant and the remaining one-third will vest on the second anniversary of the grant. On October 14, 2010, we granted Mr. Moore options to purchase 2,000,000 shares of our common stock. Each option is exercisable at \$0.15 per share. These options vest over a three year period beginning one year from the grant date.

We have also agreed to grant Mr. Moore options to purchase an additional 1,500,000 shares of our common stock if the price of common stock (adjusted for any splits) is equal to or greater than \$0.40 for 40 consecutive business days. Pursuant to the terms of his employment agreement, all options will be awarded and vested upon a merger of the company which is a change of control or a sale of the company while Mr. Moore is employed. In addition, if Mr. Moore's employment is terminated by us, Mr. Moore is entitled to receive severance payments equal to one year's salary at the then current compensation level.

Mr. Moore has agreed to refrain from engaging in certain activities that are competitive with us and our business during his employment and for a period of 12 months thereafter under certain circumstances. In addition, Mr. Moore is subject to a non-solicitation provision for 12 months after termination of his employment.

**Rothman Employment Agreement and Option Agreements.** We previously entered into an employment agreement with Dr. Rothman, Ph.D., dated as of March 7, 2005, that provided that he would serve as our Vice President of Clinical Development for an initial term of one year. Dr. Rothman's current salary is \$305,000, consisting of \$275,000 in cash and \$30,000 in stock, payable in our common stock, based on the average closing stock price for such six month period. While the employment agreement has expired and has not been formally renewed in accordance with the agreement, Dr. Rothman remains employed by us and is currently our Executive V.P. of Clinical and Scientific Operations.

In addition, on March 1, 2005, we granted Dr. Rothman options to purchase 360,000 shares of our common stock. Each option is exercisable at \$0.287 per share (which was equal to the closing sale price of our common stock on March 1, 2005) and expires on March 1, 2015. All of these options have vested. On March 29, 2006, we granted Dr. Rothman options to purchase 150,000 shares of our common stock. Each option is exercisable at \$0.26 per share (which was equal to the closing sale price of our common stock on March 29, 2006) and expires on March 29, 2016. One-fourth of these options vested on the first anniversary of the grant date, and the remaining vest in 12 equal quarterly installments. On February 15, 2007, we granted Dr. Rothman options to purchase 300,000 shares of our common stock. Each option is exercisable at \$0.165 per share (which was equal to the closing sale price of our common stock on February 15, 2007) and expires on February 15, 2017. One-fourth of these options vested on the first anniversary of the grant date, and the remaining vest in 12 equal quarterly installments. Pursuant to the terms of the 2005 plan, at least 75% of Dr. Rothman's options will be vested upon a merger of the company which is a change of control or a sale of the company while Dr. Rothman is employed, unless the administrator of the plan otherwise allows for all options to become vested. On July 21, 2009, we granted Mr. Rothman options to purchase 1,750,000 shares of our common stock. Each option is exercisable at \$0.10 per share (which was equal to the closing sale price of our common stock on July 21, 2009) and expires on July 21, 2019. One-third of these options vested on the grant date, one-third of these options vested on the first anniversary of the grant and the remaining one-third will vest on the

second anniversary of the grant. On October 14, 2010, we granted Dr. Rothman options to purchase 2,250,000 shares of our common stock. Each option is exercisable at \$0.15 per share. These options vest over a three year period beginning one year from the grant date.

Dr. Rothman has agreed to refrain from engaging in certain activities that are competitive with us and our business during his employment and for a period of 18 months thereafter under certain circumstances. In addition, Dr. Rothman is subject to a non-solicitation provision for 18 months after termination of his employment.

Rosenblum Compensation . Mr. Rosenblum serves as our Chief Financial Officer, Senior Vice President and Secretary. His current salary is \$240,000 per annum, with a discretionary bonus of up to 30% of his base compensation awarded annually in March beginning in 2011. While an employment agreement has not been formally entered into, Mr. Rosenblum remains employed by us.

In addition, on January 5, 2010 Mr. Rosenblum was granted options to purchase 1,000,000 shares of the our common stock with an exercise price equal to \$0.128. One third of these options vested on the date of grant, one third vested on January 5, 2011, and one third vests on the second anniversary of the date of grant. On October 14, 2010, we granted Mr. Rosenblum options to purchase 1,200,000 shares of our common stock. Each option is exercisable at \$0.15 per share. These options vest over a three year period beginning one year from the grant date.

## Outstanding Equity Awards at Fiscal Year-End

The following table provides information about the number of outstanding equity awards held by our named executive officers at October 31, 2010.

Name	Option Awards					Stock Awards				
	Number of Securities Underlying Unexercised Options (#) Exercisable	Number of Securities Underlying Unexercised Options (#) Unexercisable	Equity Incentive Plan Awards: Number of Securities Underlying Unexercised Options (#)	Option Exercise Price (\$)	Option Expiration Date	Number of Shares or Units of Stock That Have Not Vested (#)	Market Value of Shares or Units of Stock That Have Not Vested (\$)	Equity Incentive Plan Awards: Number of Shares, Units or Rights That Have Not Vested (#)	Equity Incentive Plan Awards: Market or Payout Value of Unearned Shares, Units or Rights That Have Not Vested (\$)	
Thomas A. Moore	1,666,667	833,333	(1)	—	0.100	7/21/19	—	\$ —	—	—
	2,400,000	—	—	0.143	12/15/16	—	—	—	—	—
		2,000,000	(2)	0.15	10/14/20					
Dr. John Rothman	1,166,667	583,333	(3)	—	0.100	7/21/19	—	—	—	—
	360,000	—	—	0.287	3/1/15	—	—	—	—	—
	150,000	-	—	0.260	3/29/16	—	—	—	—	—
	281,250	18,750	(4)	0.165	2/15/17	—	—	—	—	—
		2,250,000	(5)	0.15	10/14/20					
Mark J. Rosenblum	666,666	333,334	(6)	0.1291	1/05/20					
		1,200,000	(7)	0.15	10/14/20					

(1) Of these options, approximately 833,333 became exercisable on July 21, 2009, approximately 833,333 became exercisable on July 21, 2010 and approximately 833,333 will become exercisable on July 21, 2011.

(2) Of these options, approximately 666,666 will become exercisable on October 14, 2011, approximately 666,667 will become exercisable on October 14, 2012 and approximately 666,667 will become exercisable on October 14, 2013.

(3)

Of these options, approximately 583,333 became exercisable on July 21, 2009, approximately 583,333 became exercisable on July 21, 2010 and approximately 583,333 will become exercisable on July 21, 2011.

- (4) Of these options, 75,000 became exercisable on February 15, 2008, 18,750 became exercisable in each quarter from the quarter ended April 30, 2008 through the quarter ended October 31, 2010, and 18,750 became exercisable February 15, 2011.
- (5) Of these options, 750,000 will become exercisable on October 14, 2011, 750,000 will become exercisable on October 14, 2012 and 750,000 will become exercisable on October 14, 2013.
- (6) Of these options, 333,333 became exercisable on January 5, 2010, 333,333 became exercisable on January 5, 2011 and 333,334 will become exercisable on January 5, 2012.
- (7) Of these options, 400,000 will become exercisable on October 14, 2011, 400,000 will become exercisable on October 14, 2012 and 400,000 will become exercisable on October 14, 2013.

#### Director Compensation

All of our non-employee directors earn a combination of cash compensation and awards of shares of our common stock. Each non-employee director (other than Mr. Berman) earns 6,000 shares of our common stock per quarter. Additionally, each non-employee director earns \$2,000 for each board meeting attended in person and \$750 for each telephonic board meeting. In addition, each member of a committee of the Board earns \$2,000 per meeting attended in person held on days other than board meeting days and \$750 for each telephonic committee meeting. In addition, Mr. Berman, earns \$2,000 a month in shares of our common stock based on the average closing price of our common stock for the preceding month. The non-employee director compensation that was earned for the twelve months ended October 31, 2010, was not paid or issued. Our employee director does not receive any compensation for his services as a director.

The table below summarizes the compensation that was earned by our non-employee directors for fiscal 2010. As none of our non-employee directors received non-equity incentive plan compensation or nonqualified deferred compensation earnings during fiscal 2010, we have omitted those columns from the table.

Name	Fees Earned or Paid in Cash (\$)	Stock Awards (\$)	Option Awards \$(1)	All other Compensation (\$)	Total (\$)
Roni A. Appel	\$ 5,500	\$ 4,020(2)	\$ 28,100(3)	—\$	37,620
Dr. James Patton	9,000	4,020(2)	28,100(3)	—	41,120
Dr. Thomas McKearn	3,500	4,020(2)	44,960(4)	—	52,480
Richard Berman	7,750	24,000(5)	44,960(4)	—	76,710

(1) The amounts shown in this column represent the fair value on grant date in accordance with ASC 718 using the assumptions described under Stock Compensation in Note 2 to our financial statements included elsewhere in this prospectus.

(2) Represents the grant date fair value of 6,000 shares of our common stock a quarter earned (but not paid or issued) if the member attends at least 75% of the meetings annually.

(3) Based on the grant date fair value (\$0.1124) of 250,000 options granted on October 14, 2010.

(4) Based on the grant date fair value (\$0.1124) of 400,000 options granted on October 14, 2010.

(5) Based on \$24,000 of compensation in the form of shares of our common stock earned but not issued to date.

#### 2004 Stock Option Plan

In November 2004, our board of directors adopted and our stockholders approved the 2004 Stock Option Plan, which we refer to as the 2004 plan. The 2004 plan provides for the grant of options to purchase up to 2,381,525 shares of our common stock to employees, officers, directors and consultants. Options may be either “incentive stock options” or non-qualified options under the Federal tax laws. Incentive stock options may be granted only to our employees, while non-qualified options may be issued, in addition to employees, to non-employee directors and consultants. As of June 20, 2011, options to purchase 2,319,025 shares of our common stock have been granted under the 2004 plan.

The 2004 plan is administered by “disinterested members” of our board of directors or the compensation committee, who determine, among other things, the individuals who will receive options, the time period during which the options may be partially or fully exercised, the number of shares of common stock issuable upon the exercise of each option and the option exercise price.

Subject to a number of exceptions, the exercise price per share of common stock subject to an incentive option may not be less than the fair market value per share of common stock on the date the option is granted. The per share exercise price of our common stock subject to a non-qualified option may be established by our board of directors, but will not, however, be less than 85% of the fair market value per share of common stock on the date the option is granted. The aggregate fair market value of common stock for which any person may be granted incentive stock options which first become exercisable in any calendar year may not exceed \$100,000 on the date of grant.

No stock option may be transferred by an optionee other than by will or the laws of descent and distribution, and, during the lifetime of an optionee, the option will be exercisable only by the optionee. In the event of termination of employment or engagement other than by death or disability, the optionee will have no more than three months after such termination during which the optionee will be entitled to exercise the option to the extent vested at termination, unless otherwise determined by our board of directors. Upon termination of employment or engagement of an optionee by reason of death or permanent and total disability, the optionee's options remain exercisable for one year to the extent the options were exercisable on the date of such termination. No similar limitation applies to non-qualified options.

We must grant options under the 2004 plan within ten years from the effective date of the 2004 plan. The effective date of the 2004 plan was November 12, 2004. Subject to a number of exceptions, holders of incentive stock options granted under the 2004 plan cannot exercise these options more than ten years from the date of grant. Options granted under the 2004 plan generally provide for the payment of the exercise price in cash and may provide for the payment of the exercise price by delivery to us of shares of common stock already owned by the optionee having a fair market value equal to the exercise price of the options being exercised, or by a combination of these methods. Therefore, if it is provided in an optionee's options, the optionee may be able to tender shares of common stock to purchase additional shares of common stock and may theoretically exercise all of his stock options with no additional investment other than the purchase of his original shares.

Any unexercised options that expire or that terminate upon an employee's ceasing to be employed by us become available again for issuance under the 2004 plan.

#### 2005 Stock Option Plan

In June 2006 our board of directors adopted, and on June 6, 2006 our stockholders approved, the 2005 Stock Option Plan, which we refer to as the 2005 plan.

The 2005 plan provides for the grant of options to purchase up to 5,600,000 shares of our common stock to employees, officers, directors and consultants. Options may be either "incentive stock options" or non-qualified options under the Federal tax laws. Incentive stock options may be granted only to our employees, while non-qualified options may be issued to non-employee directors, consultants and others, as well as to our employees. As of June 20, 2011, options to purchase 5,148,399 shares of our common stock have been granted under the 2005 plan.

The 2005 plan is administered by "disinterested members" of our board of directors or the compensation committee, who determine, among other things, the individuals who will receive options, the time period during which the options may be partially or fully exercised, the number of shares of common stock issuable upon the exercise of each option and the option exercise price.

Subject to a number of exceptions, the exercise price per share of common stock subject to an incentive option may not be less than the fair market value per share of common stock on the date the option is granted. The per share exercise price of our common stock subject to a non-qualified option may be established by our board of directors, but will not, however, be less than 85% of the fair market value per share of common stock on the date the option is granted. The aggregate fair market value of common stock for which any person may be granted incentive stock options which first become exercisable in any calendar year may not exceed \$100,000 on the date of grant.

Except when agreed to by our board of directors or the administrator of the 2005 plan, no stock option may be transferred by an optionee other than by will or the laws of descent and distribution, and, during the lifetime of an optionee, the option will be exercisable only by the optionee. In the event of termination of employment or engagement other than by death or disability, the optionee will have no more than three months after such termination during which the optionee will be entitled to exercise the option, unless otherwise determined by our board of directors. Upon termination of employment or engagement of an optionee by reason of death or permanent and total disability, the optionee's options remain exercisable for one year to the extent the options were exercisable on the date of such termination. No similar limitation applies to non-qualified options.

We must grant options under the 2005 plan within ten years from the effective date of the 2005 plan. The effective date of the 2005 plan was January 1, 2005. Subject to a number of exceptions, holders of incentive stock options granted under the 2005 plan cannot exercise these options more than ten years from the date of grant. Options granted under the 2005 plan generally provide for the payment of the exercise price in cash and may provide for the payment of the exercise price by delivery to us of shares of common stock already owned by the optionee having a fair market value equal to the exercise price of the options being exercised, or by a combination of these methods. Therefore, if it is provided in an optionee's options, the optionee may be able to tender shares of common stock to purchase additional shares of common stock and may theoretically exercise all of his stock options with no additional investment other than the purchase of his original shares.

Any unexercised options that expire or that terminate upon an employee's ceasing to be employed by us become available again for issuance under the 2005 plan.

#### 2009 Stock Option Plan



Our board of directors adopted the 2009 Stock Option Plan effective July 21, 2009, and recommended that it be submitted to our shareholders for their approval at the next annual meeting. On April 23, 2010, our board of directors approved and adopted, and on June 1, 2010 our stockholders approved, the amended and restated 2009 Stock Option Plan, which we refer to as the 2009 plan. An aggregate of 20,000,000 shares of our common stock (subject to adjustment by the compensation committee) are reserved for issuance upon the exercise of options granted under the 2009 plan. As of June 20, 2011, options to purchase 19,850,000 shares of our common stock are outstanding under the 2009 plan and no options to purchase shares of our common stock remain available for issuance under the 2009 plan.

The 2009 plan is to be administered by the compensation committee of our board of directors; provided, however, that except as otherwise expressly provided in the 2009 plan, our board of directors may exercise any power or authority granted to the compensation committee under the 2009 plan. Subject to the terms of the 2009 plan, the compensation committee is authorized to select eligible persons to receive options, determine the type, number and other terms and conditions of, and all other matters relating to, options, prescribe option agreements (which need not be identical for each participant), and the rules and regulations for the administration of the 2009 plan, construe and interpret the 2009 plan and option agreements, correct defects, supply omissions or reconcile inconsistencies therein, and make all other decisions and determinations as the compensation committee may deem necessary or advisable for the administration of the 2009 plan.

The maximum number of shares of common stock to which options may be granted to any one individual under the 2009 plan is 6,000,000 (subject to adjustment by the compensation committee). The shares acquired upon exercise of options granted under the 2009 plan will be authorized and issued shares of our common stock. Our shareholders will not have any preemptive rights to purchase or subscribe for any common stock by reason of the reservation and issuance of common stock under the 2009 plan. If any option granted under the 2009 plan should expire or terminate for any reason other than having been exercised in full, the unpurchased shares subject to that option will again be available for purposes of the 2009 plan.

The persons eligible to receive awards under the 2009 plan are the officers, directors, employees, consultants and other persons who provide services to us or any related entity. An employee on leave of absence may be considered as still in our or a related entity's employ for purposes of eligibility for participation in the 2009 plan. All options granted under the 2009 plan must be evidenced by a written agreement. The agreement will contain such terms and conditions as the compensation committee shall prescribe, consistent with the 2009 plan, including, without limitation, the exercise price, term and any restrictions on the exercisability of the options granted. For any option granted under the 2009 plan, the exercise price per share of common stock may be any price determined by the compensation committee; however, the exercise price per share of any incentive stock option may not be less than the fair market value of the common stock on the date such incentive stock option is granted.

The compensation committee may permit the exercise price of an option to be paid for in cash, by certified or official bank check or personal check, by money order, with already owned shares of common stock that have been held by the optionee for at least six (6) months (or such other shares as we determine will not cause us to recognize for financial accounting purposes a charge for compensation expense), the withholding of shares of common stock issuable upon exercise of the option, by delivery of a properly executed exercise notice together with such documentation as shall be required by the compensation committee (or, if applicable, the broker) to effect a cashless exercise, or a combination of the above. If paid in whole or in part with shares of already owned common stock, the value of the shares surrendered is deemed to be their fair market value on the date the option is exercised.

No incentive stock option, and unless the prior written consent of our compensation committee is obtained (which consent may be withheld for any reason) and the transaction does not violate the requirements of Rule 16b-3 of the Exchange Act, no non-qualified stock option granted under the 2009 plan is assignable or transferable, other than by will or by the laws of descent and distribution. During the lifetime of an optionee, an option is exercisable only by him or her, or in the case of a non-qualified stock option, by his or her permitted assignee.

The expiration date of an option under the 2009 plan will be determined by our compensation committee at the time of grant, but in no event may such an option be exercisable after 10 years from the date of grant. An option may be exercised at any time or from time to time or only after a period of time in installments, as determined by our compensation committee. Our compensation committee may in its sole discretion accelerate the date on which any option may be exercised. Each outstanding option granted under the 2009 plan may become immediately fully exercisable in the event of certain transactions, including certain changes in control of us, certain mergers and reorganizations, and certain dispositions of substantially all our assets.

Unless otherwise provided in the option agreement, the unexercised portion of any option granted under the 2009 plan shall automatically be terminated (a) three months after the date on which the optionee's employment is terminated for any reason other than (i) cause (as defined in the 2009 plan), (ii) mental or physical disability, or (iii) death; (b) immediately upon the termination of the optionee's employment for cause; (c) one year after the date on which the optionee's employment is terminated by reason of mental or physical disability; or (d) one year after the date on which the optionee's employment is terminated by reason of optionee's death, or if later, three months after the date of optionee's death if death occurs during the one year period following the termination of the optionee's employment by reason of mental or physical disability.

Unless earlier terminated by our board, the 2009 plan will terminate at the earliest of (a) such time as no shares of common stock remain available for issuance under the 2009 plan, (b) termination of the 2009 plan by our board, or (c) the tenth anniversary of the effective date of the 2009 plan. Options outstanding upon expiration of the 2009 plan shall remain in effect until they have been exercised or terminated, or have expired.

#### STOCK OWNERSHIP

The following table sets forth certain information with respect to the beneficial ownership of our common stock as of June 20, 2011 of:

- each person who is known by us to be the beneficial owner of more than 5% of our outstanding common stock;

- each of our directors;
- each of our named executive officers; and
- all of our directors and executive officers as a group.

As used in the table below and elsewhere in this prospectus, the term beneficial ownership with respect to our common stock consists of sole or shared voting power (which includes the power to vote, or to direct the voting of shares of our common stock) or sole or shared investment power (which includes the power to dispose, or direct the disposition of, shares of our common stock) through any contract, arrangement, understanding, relationship or otherwise, including a right to acquire such power(s) during the 60 days following June 20, 2011.

Unless otherwise indicated in the footnotes to this table, and subject to community property laws where applicable, we believe each of the stockholders named in this table has sole voting and investment power with respect to the shares indicated as beneficially owned. Applicable percentages are based on 230,083,519 shares of common stock outstanding as of June 20, 2011, adjusted as required by the rules promulgated by the SEC. Unless otherwise indicated, the address for each of the individuals and entities listed in this table is 305 College Road East, Princeton, New Jersey 08540 .

Name and Address of Beneficial Owner	Number of Shares of our Common Stock Beneficially Owned	Percentage of Class Beneficially Owned
Thomas A. Moore	10,252,171(1)	4.4%
Roni A. Appel	6,925,225(2)	3.0%
Richard Berman	2,233,984(3)	1.0%
Dr. James Patton	3,351,830(4)	1.5%
Dr. Thomas McKearn	1,020,054(5)	*
Dr. John Rothman	4,272,997(6)	1.8%
Mark J. Rosenblum	666,666(7)	*
All Current Directors and Executive Officers as a Group (7 people)	28,722,927(8)	12.3%

\* Less than 1%.

(1) Represents 5,352,171 issued shares of our common stock and options to purchase 4,900,000 shares of our common stock exercisable within 60 days. However, it excludes warrants to purchase 6,976,956 shares of our common stock, limited by a 4.99% beneficial ownership provision in the warrants that would prohibit him from exercising any of such warrants to the extent that upon such exercise he, together with his affiliates, would beneficially own more than 4.99% of the total number of shares of our common stock then issued and outstanding (unless Mr. Moore provides us with 61 days' notice of the holders waiver of such provisions).

(2) Represents 4,130,134 issued shares of our common stock, options to purchase 2,729,091 shares of our common stock exercisable within 60 days and 66,000 shares of our common stock earned but not yet issued.

(3) Represents 760,624 issued shares of our common stock, options to purchase 900,001 shares of our common stock exercisable within 60 days and 573,359 shares of our common stock earned but not yet issued.

(4)

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Represents 2,820,576 issued shares of our common stock, options to purchase 423,254 shares of our common stock exercisable within 60 days and 108,000 shares earned but not yet issued.

- (5) Represents 179,290 issued shares of our common stock, options to purchase 732,764 shares of our common stock exercisable within 60 days and 108,000 shares of our common stock earned but not yet issued.
- (6) Represents 275,775 issued shares of our common stock, options to purchase 2,560,000 shares of our common stock exercisable within 60 days and 1,437,222 shares of our common stock earned but not yet issued.
- (7) Represents options to purchase 666,666 shares of our common stock exercisable within 60 days.
- (8) Represents an aggregate of 13,518,570 shares of our common stock, options to purchase 12,911,776 shares of our common stock exercisable within 60 days, and 2,292,581 shares of our common stock earned but not yet issued.

## CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS

Our policy is to enter into transactions with related parties on terms that, on the whole, are no more favorable, or no less favorable, than those available from unaffiliated third parties. Based on our experience in the business sectors in which we operate and the terms of our transactions with unaffiliated third parties, we believe that all of the transactions described below met this policy standard at the time they occurred.

On September 22, 2008, we entered into a note purchase agreement with our Chief Executive Officer, Thomas A. Moore, pursuant to which we agreed to sell to Mr. Moore, from time to time, one or more senior promissory notes, which we refer to as the Moore Notes. On June 15, 2009, we amended the terms of the Moore Notes to increase the amounts available from \$800,000 to \$950,000 and to change the maturity date of the Moore Notes from June 15, 2009 to the earlier of January 1, 2010 or our next equity financing resulting in gross proceeds to us of at least \$6.0 million. On February 15, 2010, we agreed to amend the terms of the Moore Notes such that (i) Mr. Moore had the option to elect to receive accumulated interest thereon on or after March 17, 2010 (which amounted to approximately \$130,000), (ii) we were to begin to make monthly installment payments of \$100,000 on the outstanding principal amount on April 15, 2010; provided, however, that the balance of the principal will be repaid in full on consummation of our next equity financing resulting in gross proceeds to us of at least \$6.0 million and (iii) we will retain \$200,000 of the repayment amount for investment in our next equity financing. In May 2010, we issued 1,176,471 shares of common stock to Mr. Moore (based on a price of \$0.17 per share) in satisfaction of \$200,000 of Moore Notes.

In connection with a loan made by Mr. Moore to us in the amount of \$230,000, we agreed to further amend and restate the terms of the Moore Notes on March 17, 2011 to increase the principal amount due by \$230,000. Under the terms of the amended and restated Moore Notes: (i) the maturity date is the earlier of (x) the date of consummation of an equity financing by us in an amount of \$6.0 million or more and (y) the occurrence of any event of default as defined in the Moore Notes, (ii) Mr. Moore may elect, at his option, to receive accumulated interest thereon on or after April 15, 2011 (which we expect will amount to approximately \$91,000), (iii) we will make monthly installment payments of \$100,000 on the outstanding principal amount beginning on June 15, 2011, and (iv) we may retain, at the option of Mr. Moore, \$200,000 of the repayment amount for investment in our next equity financing. In addition, Mr. Moore made a loan to us in the amount of \$65,000 in April 2011. As of June 20, 2011, approximately \$873,000 in principal amount of Moore Notes were outstanding and payable to Mr. Moore.

The Moore Notes bear interest at a rate of 12% per annum, compounded quarterly, and may be prepaid in whole or in part at our option without penalty at any time prior to maturity. In consideration of Mr. Moore's original agreement to purchase the Moore Notes, we agreed that concurrently with an equity financing resulting in gross proceeds to us of at least \$6.0 million, we will issue to Mr. Moore a warrant to purchase our common stock, which will entitle Mr. Moore to purchase a number of shares of our common stock equal to one share per \$1.00 invested by Mr. Moore in the purchase of the Moore Notes. The terms of these warrants were subsequently modified by our board of directors based on the terms of the senior bridge financing increasing the number of shares underlying the warrant from one share per \$1.00 invested to two and one-half shares. The terms of these warrants were further modified by our board of directors to increase the number of shares underlying the warrant from two and one-half shares per \$1.00 invested to three shares. The final terms are anticipated to contain the same terms and conditions as warrants issued to investors in the subsequent financing (which are currently exercisable at \$0.15 per share).

## DESCRIPTION OF OUR CAPITAL STOCK

### General

At the date hereof, we are authorized by our articles of incorporation to issue an aggregate of 500,000,000 shares of common stock, par value \$0.001 per share, and 5,000,000 shares of "blank check" preferred stock, par value \$0.001 per

share. As of June 20, 2011, there were 230,083,519 shares of common stock, no shares of Series A preferred stock and 740 shares of Series B preferred stock outstanding.

#### Common Stock

Holders of our common stock are entitled to one vote for each share held of record on each matter submitted to a vote of stockholders. Holders of our common stock do not have cumulative voting rights, which means that the holders of more than one half of the outstanding shares of common stock, subject to the rights of the holders of the preferred stock, if any, can elect all of our directors, if they choose to do so. In this event, the holders of the remaining shares of common stock would not be able to elect any directors. Except as otherwise required by Delaware law, and subject to the rights of the holders of preferred stock, if any, all stockholder action is taken by the vote of a majority of the outstanding shares of common stock voting as a single class present at a meeting of stockholders at which a quorum consisting of a majority of the outstanding shares of common stock is present in person or proxy.

Subject to the prior rights of any class or series of preferred stock which may from time to time be outstanding, if any, holders of our common stock are entitled to receive ratably, dividends when, as, and if declared by our board of directors out of funds legally available for that purpose and, upon our liquidation, dissolution, or winding up, are entitled to share ratably in all assets remaining after payment of liabilities and payment of accrued dividends and liquidation preferences on the preferred stock, if any. Holders of our common stock have no preemptive rights and have no rights to convert their common stock into any other securities. The outstanding common stock is validly authorized and issued, fully-paid and nonassessable.

## Common Stock in this Offering

The 72,666,815 shares of common stock offered in this prospectus when issued and paid for in accordance with the terms of the warrants will be fully paid and are not liable for further call or assessment.

## Preferred Stock

### General

We are authorized to issue up to 5,000,000 shares of “blank check” preferred stock. Preferred stock may be issued in one or more series and having the rights, privileges and limitations, including voting rights, conversion privileges and redemption rights, as may, from time to time, be determined by our board of directors. Preferred stock may be issued in the future in connection with acquisitions, financings, or other matters as our board of directors deems appropriate. In the event that any shares of preferred stock are to be issued, a certificate of designation containing the rights, privileges and limitations of such series of preferred stock will be filed with the Secretary of State of the State of Delaware. The effect of such preferred stock is that, subject to Federal securities laws and Delaware law, our board of directors alone, may be able to authorize the issuance of preferred stock which could have the effect of delaying, deferring, or preventing a change in control of us without further action by the stockholders, and may adversely affect the voting and other rights of the holders of our common stock. The issuance of preferred stock with voting and conversion rights may also adversely affect the voting power of holders of our common stock, including the loss of voting control to others.

Our board of directors has authorized the issuance of up to 1,000 shares of Series A Preferred Stock, \$0.001 par value per share, none of which are outstanding as of the date hereof, and up to 2,500 shares of Series B Preferred Stock, \$0.001 par value per share, 740 shares of which are outstanding as of the date hereof.

### Description of Series B Preferred Stock

The following description is qualified in its entirety by the terms and conditions set forth in the certificate of designations of Preferences, Rights and Limitations of Series B Preferred Stock attached as exhibit 4.3 to this registration statement, which we refer to as the Series B Certificate of Designations. The following description may not contain all the information with respect to such Series B Preferred Stock important to you. We encourage you to read the Series B Certificate of Designations attached as exhibit 4.3 to this registration statement.

Holders of Series B preferred stock will be entitled to receive dividends, which will accrue in shares of Series B preferred stock on an annual basis at a rate equal to 10% per annum from the issuance date. Accrued dividends will be payable upon redemption of the Series B preferred stock or upon the liquidation, dissolution or winding up of our company. The Series B preferred stock ranks, with respect to dividend rights and rights upon liquidation:

- senior to our common stock and any other class or series of preferred stock (other than Series A preferred stock or any class or series of preferred stock that we intend to cause to be listed for trading or quoted on Nasdaq, NYSE Amex or the New York Stock Exchange);
- pari passu with any outstanding shares of our Series A preferred stock (none of which are issued and outstanding as of the date hereof); and
- junior to all of our existing and future indebtedness and any class or series of preferred stock that we intend to cause to be listed for trading or quoted on Nasdaq, NYSE Amex or the New York Stock Exchange.



The Series B preferred stock has a liquidation preference per share equal to the original price per share thereof plus all accrued dividends thereon, and is subject to repurchase following the consummation of certain fundamental transactions by us. Upon or after the fourth anniversary of the applicable issuance date, we have the right, at our option, to redeem all or a portion of the shares of Series B preferred stock, at their liquidation value. We also have the right, at our option, to redeem all or a portion of the shares of Series B preferred stock, at a price per share equal to: (i) 136% of their liquidation value if redeemed on or after the applicable issuance date but prior to the first anniversary of the applicable issuance date, (ii) 127% of their liquidation value if redeemed on or after the first anniversary but prior to the second anniversary of the applicable issuance date, (iii) 118% of their liquidation value if redeemed on or after the second anniversary but prior to the third anniversary of the applicable issuance date, and (iv) 109% of their liquidation value if redeemed on or after the third anniversary but prior to the fourth anniversary of the applicable issuance date.

## Description of The Optimus Transactions

### A. Exchange of Series A Preferred Stock for Series B Preferred Stock

On May 13, 2010, we issued and sold an aggregate of 500 shares of Series A preferred stock to Optimus. The aggregate purchase price for the Series A preferred stock was \$5.0 million. On July 19, 2010, we issued 500 shares of Series B preferred stock to Optimus, which we refer to as the Series B exchange shares, in exchange for the 500 shares of Series A preferred stock so that all shares of our preferred stock held or subsequently purchased by Optimus under the Series B purchase agreement, as amended, would be redeemable upon substantially identical terms. Any accrued and unpaid dividends on the Series A preferred stock were deemed cancelled and such amount of accrued and unpaid dividends were reflected as accrued and unpaid dividends of the Series B preferred stock issued to Optimus.

### B. Offering of Series B Preferred Stock

Pursuant to the Series B purchase agreement, as amended, Optimus agreed to purchase, upon the terms and subject to the conditions set forth therein and described below, up to \$7.5 million of our Series B preferred stock, at a price of \$10,000 per share, of which \$2.84 million of our Series B preferred stock remains available for purchase. As of June 20, 2011, we issued and sold an aggregate of 466 shares of Series B preferred stock to Optimus. The aggregate purchase price for the Series B preferred stock was \$4.66 million. Under the terms of the Series B purchase agreement, as amended, Optimus remains obligated, from time to time until July 19, 2013, to purchase up to an additional 284 shares of Series B preferred stock upon notice from us to Optimus. Subject to satisfaction of certain closing conditions, Optimus is obligated to purchase such shares of Series B preferred stock on the 10th trading day after the date of the notice. We will determine, in our sole discretion, the timing and amount of Series B preferred stock to be purchased by Optimus, and may sell such shares in multiple tranches. Optimus will not be obligated to purchase the Series B preferred stock upon our notice (i) in the event the average closing sale price of our common stock during the nine trading days following delivery of our notice falls below 75% of the closing sale price of our common stock on the trading day prior to the date such notice is delivered to Optimus, or (ii) to the extent such purchase would result in Optimus and its affiliates beneficially owning more than 9.99% of our outstanding common stock.

### C. Redemption of Series B Preferred Stock

On December 30, 2010, immediately following the closing of the sale of 72 shares of Series B preferred stock to Optimus pursuant to the terms of the Series B purchase agreement, we redeemed 226 shares of Series B Preferred Stock held by Optimus for an aggregate redemption price of \$3,141,004 consisting of (i) cash in an amount of \$76,622 and (ii) the cancellation of certain promissory notes issued by an affiliate of Optimus to us in the aggregate amount of \$3,064,382.

### D. Rights to Issue Additional Series B Preferred Stock

Under the Series B purchase agreement, we may deliver a notice to Optimus requesting that Optimus purchase additional shares of Series B preferred stock. Optimus's obligation to accept a notice and to acquire and pay for the Series B preferred stock subject to such notice at a tranche closing are subject to the satisfaction of certain conditions, which include, among others:

- our common stock must be listed for trading or quoted on an eligible trading market, and we must be in compliance with all requirements under the Securities Exchange Act of 1934, as amended, in order to maintain such listing;
-

either (i) we have a current, valid and effective registration statement covering the resale of all warrant shares or (ii) all warrant shares are eligible for resale without limitation under Rule 144 (assuming cashless exercise of the warrant);

- there must not be any material adverse effect with respect to our company since the date of the Series B purchase agreement, as amended, other than losses incurred in the ordinary course of business;
  - we must not be in default under any material agreement;
- certain lock-up agreements with our senior officers and directors and certain beneficial owners of 10% or more of our outstanding common stock must be effective;
- there must not be any legal restraint prohibiting the transactions contemplated by the Series B purchase agreement, as amended; and
- the aggregate of all shares of our common stock beneficially owned by Optimus and its affiliates must not exceed 9.99% of our outstanding common stock.

## Stock Symbol

Our common stock is quoted on the OTC Bulletin Board under the symbol ADXS.OB. On June 20, 2011, the last reported sale price per share for our common stock as reported by the OTC Bulletin Board was \$0.149.

## Warrants

The following description is qualified in its entirety by the terms and conditions set forth in the forms of such warrants attached as exhibits to this registration statement. The following description may not contain all the information with respect to such warrants important to you. We encourage you to read the forms of each warrant attached as exhibits to this registration statement.

### Warrants - 2007 Private Placement

As part of the October 17, 2007 private placement, investors were issued units consisting of one share of common stock and  $\frac{3}{4}$  of a five-year warrant to purchase one share of common stock at an exercise price of \$0.20 per share (prior to anti-dilution adjustments). The October 2007 warrants provide for adjustment of their exercise prices upon the occurrence of certain events, such as payment of a stock dividend, a stock split, a reverse split, a reclassification of shares, or any subsequent equity sale, rights offering, pro rata distribution (full ratchet), or any fundamental transaction such as a merger, sale of all of its assets, tender offer or exchange offer, or reclassification of its common stock. If at any time after October 17, 2008 there is no effective registration statement registering, or no current prospectus available for, the resale of the shares underlying the warrants by the holder of such warrants, then the warrants may also be exercised at such time by means of a "cashless exercise." The October 2007 warrants provide that they may not be exercised if, following the exercise, the holder will be deemed to be the beneficial owner of more than 9.99% of our outstanding shares of common stock.

In an effort to reduce the number of our October 2007 warrants outstanding, we may from time to time enter into exchange agreements with the holders of such warrants pursuant to which such holders may receive shares of our common stock and/or additional warrants in amounts to be determined in such negotiations. As of June 20, 2011, we have exchanged October 2007 warrants to purchase 16,644,446 shares of our common stock with certain investors in return for 2,774,074 shares of our common stock and warrants to purchase an additional 11,096,297 shares of our common stock (which warrants are identical to the October 2007 warrants, except that such warrants do not contain any economic anti-dilution adjustment rights).

### Warrants - Series A Preferred Stock Offering

At the time of the execution of the Series A purchase agreement, an affiliate of Optimus was granted on September 24, 2009 a warrant to purchase up to 33,750,000 shares of our common stock at an exercise price of \$0.20 to be adjusted in connection with the draw down of each tranche. As permitted by the terms of such warrant, the aggregate exercise price of \$6,250,970 received by us as of June 20, 2011 is payable pursuant to four year full recourse promissory notes each bearing interest at the rate of 2% per year. In addition, in connection with the draw down of the final tranche, we issued an additional warrant to an affiliate of Optimus to purchase up to 2,818,000 shares of common stock at an exercise price of \$0.18 per share. As permitted by the terms of such warrant, the aggregate exercise price of \$507,240 received by us as of April 30, 2011 is payable pursuant to a four year full recourse promissory note bearing interest at the rate of 2% per year. The foregoing promissory notes are not due or payable at any time that (a) we are in default of under the Series A purchase agreement, any loan agreement or other material agreement or (b) there are any Series B exchange shares issued or outstanding.

### Warrants - Series B Preferred Stock Offering

At the time of execution of the Series B purchase agreement, we issued to Optimus a three-year warrant to purchase up to 40,500,000 shares of our common stock, at an initial exercise price of \$0.25 per share, of which 50,038 shares of our common stock remain available to purchase. As permitted by the terms of this warrant, the aggregate exercise price of \$6,291,000 received by us as of June 20, 2011 are payable pursuant to four year full recourse promissory notes bearing interest at the rate of 2% per year. On December 30, 2010, certain of these promissory notes in the aggregate amount of \$3,064,382 were cancelled as part of the redemptions price in connection with our redemption of 226 shares of Series B Preferred Stock held by Optimus. As of June 20, 2011 we have issued to Optimus warrants to purchase an aggregate of 77,068,000 shares of our common stock of which the above referenced 50,038 remain outstanding. Pursuant to the terms of the amendment to the Series B purchase agreement dated as of April 4, 2011, this warrant will automatically be cancelled effective as of the effective date of our registration statement on Form S-1 (File No. 333-173370).

On April 4, 2011, in connection with the amendment to the Series B purchase agreement, we issued an additional warrant to an affiliate of Optimus to purchase up to 25,560,000 shares of common stock at an initial exercise price of \$0.15 per share. The warrant will become exercisable on the earlier of (i) the date on which a registration statement registering for resale the shares of our common stock issuable upon exercise of the warrant becomes effective and (ii) the first date on which such warrant shares are eligible for resale without limitation under Rule 144 (assuming a cashless exercise of the warrant). The warrant consists of and is exercisable in tranches, with a separate tranche being created upon each delivery of a tranche notice under the Series B purchase agreement, as amended. On each tranche notice date, that portion of the warrant equal to 135% of the tranche amount will vest and become exercisable, and such vested portion may be exercised at any time during the exercise period on or after such tranche notice date. On each tranche notice date, the exercise price of the warrant will be adjusted to the closing sale price of a share of our common stock on the applicable tranche notice date. The exercise price of the warrant may be paid (at the option of the affiliate of Optimus) in cash or by issuance of a four-year, full-recourse promissory note, bearing interest at 2% per annum, and secured by a specified portfolio of assets. However, such promissory note is not due or payable at any time that (a) we are in default of any preferred stock purchase agreement for Series B preferred stock or any warrant issued pursuant thereto, any loan agreement or other material agreement or (b) there are any shares of the Series B preferred stock issued or outstanding. The warrant also provides for cashless exercise in certain circumstances. If Optimus fails to acquire and pay for the Series B preferred stock upon delivery of our notice in accordance with the terms of the Series B purchase agreement, as amended, (assuming the timely and full satisfaction of all of the conditions set forth therein) and the warrant has not previously been exercised in full, we have the right to demand surrender of the warrant (or any remaining portion thereof) without compensation, and the warrant will automatically be cancelled.

## Warrants - Bridge Offerings

In connection with the senior bridge financing and junior bridge financings, we have issued warrants to purchase an aggregate of 14,759,125 shares of our common stock with terms ranging from two to five years and exercise prices ranging from \$0.15 to \$0.25 per share (with most subject to anti-dilution adjustments). In return for extending the maturity dates of certain senior bridge notes, we issued additional warrants to purchase an aggregate of 1,450,663 shares of our common stock with terms similar to their original warrants. Due to the anti-dilution provisions contained in our warrant agreements, we issued an aggregate of 3,556,285 additional warrants as a result of “ratchets” that occurred in January 2010 and September 2010. In December 2010, we issued an aggregate of 815,790 additional warrants to certain of our junior bridge note holders, with terms similar to their original warrants, and new promissory notes in the aggregate principal amount of \$343,000 in return for extending the maturity dates of their original promissory notes. The senior bridge warrants and junior bridge warrants provide for adjustment of their exercise prices upon the occurrence of certain events, such as payment of a stock dividend, a stock split, a reverse split, a reclassification of shares, or any subsequent equity sale, rights offering, pro rata distribution (full ratchet), or any fundamental transaction such as a merger, sale of all of its assets, tender offer or exchange offer, or reclassification of its common stock. Each of the senior bridge warrants and some of the junior bridge warrants may be exercised on a cashless basis under certain circumstances. Each of the senior bridge warrants and junior bridge warrants provide that they may not be exercised if, following the exercise, the holder will be deemed to be the beneficial owner of more than 9.99% of our outstanding shares of common stock.

## Warrants - May 2011 Private Placement

In connection with the May 2011 offering, we issued an aggregate of 25,480,570 Warrants, of which 23,593,122 Warrants were issued to the investors in the May 2011 offering and 1,887,448 were issued to Rodman as the placement agent for the May 2011 offering. Each Warrant has an exercise price of \$0.15 per share. The Warrants are exercisable at any time on or before the third anniversary of the issue date of the Warrants, or May 12, 2014. The Warrants may be exercised on a cashless basis under certain circumstances. The Warrants include a limitation on conversion or exercise, which provides that at no time will an investor be entitled to exercise any number of Warrants that would result in the beneficial ownership by the investor and its affiliates of more than 4.99% of the outstanding shares of our common stock on such date. For a further description of the warrants issued in our May 2011 Offering, see “Description of May 2011 Offering - Description of the Warrants” on page 64 below.

## Antidilution Adjustments

As a result of anti-dilution protection provisions contained in certain of our outstanding warrants (including the October 2007 warrants, the senior bridge warrants and the junior bridge warrants), we have (i) reduced the exercise price from \$0.20 (prior to anti-dilution adjustments) per share to \$0.15, per share with respect to an aggregate of approximately 77.0 million warrant shares to purchase our common stock and (ii) correspondingly adjusted the amount of warrant shares issuable pursuant to certain warrants such that approximately 10.4 million additional warrant shares are issuable at \$0.15 per share.

## Registration Rights

The following description is qualified in its entirety by the terms and conditions set forth in the registration rights agreements with respect to the offerings described below attached as exhibits to this registration statement. The following description may not contain all the information with respect to such registration rights important to you. We encourage you to read the registration rights agreements attached as exhibits to this registration statement.

## Registration Rights - 2007 Private Placement

In connection with our October 2007 private placement, we entered into a registration rights agreement with the investors in that offering pursuant to which we agreed to file a registration statement with the SEC within 45 days after the final closing of the offering covering all of the shares of common stock sold to the investors in the October 2007 private placement and all of the shares of common stock underlying the warrants that were sold to the investors in that offering. Accordingly, we initially filed a registration statement on Form SB-2 with the SEC on November 30, 2007 to register all of such shares of common stock. The Form SB-2 registration statement was declared effective by the SEC on January 22, 2008. Under the terms of the registration rights agreement, we agreed to keep the registration statement effective until the earlier of (i) the date on which all of those shares of common stock may be resold without registration under the Securities Act without regard to any volume limitations under Rule 144 under the Securities Act or (ii) the date on which all of those shares of common stock have been resold pursuant to the registration statement or Rule 144 under the Securities Act.

The registration rights agreement provides that if, among other things, the registration statement ceases for any reason to remain continuously effective, or the selling stockholders are otherwise not permitted to use it to resell their shares of common stock for more than 10 consecutive calendar days or more than a total of twenty calendar days (which need not be consecutive calendar days) during any 12-month period, then we are required to pay as partial liquidated damages an amount equal to 1.5% of the aggregate purchase price paid by any selling stockholder for such common stock, up to a maximum of 15% of such purchase price. If we fail to pay any required partial liquidated damages in full within seven days after the date payable, we are then required to pay interest thereon at a rate of 15% per annum (or such lesser maximum amount that is permitted to be paid by applicable law) to the selling stockholder, accruing daily from the date such partial liquidated damages are due until such amounts, plus all such interest thereon, are paid in full.

We filed a post-effective amendment on Form S-1 to our original registration statement on Form SB-2 to, among other things, update the information included in the original registration statement, convert the original registration statement to a registration statement on Form S-1, and to deregister shares of our common stock which were covered by the original registration statement, but are no longer required to be registered under the terms of our registration rights agreement.

#### Registration Rights - Series B Preferred Stock Offering

Pursuant to the terms of the Series B purchase agreement, as amended, our rights to deliver a notice to Optimus requiring Optimus to acquire and pay for the Series B preferred stock are subject to having a current, valid and effective registration statement covering the resale of all shares underlying the warrants unless all shares underlying the warrants are eligible for resale without limitation under Rule 144 (assuming cashless exercise of the warrant).

#### Registration Rights - May 2011 Private Placement

In connection with the May 2011 offering, we entered into a Registration Rights Agreement, dated as of May 9, 2011 with the investors in the May 2011 offering. Pursuant to such agreement, we agreed with such investors to provide certain rights to register under the Securities Act of 1933, as amended, the shares of our common stock issuable upon any conversion of the Notes and the exercise of the Warrants, and agreed to file a registration statement within 45 days of the closing of the May 2011 offering to register the offering of the shares of our common stock issuable upon conversion of the Notes and the exercise of the Warrants. For a further description of the registration rights we granted in our May 2011 Offering, see "Description of May 2011 Offering - Registration Rights Agreement" on page 61 below.

#### Transfer Agent and Registrar

The transfer agent and registrar for our common stock is Securities Transfer Corporation, 2591 Dallas Parkway, Suite 102, Frisco, TX 75034.

### SHARES ELIGIBLE FOR FUTURE SALE

As of June 20, 2011, we had 230,083,519 shares of common stock outstanding, not including shares issuable upon conversion of certain of our notes or shares issuable upon exercise of our options or warrants. All shares sold in this offering will be freely tradable without restriction or further registration under the Securities Act, unless they are purchased by our "affiliates," as that term is defined in Rule 144 promulgated under the Securities Act.

The outstanding shares of our common stock not included in this prospectus will be available for sale in the public market as follows:



Public Float

Of our outstanding shares, as of June 20, 2011 approximately 13,518,570 shares are beneficially owned by executive officers, directors and affiliates (excluding shares of our common stock which (i) have been earned but not yet issued and (ii) may be acquired upon exercise of stock options and warrants which are currently exercisable or which become exercisable within 60 days of June 20, 2011). The approximately 216,564,949 remaining shares constitute our public float.

## Rule 144

In general, under Rule 144, as currently in effect, a person who has beneficially owned shares of our common stock for at least six months, including the holding period of prior owners other than affiliates, is entitled to sell his or her shares without any volume limitations; an affiliate, however, can sell such number of shares within any three-month period as does not exceed the greater of:

- 1% of the number of shares of our common stock then outstanding, which equaled 2,300,835 shares as of June 20, 2011, or
- the average weekly trading volume of our common stock on the OTC Bulletin Board during the four calendar weeks preceding the filing of a notice on Form 144 with respect to that sale.

Sales under Rule 144 are also subject to manner-of-sale provisions, notice requirements and the availability of current public information about us. In order to effect a Rule 144 sale of our common stock, our transfer agent will require an opinion from legal counsel. We may charge a fee to persons requesting sales under Rule 144 to obtain the necessary legal opinions.

As of June 20, 2011, approximately 200,335,150 shares of our common stock were available for sale by non-affiliates of ours under Rule 144.

## Rule 701

Rule 701 permits our employees, officers or directors who purchased shares of our common stock pursuant to a written compensatory plan or contract to resell such shares in reliance upon Rule 144 but without compliance with specific restrictions. Rule 701 provides that affiliates may sell their Rule 701 shares of common stock under Rule 144 without complying with the holding period requirement and that non-affiliates may sell such shares in reliance on Rule 144 without complying with the holding period, public information, volume limitation or notice provisions of Rule 144.

## Stock Options

We have registered, by means of a registration statement on Form S-8 under the Securities Act of 1933, 2,381,525 shares of common stock reserved for issuance under our 2004 plan. As of June 20, 2011, options to purchase 2,319,025 shares of common stock remain outstanding under our 2004 plan, all of which options to purchase shares of common stock have vested and have not been exercised. Shares of common stock issued upon exercise of a share option and registered under registration statement on Form S-8 will, subject to vesting provisions and Rule 144 volume limitations applicable to our affiliates, be available for sale in the open market immediately.

Our 2005 plan was approved by the stockholders on June 6, 2006, for 5,600,000 shares of common stock reserved for issuance. As of June 20, 2011, options to purchase 5,148,399 shares of common stock remain outstanding under our 2005 plan, and all of such options have vested and have not been exercised. Shares of common stock issued upon exercise of a share option may be eligible for sale, subject to vesting provisions, volume limitations and other limitations of Rule 144.

Our 2009 plan was approved by the stockholders on June 1, 2010, has 20,000,000 shares of common stock reserved for issuance. As of June 20, 2011, options to purchase 19,850,000 shares of common stock remain outstanding under our 2009 plan of which options to purchase approximately 6,958,211 shares of common stock have vested and have not been exercised. Shares of common stock issued upon exercise of a share option may be eligible for sale, subject to

vesting provisions, volume limitations and other limitations of Rule 144.

#### Lock Up of Shares

In order to induce Optimus to enter into the Series B purchase agreement, our executive officers, directors and beneficial owners of 10% or more of our common stock agreed that, for a period of ten trading days beginning on each date we deliver a notice exercising the put described in the Series B purchase agreement, as amended, to Optimus and ending on the closing date of the put exercise, they will not, without the prior written consent of Optimus, (a) sell, offer to sell, contract or agree to sell, hypothecate, pledge, grant any option to purchase or otherwise dispose of or agree to dispose of, directly or indirectly, in respect of, or establish or increase a put equivalent position or liquidate or decrease a call equivalent position with respect to, any of our common stock or any securities convertible into or exercisable or exchangeable for our common stock, or warrants or other rights to purchase our common stock or any such securities, or any securities substantially similar to our common stock, (b) enter into any swap or other arrangement that transfers to another, in whole or in part, any of the economic consequences of ownership of our common stock or any securities convertible into or exercisable or exchangeable for our common stock or any such securities, or warrants or other rights to purchase our common stock, whether any such transaction is to be settled by delivery of our common stock or such other securities, in cash or otherwise or (c) publicly announce an intention to effect any transaction specified in clause (a) or (b).

## DESCRIPTION OF MAY 2011 OFFERING

### General

On May 9, 2011, we entered into a Note Purchase Agreement with certain accredited investors, which we refer to as the Note Purchase Agreement, whereby the investors acquired approximately \$7.0 million of our Notes for an aggregate purchase price of approximately \$6.0 million in a private placement, which we refer to as the May 2011 offering. Additionally, each investor received a Warrant to purchase shares of our common stock equal to 50% of such number of shares of our common stock issuable upon conversion of the Note. The closing of the May 2011 offering occurred on May 12, 2011.

Rodman & Renshaw, LLC, which we refer to as Rodman, a subsidiary of Rodman & Renshaw Capital Group, Inc. (NASDAQ:RODM) acted as the exclusive placement agent in connection with the May 2011 offering and received compensation of a cash placement fee equal to 6% of the aggregate purchase price paid by investors in the May 2011 offering and Warrants to purchase 1,887,448 shares of our common stock (approximately 4% of the shares of our common stock issuable upon conversion of the Notes).

### Registration Rights Agreement

The following description is qualified in its entirety by the terms and conditions set forth in the registration rights agreement with respect to the May 2011 offering attached hereto as Exhibit 10.87, which we refer to as the Registration Rights Agreement. The following description may not contain all the information with respect to such registration rights important to you. We encourage you to read the Registration Rights Agreement attached as exhibit 10.87 to this registration statement.

In connection with the May 2011 offering, we entered into a Registration Rights Agreement, dated as of May 9, 2011, with the investors, which we refer to as the Registration Rights Agreement. Pursuant to such agreement, we agreed with the investors to provide certain rights to register under the Securities Act of 1933, as amended, the shares of our common stock issuable upon any conversion of the Notes and the exercise of the Warrants, and agreed to file the registration statement within 45 days of the closing of the May 2011 offering to register the resale of the shares of our common stock issuable upon conversion of the Notes and the exercise of the Warrants. Such shares of common stock underlying the Notes and the Warrants are now being registered pursuant to the registration statement of which this prospectus forms a part.

We have agreed to use our best efforts to have the registration statement declared effective within 90 calendar days after the closing date, or 120 calendar days after the closing date in the event the registration statement is subject to a full review by the Securities and Exchange Commission. In the event that the total number of shares being registered in the registration statement exceeds the limitations imposed by the Securities and Exchange Commission under Rule 415, we shall reduce the securities to be registered thereunder pro rata and, unless otherwise directed in writing by an investor, the number of securities to be registered under the registration statement will first be reduced by any securities that are not "registrable securities", second by the registrable securities represented by shares of common stock issuable upon conversion of the Notes and third by the registrable securities represented by shares of common stock issuable upon exercise of the warrants.

### Registrable securities include:

- all shares of our common stock issuable upon conversion in full of the Notes (without regard to any conversion limitations thereunder);

- all shares of our common stock issuable upon exercise in full of the Warrants (without regard to any conversion limitations thereunder); and
- any securities issued or then issuable upon any stock split, dividend or distribution, recapitalization or similar event with respect to the foregoing.

Securities shall cease to be registrable securities when the investors have disposed of all such securities in accordance with an effective registration statement, such securities have been sold in accordance with Rule 144 or such securities become eligible for resale pursuant to Rule 144.

Subject to the terms of the Registration Rights Agreement, upon the occurrence of any non-registration events listed below that incur liquidated damages, we shall pay to each investor an amount in cash, as liquidated damages, equal to 1.0% of the aggregate purchase price paid by such investor for any unregistered registrable securities and for each subsequent 30 day period (prorated for any shorter period) during which such registrable securities are subject to such non-registration event. Non-registration events include:

- our failure to file a registration statement on or before the 45th day following the closing of the May 2011 offering;
- the registration statement not being declared effective before the 90th (or in the case of a full review, the 120th) day following the closing of the May 2011 offering; or
- any registration statement, which previously had been declared effective, ceases to be effective for a period of more than 40 days in the aggregate per year.

No liquidated damages shall accrue on or as to any registrable securities that we were not able to register due the limitations imposed by the Securities and Exchange Commission under Rule 415 and the reductions described above.

## Description of the Notes

The following description is qualified in its entirety by the terms and conditions of those certain convertible notes issued in the May 2011 offering, which we refer to as the Notes, the form of which is attached hereto as Exhibit 10.85. The following description may not contain all the information with respect to the Notes important to you. We encourage you to read the form of Note attached as exhibit 10.85 to this registration statement.

### A. General

The Notes are an unsecured obligation of the Company and are expressly subordinated to our outstanding senior indebtedness. The Notes were issued with an original issue discount of 15%. Each investor paid \$0.85 for each \$1.00 of principal amount of Notes purchased at the closing of the May 2011 offering. The Notes mature on May 12, 2012. We may redeem the Notes at our option at their par value at any time after the effective date of this registration statement if certain conditions, referred to as “equity conditions”, are met. Equity conditions include:

- our having honored all conversions and redemptions duly requested by the investors;
- our having paid any liquidated damages or other amounts due to the investors under the Notes;
- either (i) the registration statement is effective and the investors are permitted to use this prospectus to resell the shares of common stock received upon conversion of any part of the Note subject to redemption or (ii) such stock may otherwise be resold by the investors pursuant to Rule 144 ;
- our common stock is trading on a trading market and is listed or quoted for trading on such trading market;
- we have a sufficient number of authorized but unissued shares of common stock for issuance of all shares of common stock underlying the Notes;
- there is no existing event of default under the Notes and there is no existing event that would, with the passage of time or giving of notice, constitute an event of default under the Notes;
- we have not publicly announced a pending or proposed fundamental transaction which has not been consummated or abandoned;
  - we have not provided any investor with any material, non-public information relating to us;
  - the daily trading volume of our common stock on its principal trading market exceeded \$100,000 per trading day for a the relevant 20 consecutive trading day period described in the Notes; and
- the volume weighted average price of our stock equaled or exceeded \$0.20 for each trading day in the relevant 20 consecutive trading day period described in the Notes.

Following our delivery of a redemption notice, an investor has the right to elect to convert all or any portion of a Note that is subject to the redemption at any time prior to the date we make our cash redemption payment.

### B. Conversion of the Notes

The Notes may be converted by each investor at any time, at the option of such investor, in whole or in part. The Notes are convertible into shares of our common stock, at a per share conversion price equal to \$0.15. However,

except as otherwise provided in the Notes, only 85% of the initial principal amount of each Note is convertible prior to maturity.

The Notes also include an additional limitation on conversion, which provides that at no time will an investor be entitled to convert any portion of the Notes, to the extent that after such conversion such investor (together with its affiliates) would beneficially own more than 4.99% of the outstanding shares of our common stock as of such date.

If we fail to timely deliver shares of common stock to an investor following delivery of a conversion notice, we may be liable for liquidated damages to such investor. Our failure to deliver shares in a timely manner also provides the investor with a right to rescind its conversion request.

To the extent an investor does not elect to convert its Notes as described above, the principal amount of the Notes not so converted on or prior to the maturity date shall be payable in cash on the maturity date.

### C. Fundamental Transactions

Upon the occurrence of a fundamental transaction, each investor shall have the right to receive, for each share of our common stock issuable upon conversion of the Notes immediately prior to such transaction, the number of shares of our common stock, or stock of the successor or acquiring corporation, and any additional consideration receivable as a result of such transaction by a holder of our common stock, which shall be referred to as the alternate consideration. Fundamental transactions include:

- our merger or consolidation with or into another person;
- our sale, lease, license, assignment, transfer, conveyance or other disposition of substantially all of our assets in one or a series of related transactions;

- the completion of a purchase offer, tender offer or exchange offer (whether by us or another person) accepted by the holders of 50% or more of our outstanding common stock;
- any reclassification, reorganization or recapitalization of our common stock or any compulsory share exchange in which our common stock is converted into or exchanged for other securities, cash or property; or
- the consummation of a stock or share purchase agreement or other business combination with another person where such other person acquired more than 50% of our outstanding shares of common stock (excluding shares held by such person or persons party to the agreement or combination or associated or affiliated with such person or persons).

The conversion price of the Notes shall be appropriately adjusted following any fundamental transaction to apply to the alternate consideration received by holders of our common stock thereunder for one share of our common stock.

Additionally, if, at any time while the Notes are outstanding, we:

- pay a stock dividend or otherwise make distributions payable in shares of our common stock on our common stock or common stock equivalents;
  - subdivide outstanding shares of our common stock into a larger number;
  - combine outstanding shares of our common stock into a smaller number; or
  - issue any shares of our capital stock in a reclassification of our common stock

then the conversion price of the Notes shall be multiplied by a fraction the numerator of which shall be the number of shares of our common stock outstanding immediately prior to the event and the denominator of which shall be the number of shares of our common stock outstanding immediately after the event.

#### D. Events of Default

The occurrence of any of the following events of default shall, at the option of each investor, make the outstanding principal amount, plus all other amounts payable under such investor's Note, immediately due and payable:

- our failure to pay the principal amount or any other amount due under the Note when due;
- our breach of any material covenant of the Note Purchase Agreement or Note in any material respect and the continuation of such breach, if curable, for fifteen trading days after written notice of the breach to us from an investor;
- if any of our material representations or warranties made in writing in the Note Purchase Agreement or any certificate delivered by us under the Note Purchase Agreement is false or misleading in any material respect as of the date made or as of the closing;
- our assignment for the benefit of creditors, our application or consent to the appointment of a receiver or trustee for ourselves or for a substantial part of our property or business or if such receiver or trustee is otherwise appointed;
- any money judgment, writ or similar final process is entered or filed against us or any of our property or other assets for more than \$1,000,000 which shall remain unvacated, unbonded or unstayed for 45 days;



- bankruptcy, reorganization, insolvency proceeding, liquidation proceedings or other proceedings for relief under any bankruptcy law is instituted by us or against us and, if instituted against us, is not dismissed within 45 trading days of initiation;
- our default under any one or more obligations in an aggregate amount in excess of \$1,000,000 for more than 20 trading days after notice to us from an investor, unless we are contesting the validity of such obligation in good faith and have segregated sufficient cash funds;
- our failure to deliver our common stock to an investor in accordance with the Note within ten trading days after the applicable conversion date;
- our failure to have reserved for issuance upon conversion of the Note the amount of our common stock required by the Note for more than 90 days after notice to us by an investor; or
- we issue securities in an Optimus transaction (as described above under the caption “Recent Developments—Preferred Financings”) at any time any Notes are outstanding and the net proceeds of such issuance are not used to pay the redemption price of an optional redemption under the Notes.

Upon the occurrence of an event of default, each investor shall have the right to require us to pay to such investor a mandatory default amount. The mandatory default amount is equal to the greater of:

- (i) the intrinsic value of the common stock underlying the note, which is calculated as (a) the outstanding principal amount of such investor’s Note divided by (b) the conversion price on the date the mandatory default amount is either demanded or otherwise due, or paid in full, whichever has the lower conversion price, multiplied by the volume-weighted average price of our common stock on the date the mandatory default amount is either demanded or otherwise due, or paid in full, whichever results in the lowest volume-weighted average price, or

- (ii) 100% of the outstanding principal amount of such Note,

plus, in each case, all other amounts, costs, expenses and liquidated damages due in respect of such Note.

#### E. Negative Covenants

Unless the investors of at least 51% in principal amount of the then outstanding Notes shall have given prior written consent, as long as any Notes remain outstanding, we shall not, and shall not permit any of our subsidiaries to:

- incur, create, assume, guarantee or suffer to exist any indebtedness for borrowed money other than permitted indebtedness;
  - enter into, create, incur, assume or suffer to exist any lien of any kind, on or with respect to any of our property or assets now owned or hereinafter acquired other than permitted liens;
- amend our charter documents, including, without limitation, our certificate of incorporation and bylaws, in any manner that materially and adversely affects any rights of an investor;
- repay, repurchase or offer to repay, repurchase or otherwise acquire for cash more than a de minimis number of shares of our common stock or common stock equivalents (unless otherwise permitted) other than repurchases of our common stock or common stock equivalents of departing officers and directors or in connection with any Optimus transaction, provided our repurchases shall not exceed an aggregate of \$150,000 during the term of the Notes;
- repay, repurchase or offer to repay, repurchase or otherwise acquire any indebtedness for cash prior to maturity thereof, other than the Notes;
  - pay cash dividends or distributions on any of our equity securities;
- issue any securities in any Optimus transaction (other than the exercise or conversion of convertible securities or warrants outstanding as of the issue date of the Notes), except to the extent the net proceeds of such issuance are used to the redemption price of any optional redemption of the Notes;
- other than certain excluded securities, issue, enter into any agreement to issue or announce the issuance or proposed issuance of, any of our common stock or common stock equivalents for an effective price less than \$0.13 (subject to adjustments for forward and reverse stock splits, recapitalizations and the like) unless (i) the issuance results in net proceeds at least equal to the aggregate principal amount of the outstanding Notes and (ii) the Company irrevocably offers to each investor the right, in such investor's sole discretion, to be repaid directly out of the closing net proceeds of such issuance up to the entire principal amount of such investor's Note then outstanding; or
  - enter into any agreement with respect to any of the foregoing.

#### Description of the Warrants

The following description is qualified in its entirety by the terms and conditions of those certain warrants to purchase our common stock issued in the May 2011 offering, which we refer to as the Warrants, the form of which is attached hereto as Exhibit 4.17. The following description may not contain all the information with respect to the Warrants important to you. We encourage you to read the form of Warrants attached as exhibit 4.17 to this registration statement.

A. General

In connection with the May 2011 offering, we issued an aggregate of 25,480,570 Warrants, of which 23,593,122 Warrants were issued to the investors in the May 2011 offering and 1,887,448 were issued to Rodman as the placement agent for the May 2011 offering.

B. Exercise of the Warrants

Each Warrant has an exercise price of \$0.15 per share. The Warrants are exercisable at any time on or before the third anniversary of the issue date of the Warrants, or May 12, 2014.

The Warrants include a limitation on exercise, which provides that at no time will an investor be entitled to exercise any of the Warrants, to the extent that after such exercise, such investor (together with its affiliates) would beneficially own more than 4.99% of the outstanding shares of our common stock as of such date.

The Warrants may be exercised on a cashless basis if, at the time of such exercise, a registration statement registering the shares of our common stock underlying the Warrants is not effective or the prospectus included in such registration statement is not available for use for the resale of our common stock underlying the Warrants by the investors. If an investor elects to exercise a Warrant, in whole or in part, on a cashless basis then such investor shall receive upon such exercise the “net number” of our shares of common stock determined according to the following formula:

Net Number = (A x B) - (A x C)

B

For purposes of the foregoing formula:

A = the total number of shares of our common stock for which the Warrant is being exercised.

B = the fair market value of our common stock as of the close of business of the trading day immediately preceding the date of the applicable subscription form.

C = the exercise price then in effect for the applicable warrant shares at the time of such exercise.

If we fail to timely deliver shares of common stock to the investor following delivery of a subscription form, we may be liable for liquidated damages to such investor if the investor or its broker was required to purchase shares of our common stock to deliver in satisfaction of a sale of our common stock by the investor or to a third party and such purchase was made at a price per share greater than the exercise price under the Warrant. Our failure to deliver shares in a timely manner also provides the investor with a right to rescind its exercise request.

### C. Fundamental Transactions

Upon the occurrence of a fundamental transaction, each investor shall have the right to receive, for each share of our common stock issuable upon exercise of our Warrants, immediately prior to such transaction, the number of shares of our common stock, or stock of the successor or acquiring corporation, and any additional consideration receivable as a result of such transaction by a holder of our common stock, which shall be referred to as the alternate consideration. Fundamental transactions include:

- our merger or consolidation with or into another person;
- our sale, lease, license, assignment, transfer, conveyance or other disposition of substantially all of our assets in one or a series of related transactions;
- the completion of a purchase offer, tender offer or exchange offer (whether by us or another person) accepted by the holders of 50% or more of our outstanding common stock; or
- any reclassification, reorganization or recapitalization of our common stock or any compulsory share exchange in which our common stock is converted into or exchanged for other securities, cash or property.

The exercise price of our Warrants shall be appropriately adjusted following any fundamental transaction to apply to the alternate consideration received by holders of our common stock thereunder for one share of our common stock.

Additionally, if, at any time while the Warrants are outstanding, we:

- pay a stock dividend or otherwise make distributions payable in shares of our common stock on our common stock or common stock equivalents;
  - subdivide outstanding shares of our common stock into a larger number;
  - combine outstanding shares of our common stock into a smaller number; or
  - issue any shares of our capital stock in a reclassification of our common stock

then the exercise price of our Warrants shall be multiplied by a fraction the numerator of which shall be the number of shares of our common stock outstanding immediately prior to the event and the denominator of which shall be the number of shares of our common stock outstanding immediately after the event. In addition, the number of shares of our common stock issuable upon exercise of the Warrants shall be proportionately adjusted such that the aggregate exercise price of each Warrant shall remain unchanged.

#### SELLING STOCKHOLDERS

The selling stockholders may offer and sell, from time to time, any or all of the shares of common stock covered by this prospectus. The following table provides, as of June 20, 2011, information regarding the beneficial ownership of our common stock held by each selling stockholder (including holders of the Notes and the Warrants for shares being registered), the shares that may be sold by each selling stockholder under this prospectus and the number of shares of common stock that each selling stockholder will beneficially own after this offering.

The information set forth in the table and related footnotes are prepared based on our transfer agent's records as of June 20, 2011 and information provided to us by or on behalf of the selling stockholders. Applicable percentages are based on 230,085,519 shares of common stock outstanding as of June 20, 2011, adjusted as required by the rules promulgated by the SEC.

Under the terms of the Notes and the Warrants, a selling stockholder may not convert the Note or exercise the Warrants to the extent (but only to the extent) such selling stockholder or any of its affiliates would beneficially own more than 4.99% of our common stock. The number of shares set forth in the table below, however, do not reflect these limitations.

In addition, although only 85% of the principal amount of each Note is convertible prior to maturity, the number of shares set forth in the table below also do not reflect this limitation.

Because each selling stockholder may dispose of all, none or some portion of the shares, no estimate can be given as to the number of shares that will be beneficially owned by a selling stockholder upon termination of this offering. For purposes of the table below, however, we have assumed that after termination of this offering none of the shares covered by this prospectus will be beneficially owned by the selling stockholders and further assumed that the selling stockholders will not acquire beneficial ownership of any additional shares during the offering. In addition, the selling stockholders may have sold, transferred or otherwise disposed of, or may sell, transfer or otherwise dispose of, at any time and from time to time, the shares of our common stock in transactions exempt from the registration requirements of the Securities Act of 1933 after the date on which the information in the table is presented.

We may amend or supplement this prospectus from time to time in the future to update or change this selling stockholders list and the shares that may be resold.

Selling Stockholder	Shares Beneficially owned before Offering(1)(2)
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