INVIVO THERAPEUTICS HOLDINGS CORP.
Form 424B5
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The information in this preliminary prospectus supplement is not complete and may be changed. A registration statement relating to these securities has been declared effective by the Securities and Exchange Commission. This preliminary prospectus supplement and the accompanying prospectus are not an offer to sell these securities, and we are not soliciting offers to buy these securities in any jurisdiction where the offer or sale is not permitted.

PRELIMINARY PROSPECTUS SUPPLEMENT **SUBJECT TO COMPLETION** **DATED MAY 6, 2014**

(To Prospectus dated January 19, 2012)

Shares of Common Stock
Warrants to Purchase Shares of Common Stock

We are offering shares of our common stock and warrants to purchase up to an aggregate of shares of our common stock pursuant to this prospectus supplement and the accompanying prospectus. The warrants will have a per share exercise price of $, % of public offering price of the common stock. The warrants are exercisable immediately and will expire five years from the date of issuance.

Our common stock is quoted on the OTCQB under the symbol "NVIV." The last reported sale price of our common stock on May 5, 2014 was $1.75 per share.

Our business and an investment in our securities include significant risks. See "Risk Factors" on page S-5 of this prospectus supplement and on page 5 of the accompanying prospectus, as well as in our periodic reports filed with the Securities and Exchange Commission and incorporated by reference in this prospectus supplement and the accompanying prospectus.

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

	Per Share	Per Warrant	Total
Public offering price	$	$	$
Underwriting discount(1)	$	$	$
Proceeds, before expenses, to us	$	$	$

(1) The underwriters will receive compensation in addition to the underwriting discount. See "Underwriting" beginning on page S-27 of this prospectus supplement for a description of compensation payable to the underwriters.

The underwriters may also purchase up to an additional shares and/or up to additional warrants from us at the public offering price, less the underwriting discount, within 45 days from the date of this prospectus supplement to cover over-allotments, if any. If the underwriters exercise the option in full, the total discount will be $ and the total net proceeds, before expenses, to us will be $.

The underwriters expect to deliver the shares and warrants against payment on or about , 2014.

Aegis Capital Corp

The date of this prospectus supplement is , 2014.

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About This Prospectus Supplement

This document is in two parts. The first part is this prospectus supplement, which describes the terms of this offering of securities and also adds to and updates information contained in the accompanying prospectus and the documents incorporated by reference into this prospectus supplement and the accompanying prospectus. The second part, the accompanying prospectus dated January 19, 2012, including the documents incorporated by reference therein, provides more general information. Generally, when we refer to this prospectus, we are referring to both parts of this document combined. To the extent there is a conflict between the information contained in this prospectus supplement, on the one hand, and the information contained in the accompanying prospectus or in any document incorporated by reference that was filed with the Securities and Exchange Commission, or SEC, before the date of this prospectus supplement, on the other hand, you should rely on the information in this prospectus supplement. If any statement in one of these documents is inconsistent with a statement in another document having a later date for example, a document incorporated by reference in the accompanying prospectus the statement in the document having the later date modifies or supersedes the earlier statement.

You should rely only on the information contained in or incorporated by reference in this prospectus supplement and the accompanying prospectus. We have not, and the underwriters have not, authorized anyone to provide you with different information. If anyone provides you with different or inconsistent information, you should not rely on it. We are not, and the underwriters are not, making an offer to sell these securities in any jurisdiction where the offer or sale is not permitted. You should assume that the information appearing in this prospectus supplement, the accompanying prospectus, and the documents incorporated by reference in this prospectus supplement and the accompanying prospectus, is accurate only as of the date of those respective documents. Our business, financial condition, results of operations and prospects may have changed since those dates. You should read this prospectus supplement, the accompanying prospectus, and the documents incorporated by reference in this prospectus supplement and the accompanying prospectus, in their entirety before making an investment decision. You should also read and consider the information in the documents to which we have referred you in the sections of this prospectus supplement entitled "Where You Can Find More Information" and "Incorporation of Certain Documents by Reference."

Unless otherwise mentioned or unless the context requires otherwise, all references in this prospectus supplement to "InVivo Therapeutics," "InVivo," "the Company," "our company," "we," "us," "our" or similar references mean collectively InVivo Therapeutics Holdings Corp. and its subsidiaries.

This prospectus supplement, the accompanying prospectus and the information incorporated herein and therein by reference include trademarks, service marks and trade names owned by us or other companies. All trademarks, service marks and trade names included or incorporated by reference into this prospectus supplement or the accompanying prospectus are the property of their respective owners.

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Prospectus Supplement Summary

This summary highlights certain information about us, this offering and selected information contained elsewhere in or incorporated by reference into this prospectus supplement or the accompanying prospectus. This summary is not complete and does not contain all of the information that you should consider before deciding whether to invest in our securities. For a more complete understanding of our company and this offering, we encourage you to read and consider carefully the more detailed information in this prospectus supplement and the accompanying prospectus, including the information under the heading "Risk Factors" in this prospectus supplement on page S-5 and in the accompanying prospectus on page 5, and the information incorporated by reference in this prospectus supplement and the accompanying prospectus.

InVivo Therapeutics Holdings Corp.

Business Overview

We develop novel biomaterial technologies for the treatment of spinal cord injuries and hydrogels for therapeutics delivery. Our proprietary technologies incorporate intellectual property licensed under an exclusive, world-wide license from Children's Medical Center Corporation, or CMCC, and the Massachusetts Institute of Technology, or MIT, and intellectual property that has been developed internally, including in collaboration with our advisors and partners. See "Business" on page S-20 of this prospectus supplement for additional information about our business.

We are considered a "development stage enterprise" and will continue to be so until we commence commercial operations. A development stage enterprise is one in which planned principal operations have not commenced or, if its operations have commenced, there has been no significant revenue from operations. Development stage companies report cumulative costs from the date of inception of the enterprise.

For the period from our inception on November 28, 2005 to December 31, 2013, we experienced total net losses of approximately $81,909,055. Our financial statements as of December 31, 2013 were prepared under the assumption that we will continue as a going concern. The independent registered public accounting firm that audited our 2013 financial statements, in their report, included an explanatory paragraph referring to our recurring losses since inception and expressing substantial doubt in our ability to continue as a going concern. Our financial statements do not include any adjustments that might result from the outcome of this uncertainty. At December 31, 2013, we had cash and cash equivalents of $13,980,321, and we believe this cash balance is adequate to fund operations through October 2014. See "Risk Factors There is substantial doubt about our ability to continue as a going concern, which will affect our ability to obtain future financing and may require us to curtail our operations."

Management

Members of our current senior management team bring significant experience to our company and are well-suited to realize our company's potential.

Mark D. Perrin: Mr. Perrin, our Chief Executive Officer, joined our company in January 2014, and has previously served as President and Chief Executive Officer of ConjuChem Biotechnologies, Inc. and Executive Vice President and Chief Commercial Officer for Orphan Medical, Inc., until it was acquired by Jazz Pharmaceuticals plc.

Dr. Thomas Ulich: Dr. Ulich, our Chief Scientific Officer, joined our company in February 2014, and previously headed preclinical research at Amgen Corporation and research and development at Alnylam Pharmaceuticals, Inc.

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Dr. Lou Vaickus: Dr. Vaickus, our Chief Medical Officer, joined our company in October 2013, and previously headed clinical development at Vertex Pharmaceuticals, Inc. and Tolerx, Inc.

Tamara Joseph, JD: Ms. Joseph was named our Senior Vice President, General Counsel in March 2014. She previously led legal, compliance, risk management, and government affairs at Cubist Pharmaceuticals, Inc. and international legal and public affairs at Biogen Idec, Inc.

In December 2013, Steven McAllister joined our company as interim Chief Financial Officer, and has agreed to serve in such role through May 31, 2014. We are currently negotiating to bring on a permanent Chief Financial Officer.

Recent Developments

Preliminary Results for the Quarter Ended March 31, 2014

Although our financial statements as of and for the quarter ended March 31, 2014 are not yet available, the following information reflects our estimates of our results based on currently available information.

For the quarter ended March 31, 2014, we expect to report the following results:

(in millions, except for share and per share amounts)	**(Unaudited) Estimated as of 03/31/2014**	**Reported as of 12/31/2013**
Balance Sheet Data		
Cash and cash equivalents	$ 9.8	$ $13.9
Total assets	$ 13.0	$ 17.1
Total liabilities	$ 3.9	$ 4.2
Stockholders' equity	$ 9.1	$ 12.9

	(Unaudited) Estimated Three Months Ended 03/31/2014	**(Unaudited) Three Months Ended 03/31/2013**
Statement of Operations Data		
Research and development	$ 3.2	$ 1.2
Total operating expenses	$ 5.1	$ 2.8
Derivative loss		$ (10.4)
Net loss	$ (5.1)	$ (13.3)
Net loss per share, basic and diluted	$ (0.07)	$ (0.20)
Weighted average number of common shares outstanding, basic and diluted	74,161,457	66,043,378

Research and development expenses in the quarter ended March 31, 2014 are expected to increase over the prior year quarter by approximately $2.0 million, with the increase being primarily attributable to receipt of a settlement on a business interruption claim that was originally recorded as a reduction of research and development expenses, and to a lesser extent due to increased costs related to hiring of additional personnel. The derivative loss in the three months ended March 31, 2013 was related to a non-cash expense attributable to an increase in the fair value measurement of derivative warrant liability. The warrants that resulted in the derivative warrant liability were exchanged in the second quarter of 2013 for new warrants that are not accounted for as derivative liabilities.

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The foregoing constitute forward-looking statements and should be read in light of the section of this prospectus supplement entitled "Special Note Regarding Forward-Looking Information." These preliminary results are unaudited and represent our estimates only, and our actual results could differ materially from those set forth above as a result of various factors, including those listed under "Risk Factors" in this prospectus supplement and in the accompanying prospectus. In addition, these factors include, without limitation, the risk that additional information may arise during our close process or as a result of subsequent events that would require us to make adjustments to the financial information, as well as the risk that adjustments to our financial statements may be identified through the course of our independent registered public accounting firm completing its review of our financial statements.

Corporate Information

We were incorporated on April 2, 2003, under the name of Design Source, Inc. On October 26, 2010, we acquired the business of InVivo Therapeutics Corporation, which was founded in 2005, and are continuing the existing business operations of InVivo Therapeutics Corporation as our wholly-owned subsidiary.

Our principal executive offices are located in leased premises at One Kendall Square, Building 1400 East, 4th Floor, Cambridge, Massachusetts 02139. Our telephone number is (617) 863-5500. We maintain a website at www.invivotherapeutics.com. Information contained on, or accessible through, our website is not a part of, and is not incorporated by reference into, this prospectus supplement or the accompanying prospectus.

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The Offering

Securities offered by us	shares and warrants to purchase up to an aggregate of shares of common stock
Description of warrants	The warrants will have a per share exercise price equal to $, % of public offering price of the common stock. The warrants are exercisable immediately and will expire five years from the date of issuance. See "Description of Warrants."
Offering price	$ per share and $ per warrant
Common stock outstanding immediately after this offering	shares of common stock (if the warrants are exercised in full)
Over-allotment option	shares of common stock and/or warrants
Use of proceeds	We intend to use the net proceeds from the securities offered hereby for general corporate purposes. See "Use of Proceeds" on page S-18.
Risk factors	Investing in our securities involves significant risks. See "Risk Factors" on page S-5 of this prospectus supplement and on page 5 of the accompanying prospectus.
OTCQB symbol	NVIV

The number of shares of our common stock to be outstanding immediately after this offering as shown above is based on 79,021,039 shares outstanding as of April 22, 2014, and excludes as of that date:

- 3,208,224 shares of our common stock issuable upon exercise of warrants, having a weighted average exercise price of $1.42 per share;
- 10,377,267 shares of our common stock issuable upon exercise of outstanding stock options, having a weighted average exercise price of $1.73 per share; and
- 2,545,862 shares of our common stock reserved for future issuances under our incentive compensation plans and 401(k) plan.

Except as otherwise indicated, all information in the prospectus supplement assumes no exercise by the underwriters of their over-allotment option and no exercise of the warrants offered in this offering.

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Risk Factors

An investment in our securities involves a high degree of risk. Before deciding whether to invest in our securities, you should consider carefully the risks described below and discussed under the section captioned "Risk Factors" beginning on page 5 of the accompanying prospectus, together with other information in this prospectus supplement, the accompanying prospectus, and the documents incorporated by reference in this prospectus supplement and the accompanying prospectus. If any of these risks actually occurs, our business, financial condition or results of operations could be seriously harmed. This could cause the trading price of our common stock to decline, resulting in a loss of all or part of your investment.

Risks Relating to Our Business

We have a limited operating history and it is difficult to predict our future growth and operating results.

We have a limited operating history and limited operations and assets. Accordingly, you should consider our prospects in light of the costs, uncertainties, delays and difficulties encountered by companies in the early stage of development, including unforeseen capital requirements and technical problems, delays in obtaining regulatory approvals and failure of market acceptance. As a development stage company, our development timelines have been and may continue to be subject to adjustments that could negatively affect our cash flow and ability to develop or bring products to market, if at all. Predicting our future operating and other results is extremely difficult, if not impossible.

We have not generated any revenues to date and have a history of losses since inception. We expect to incur losses for the foreseeable future and may never achieve or maintain profitability.

We have not generated any revenue to date and, through December 31, 2013, have incurred net losses of $81,909,055 since inception. It can be expected that we will continue to incur significant operating expenses and continue to experience losses in the foreseeable future. As a result, we cannot predict when, if ever, we might achieve profitability and cannot be certain that we will be able to sustain profitability, if achieved.

There is substantial doubt about our ability to continue as a going concern, which will affect our ability to obtain future financing and may require us to curtail our operations.

Our financial statements as of December 31, 2013 were prepared under the assumption that we will continue as a going concern. The independent registered public accounting firm that audited our 2013 financial statements, in their report, included an explanatory paragraph referring to our recurring losses since inception and expressing substantial doubt in our ability to continue as a going concern. Our financial statements do not include any adjustments that might result from the outcome of this uncertainty. At December 31, 2013, we had cash and cash equivalents of $13,980,321. Our ability to continue as a going concern depends on our ability to obtain additional equity or debt financing, attain further operating efficiencies, reduce expenditures, and, ultimately, to generate revenue.

We will need substantial additional funding to develop our products and for our future operations. If we are unable to obtain the funds necessary to do so, we may be required to delay, scale back or eliminate our product development or may be unable to continue our business.

The development and approval to market and sell our products will require a commitment of substantial funds, in excess of our current capital resources. Before we can market or sell any of our products, we will need to conduct costly and time-consuming research, which includes preclinical and clinical testing and regulatory approvals. We anticipate the amount of operating funds that we use will continue to increase along with our operating expenses over at least the next several years as we plan to bring our products to market. We currently expect that our existing current capital resources will

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only fund operations through October 2014. Therefore, we will need to raise substantial capital to develop our products and fund future operations. We cannot be certain that additional financing will be available on acceptable terms, or at all. If we are not successful in raising additional capital, we may not be able to continue as a going concern and we may have to curtail or cease our operations. To the extent we raise additional capital through the sale of equity securities, the ownership position of our existing stockholders could be substantially diluted. If additional funds are raised through the issuance of preferred stock or debt securities, these securities are likely to have rights, preferences and privileges senior to our common stock. Fluctuating interest rates could also increase the costs of any debt financing we may obtain.

Our ability to operate our business as planned could be impacted if an event of default occurs under our promissory note with the Massachusetts Development Finance Agency, or MassDev.

At December 31, 2013, the principal amount outstanding under the note to MassDev was $1,920,000. The note was issued in 2012 and advances under the note were primarily used to purchase capital equipment. The annual interest rate on the note is fixed at 6.5% with interest payments only through April 30, 2015, and thereafter equal monthly interest and principal payments until final maturity on October 5, 2019. The note includes events of default, which if not cured or waived, could result in MassDev accelerating the maturity of our debt. Events of default under the note include a default under our lease agreement, if we move operations outside of Massachusetts, and if we fail to maintain at least $300,000 in cash or marketable securities at all times while amounts are outstanding under the note. In addition, the note is secured by a security interest in substantially all of our assets, and therefore, if we are unable to repay the note, MassDev could foreclose on these assets.

Our products are in an early stage of development and will represent new and rapidly evolving technologies. If we are unable to commercialize our products or experience significant delays in doing so, our business will be materially harmed and we may have to curtail or cease our operations.

Our proprietary spinal cord injury treatment technology depends on new, rapidly evolving technologies and on the marketability and profitability of our products. Approval by applicable regulatory agencies and commercialization of our spinal cord injury treatment technology could fail for a variety of reasons, both within and outside of our control, including the possibility that our products may be ineffective, unsafe or associated with unacceptable side effects, too expensive to develop, manufacture or market, or other parties may hold or acquire proprietary rights that could prevent us or our potential collaborators from developing or marketing our products. Furthermore, because there are no approved treatments for spinal cord injuries, the regulatory requirements governing this type of product may be more rigorous or less clearly established than for other analogous products. If we are unable to obtain the required regulatory approvals of our products and subsequently commercialize them, our business will be materially harmed, and we may have to curtail or cease our operations.

If we cannot protect, maintain and, if necessary, enforce our intellectual property rights, our ability to develop and commercialize products will be adversely impacted.

Our success in large part depends on our ability to protect and maintain the proprietary nature of our technology. We and our licensors must prosecute and maintain existing patents and obtain new patents. Some of our proprietary information may not be patentable, and there can be no assurance that others will not utilize similar or superior solutions to compete with us. We cannot guarantee that we will develop proprietary products that are patentable, and that if issued, any patent will give a competitive advantage or that such patent will not be challenged by third parties. The process of obtaining patents can be time consuming with no certainty of success, as a patent may not issue or may not have sufficient scope or strength to protect the intellectual property it was intended to protect. We cannot assure you that our means of protecting our proprietary rights will suffice or that others will not

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independently develop competitive technology, or design around patents or other intellectual property rights issued to us. Even if a patent is issued, it does not guarantee that it is valid or enforceable. Any patents that we or our licensors have obtained or obtain in the future may be challenged, invalidated or unenforceable. If necessary, we may initiate actions to protect our intellectual property, which can be costly and time consuming.

If third parties successfully claim that we infringe their intellectual property rights, our ability to continue to develop and commercialize products could be delayed or prevented.

Third parties may claim that we or our licensors are infringing on or misappropriating their proprietary information. Other organizations are engaged in research and product development efforts that may overlap with our products. Such third parties may currently have, or may obtain in the future, legally blocking proprietary rights, including patent rights, in one or more products or methods under development or consideration by us. These rights may prevent us from commercializing products, or may require us to obtain a license from the organizations to use the technology. We may not be able to obtain any such licenses that may be required on reasonable financial terms, if at all, and cannot be sure that the patents underlying any such licenses will be valid or enforceable. There may be rights that we are not aware of, including applications that have been filed but not published that, when issued, could be asserted against us. These third parties could bring claims against us that would cause us to incur substantial expenses and, if successful, could cause us to pay substantial damages. Further, if a patent infringement suit were brought against us, we could be forced to stop or delay research and development of the product that is the subject of the suit. Furthermore, because of the substantial amount of discovery required in connection with intellectual property litigation, there is a risk that some of our trade secrets or other confidential information could be compromised by disclosure during this type of litigation.

We license the technology underlying our scaffold product from CMCC and MIT. If a dispute with CMCC or MIT arises or if we fail to comply with the financial and other terms of the license, we could lose our rights to this license, which would result in a material harm to our business.

We license certain technology underlying our scaffold product under a patent license from CMCC and MIT. This license agreement imposes certain payment, milestone achievement, reporting, confidentiality and other obligations on us. In the event that we were to breach any of the obligations and fail to cure them, CMCC would have the right to terminate this license agreement upon notice. In addition, CMCC has the right to terminate this license upon the bankruptcy or receivership of the Company. The termination of this license could have a material adverse effect on our business, to the extent our current scaffold was developed from these licensed patents and related intellectual property. If any dispute arises with respect to our arrangement with CMCC or MIT, such dispute may disrupt our operations and would likely have a material and adverse impact on us if resolved in a manner that is unfavorable to us.

We will require FDA approval before we can sell any of our products in the United States and approval of similar regulatory authorities in countries outside the United States before we can sell our products in such countries. We may incur additional costs or experience delays in completing, or ultimately be unable to complete, the development and commercialization of our products if such approval is denied or delayed.

The development, manufacture and marketing of our products are subject to government regulation in the United States and other countries. In the United States and most foreign countries, we must complete rigorous preclinical testing and extensive human clinical trials that demonstrate the safety and efficacy of a product in order to apply for regulatory approval to market the product.

Our biopolymer scaffold product is expected to be regulated as a Class III medical device by the FDA. The FDA-approval process is expensive and can take many years to complete, and we may not

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be able to demonstrate the safety and efficacy of our products to the satisfaction of the FDA or the regulatory authorities of other countries. Regulatory agencies may require us to delay, restrict or discontinue clinical trials on various grounds, including a finding that the subjects or patients are being exposed to an unacceptable health risk. Regulatory authorities may also require additional testing, and we may be required to demonstrate that our proposed products represent an improved form of treatment over existing therapies, which we may be unable to do without conducting further clinical studies. Delays in regulatory approval can be extremely costly in terms of losing any potential marketing advantage of being early to market. Moreover, if the FDA grants regulatory approval of a product, the approval may be limited to specific indications or limited with respect to its distribution. Expanded or additional indications for approved devices or drugs may not be approved, which could limit our potential revenues. Foreign regulatory authorities may apply similar limitations or may refuse to grant any approval. Consequently, even if we believe that preclinical and clinical data are sufficient to support regulatory approval for our products, the FDA and foreign regulatory authorities may not ultimately grant approval for commercial sale in any jurisdiction. If our products are not approved, our ability to generate revenues will be limited and our business will be adversely affected.

If our clinical studies are unsuccessful or significantly delayed, our ability to commercialize our scaffold product will be impaired.

Before we can obtain regulatory approval for the sale of our scaffold product, we must complete a pilot and pivotal clinical study. Although we have obtained some results from preclinical testing of our intended products in animals, we may not see positive results when any of our scaffold products undergoes clinical testing in humans. Our preclinical testing to date has been limited in nature and we cannot predict whether more extensive clinical testing will obtain similar results. Even if the results of our clinical studies in humans are promising, our scaffold product may subsequently fail to meet the safety and efficacy standards required to obtain regulatory approvals.

Our pilot clinical study may not be successfully completed or may take longer than anticipated because of any number of factors, including potential delays in the start of the trial, the availability of scaffolds to supply our clinical sites, failure to demonstrate safety and efficacy, unforeseen safety issues, or unforeseen governmental or regulatory delays. Further, regulatory authorities and Institutional Review Boards that must approve and monitor the safety of any clinical study may suspend a clinical study at any time if the patients participating in such study are deemed to be exposed to any unacceptable health risk. Additionally, even if we are able to successfully complete our pilot and pivotal clinical studies, the FDA still may not approve our products.

Pre-clinical studies of our scaffold product may not predict results of human clinical studies, and if the results of our clinical studies indicate that our scaffold product is not safe or effective for human use, our business will suffer.

Pre-clinical studies of our scaffold product in animals may not accurately predict the result of human clinical studies of the scaffold product. The scaffold product may be found not to be safe or effective as a potential treatment for spinal cord injury when used in our human clinical study.

If the results of our current and any future clinical studies indicate that our scaffold product is not safe or effective for human use, our business will suffer. Unfavorable results from clinical studies could result in delays, modifications or abandonment of future clinical studies. Negative or inconclusive results or adverse medical events during a clinical study could cause a clinical study to be delayed, repeated, modified or terminated.

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The risks and uncertainties inherent in conducting our clinical study could delay or prevent the development and eventual commercialization of our scaffold product, which could have a material adverse effect on our business, results of operations and financial condition.

There are a number of risks and uncertainties associated with conducting clinical studies. Our clinical study will be conducted with patients having severe injury and, as a result, during the course of treatment these patients can die or suffer adverse medical effects for reasons that may not be related to the scaffold product, but which nevertheless affect the clinical study results. In addition, side effects experienced by the patients may cause delay of the study. Moreover, our clinical study may not demonstrate sufficient safety and efficacy to obtain approval from the FDA for additional studies. The FDA may not agree with our assessment of the clinical data or they may interpret it differently. Failure can occur at any time during the clinical study process and the results from early clinical studies may not be predictive of results obtained in later and larger clinical studies. Later clinical studies of our scaffold product, if approved, may fail to show the desired safety or efficacy despite having progressed successfully through earlier clinical studies.

The completion of the pilot clinical study for our scaffold product may be delayed or halted for the reasons noted above in addition to many other reasons, including delays in patient enrollment, and variability in the number and types of patients available for the clinical study, regulators or institutional review boards may not allow us to commence or continue a clinical study, or poor effectiveness of the scaffold product during the clinical study. Any failure or delay in completing clinical studies for our scaffold product would prevent or delay the commercialization of our scaffold product, which could have a material adverse effect on our business, results of operations and financial condition.

Approval to promote, manufacture and sell our products, if granted, is subject to continuing review, which may require the expenditure of substantial resources and subject us to continuing uncertainty.

Even if a product gains regulatory approval, such approval is limited to the patient population studied in our clinical trials, and the product and the manufacture of the product will be subject to continuing regulatory review, including adverse event reporting requirements and the FDA's general prohibition against promoting products for unapproved uses. Failure to comply with any post-approval requirements can, among other things, result in warning letters, product seizures, recalls, substantial fines, injunctions, suspensions or revocations of marketing licenses, operating restrictions and criminal prosecutions. Any of these enforcement actions, any unanticipated changes in existing regulatory requirements or the adoption of new requirements, or any safety issues that arise with any approved products, could adversely affect our ability to market products and generate revenues and thus adversely affect our ability to continue our business.

We also may be restricted or prohibited from marketing or manufacturing a product, even after obtaining product approval, if previously unknown problems with the product or its manufacture are subsequently discovered and we cannot provide assurance that newly discovered or developed safety issues will not arise following any regulatory approval.

We will face substantial competition, which may result in others discovering, developing or commercializing products before or more successfully than we do.

The biotechnology industry in general is subject to intense competition and rapid and significant technological change. We have many potential competitors, including major drug companies, specialized biotechnology firms, academic institutions, government agencies and private and public research institutions. Many of these competitors have significantly greater financial and technical resources than us, and superior experience and expertise in research and development, preclinical testing, designing and implementing clinical trials, regulatory processes and approvals, production and manufacturing, and sales and marketing of approved products.

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Large and established companies compete in the biotech market. In particular, these companies have greater experience and expertise in securing government contracts and grants to support their research and development efforts, conducting testing and clinical trials, obtaining regulatory approvals to market products, manufacturing such products on a broad scale and marketing approved products. Smaller or early-stage companies and research institutions may also prove to be significant competitors, particularly through collaborative arrangements with large and established biotech or other companies. We will also face competition from these parties in recruiting and retaining qualified scientific and management personnel, establishing clinical trial sites and registering subjects for clinical trials.

In order to effectively compete, we will have to make substantial investments in development, testing, manufacturing and sales and marketing or partner with one or more established companies. There is no assurance that we will be successful in having our products approved or gaining significant market share for any of our products. Our technologies and products also may be rendered obsolete or noncompetitive as a result of products introduced by our competitors.

We will depend upon strategic relationships to develop, exploit and manufacture our products. If these relationships are not successful, we may not be able to capitalize on the market potential of these products.

The near and long-term viability of our products will depend in part on our ability to successfully establish new strategic collaborations with biotechnology companies, hospitals, insurance companies and government agencies. Establishing strategic collaborations is difficult and time-consuming. Potential collaborators may reject collaborations based upon their assessment of our financial, regulatory or intellectual property position. If we fail to establish a sufficient number of collaborations on acceptable terms, we may not be able to commercialize our products or generate sufficient revenue to fund further research and development efforts.

Even if we establish new collaborations, these relationships may never result in the successful development or commercialization of any product candidates for several reasons both within and outside of our control.

We have limited experience manufacturing our scaffold product for clinical-study scale and no experience for commercial scale.

We have manufactured our scaffold product on a small scale, including in such amounts that will be needed for our pilot and pivotal clinical studies. We may encounter unanticipated problems in the scale-up process that will result in delays in the manufacturing of the scaffold product, and therefore delay our clinical studies. We are subject to FDA regulations that require us to manufacture our scaffold products in compliance with the FDA requirements of Design Controls and are subject to inspections by regulatory agencies. Our failure to comply with applicable regulations may result in delays and interruptions to our product supply while we seek to secure another supplier that meets all regulatory requirements. If we are unable to scale up our manufacturing to meet requirements for our clinical studies, we may be required to rely on contract manufacturers. Reliance on third party manufacturers entails risks to which we would not be subject if we manufactured the product ourselves, including the possible breach of the manufacturing agreements by the third parties because of factors beyond our control; and the possibility of termination or nonrenewal of the agreements by the third parties because of our breach of the manufacturing agreement or based on their own business priorities.

There is a limited number of suppliers that can provide materials to us. Any problems encountered by such suppliers may detrimentally impact us.

We may rely on third-party suppliers and vendors for some of the materials used in the manufacture of our products or other of our product candidates. Any significant problem experienced by one of our suppliers could result in a delay or interruption in the supply of materials to us until such supplier resolves the problem or an alternative source of supply is located. Any delay or interruption could negatively affect our operations.

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We will rely upon third parties for laboratory testing, animal and human clinical studies which exposes us to increased risk.

We have been and will continue to be dependent on third-party contract research organizations to conduct some of our laboratory testing, animal and human clinical studies. If we are unable to obtain any necessary testing services on acceptable terms, we may not complete our product development efforts in a timely manner. If we rely on third parties for laboratory testing and animal or human studies, we may lose some control over these activities and become too dependent upon these parties. These third parties may not complete testing activities on schedule or when we request. We may not be able to secure and maintain suitable contract research organizations to conduct our laboratory testing and animal or human studies. We are responsible for confirming that each of our clinical trials is conducted in accordance with our approved plan and protocol. Moreover, the FDA and foreign regulatory agencies require us to comply with regulations and standards, commonly referred to as good clinical practices, for conducting, recording and reporting the results of clinical trials to assure that data and reported results are credible and accurate and that the trial participants are adequately protected. Our reliance on third parties does not relieve us of these responsibilities and requirements. If these third parties do not successfully carry out their contractual duties or regulatory obligations or meet expected deadlines, if the third parties need to be replaced or if the quality or accuracy of the data they obtain is compromised due to the failure to adhere to our clinical protocols or regulatory requirements or for other reasons, our pre-clinical development activities or clinical trials may be extended, delayed, suspended or terminated, and we may not be able to obtain regulatory approval for our product candidates.

If approved, our products will require market acceptance to be successful. Failure to gain market acceptance would impact our revenues and may materially impair our ability to continue our business.

Even if we receive regulatory approvals for the commercial sale of our products, the commercial success of these products will depend on, among other things, their acceptance by physicians, patients, third party payers such as health insurance companies and other members of the medical community as a therapeutic and cost-effective alternative to competing products and treatments. If our product candidates fail to gain market acceptance, we may be unable to earn sufficient revenue to continue our business. Market acceptance of, and demand for, any product that we may develop and commercialize will depend on many factors, both within and outside of our control. If our products do not become widely accepted by physicians, patients, third party payers and other members of the medical community, our business, financial condition and results of operations would be materially and adversely affected.

Acquisitions of companies, businesses or technologies may substantially dilute our stockholders and increase our operating losses.

We may make acquisitions of businesses, technologies or intellectual property rights that we believe would to be necessary, useful or complementary to our current business. Any such acquisition may require assimilation of the operations, products or product candidates and personnel of the acquired business and the training and integration of its employees, and could substantially increase our operating costs, without any offsetting increase in revenue. Acquisitions may not provide the intended technological, scientific or business benefits and could disrupt our operations and divert our limited resources and management's attention from our current operations, which could harm our existing product development efforts. While we may use cash or equity to finance a future acquisition, it is likely we would issue equity securities as a portion or all of the consideration in any acquisition. The issuance of equity securities for an acquisition could be substantially dilutive to our stockholders. Any investment made in, or funds advanced to, a potential acquisition target could also significantly adversely affect our results of operation and could further reduce our limited capital resources. Any

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acquisition or action taken in anticipation of a potential acquisition or other change in business activities could substantially depress the price of our stock. In addition, our results of operations may suffer because of acquisition-related costs or the post-acquisition costs of funding the development of an acquired technology or product candidates or operation of the acquired business, or due to amortization or impairment costs for acquired goodwill and other intangible assets.

Physicians and hospitals will require training in order to utilize our products and our success depends upon the acceptance and adoption of our products by physicians and hospitals.

Our products have not been utilized in the past for spinal cord injury treatment. As is typical in the case of a new and rapidly evolving technology or medical treatment, demand and market acceptance for recently introduced products and services are subject to a high level of uncertainty and risk. In addition, physicians and hospitals will need to establish training and procedures to utilize and implement our products, if such products are approved by the FDA. There can be no assurance that these parties will adopt our products or that they develop sufficient training and procedures to properly utilize our products.

If we obtain approval for our products, their commercial success will depend in part upon the level of third party reimbursement for the cost of our products to users.

The commercial success of any product will depend, in part, on the extent to which reimbursement for the costs of the products and related treatments will be available from third-party payers such as government health administration authorities, private health insurers, managed care programs, and other organizations. Adequate third-party insurance coverage may not be available for us to establish and maintain price levels that are sufficient for us to continue our business or for realization of an appropriate return on investment in product development.

We are subject to environmental, health and safety laws. Failure to comply with such environmental, health and safety laws could cause us to become subject to fines or penalties or incur costs that could have a material adverse effect on the success of our business.

We are subject to various laws and regulations relating to safe working conditions, laboratory and manufacturing practices, the experimental use of animals and humans, emissions and wastewater discharges, and the use and disposal of hazardous or potentially hazardous substances used in connection with our research. We also cannot accurately predict the extent of regulations that might result from any future legislative or administrative action. Any of these laws or regulations could cause us to incur additional expense or restrict our operations. Compliance with environmental laws and regulations may be expensive, and current or future environmental regulations may impair our research, development or production efforts.

We face potential product liability, and, if successful claims are brought against us, we may incur substantial liability and costs.

As is custom in our industry, we will have exposure to claims for product liability. Product liability coverage is expensive and sometimes difficult to obtain. We may not be able to obtain or maintain insurance at a reasonable cost. We currently have product liability insurance, however, there can be no assurance that our existing insurance coverage will extend to our other products, if any, in the future. Any product liability insurance coverage may not be sufficient to satisfy all liabilities resulting from product liability claims. A successful claim may prevent us from obtaining adequate product liability insurance in the future on commercially desirable items, if at all. Even if a claim is not successful, defending such a claim would be time-consuming and expensive, may damage our reputation in the marketplace, and would likely divert management's attention.

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Our success depends on our ability to retain our management and other key personnel.

We depend on our senior management as well as key scientific and other personnel. In 2013 and 2014, we have had certain changes in management, including the departure or resignation of key members of our senior management. Our future success is dependent on retaining key individuals within our Company to execute our strategic plans. The loss of the services of any of our senior management could harm our business and significantly delay or prevent the achievement of research, development or business objectives. Competition for qualified employees is intense among biotechnology companies, and the loss of qualified employees, or an inability to attract, retain and motivate additional highly skilled employees could hinder our ability to successfully develop marketable products.

Our future success also depends on our ability to identify, attract, hire, train, retain and motivate other highly skilled scientific, technical, marketing, managerial and financial personnel. Although we will seek to hire and retain qualified personnel with experience and abilities commensurate with our needs, there is no assurance that we will succeed despite our collective efforts. The loss of the services of any of our key personnel could hinder our ability to fulfill our business plan and further develop and commercialize our products and services. Competition for personnel is intense, and any failure to attract and retain the necessary technical, marketing, managerial and financial personnel would have a material adverse effect on our business, prospects, financial condition and results of operations.

Risks Related to Investment in Our Securities and this Offering

Our securities are "penny stock" and subject to specific rules governing their sale to investors.

The SEC has adopted Rule 15g-9 which establishes the definition of a "penny stock," for the purposes relevant to us, as any equity security that has a market price of less than $5.00 per share or with an exercise price of less than $5.00 per share, subject to certain exceptions. For any transaction involving a penny stock, unless exempt, the rules require that a broker or dealer approve a person's account for transactions in penny stocks; and the broker or dealer receive from the investor a written agreement to the transaction, setting forth the identity and quantity of the penny stock to be purchased.

In order to approve a person's account for transactions in penny stocks, the broker or dealer must obtain financial information and investment experience objectives of the person; and make a reasonable determination that the transactions in penny stocks are suitable for that person and the person has sufficient knowledge and experience in financial matters to be capable of evaluating the risks of transactions in penny stocks. The broker or dealer must also deliver, prior to any transaction in a penny stock, a disclosure schedule prescribed by the SEC relating to the penny stock market, which, in highlight form sets forth the basis on which the broker or dealer made the suitability determination; and that the broker or dealer received a signed, written agreement from the investor prior to the transaction.

Generally, brokers may be less willing to execute transactions in securities subject to the "penny stock" rules. This may make it more difficult for our shareholders to sell shares of our common stock.

Our common stock is quoted on the OTCQB, which may limit the liquidity and price of our common stock more than if our common stock was listed on a national securities exchange.

Our common stock is currently quoted on the OTCQB, an inter-dealer automated quotation system for equity securities not listed on a national securities exchange. Quotation of our common stock on the OTCQB may limit the liquidity and price of our common stock more than if our common stock was quoted or listed on a national securities exchange. Some investors may perceive our common stock to be less attractive because it is quoted in the over-the-counter market. In addition, as an

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OTCQB company, we do not attract the extensive analyst coverage that accompanies companies listed on a national securities exchange. Further, institutional and other investors may have investment guidelines that restrict or prohibit investing in securities traded in the over-the-counter market. In addition, holders of our common stock may face restrictions on the resale of our common stock due to state "blue sky" laws. These factors may have an adverse impact on the trading and price of our common stock.

The warrants issued in this offering are speculative in nature.

The warrants do not confer any rights of common stock ownership on their holders, such as voting rights or the right to receive dividends, but rather merely represent the right to acquire shares of common stock at a fixed price for a limited period of time. Specifically, commencing on the date of issuance, holders of the warrants offered by this prospectus supplement and accompanying prospectus may exercise their right to acquire the common stock and pay an exercise price of $ per share, % of public offering price of the common stock, until five years from the date of issuance, after which date any unexercised warrants will expire and have no further value. Moreover, following this offering, the market value of the warrants is uncertain and there can be no assurance that the market value of the warrants will equal or exceed their public offering price. There can be no assurance that the market price of the common stock will ever equal or exceed the exercise price of the warrants, and consequently, whether it will ever be profitable for holders of the warrants to exercise the warrants.

There is no public market for the warrants to purchase common stock being sold in this offering.

The warrants to be issued in this offering will not be listed for trading on any stock exchange, the Over the Counter Bulletin Board or OTC Markets, Inc. There is no established public trading market for the warrants being offered in this offering and we do not expect a market to develop. Without an active market, the liquidity of the warrants will be limited. Further, the existence of the warrants may act to reduce both the trading volume and the trading price of our common stock.

The price of our common stock is volatile, which could lead to losses by investors and costly securities litigation.

The trading price of our common stock is volatile and could continue to fluctuate in response to factors such as:

- actual or anticipated variations in our operating results;
- announcements of developments by us or our competitors;
- the completion and/or results of our clinical trials;
- regulatory actions regarding our products;
- announcements by us or our competitors of significant acquisitions, strategic partnerships, joint ventures or capital commitments;
- adoption of new accounting standards affecting our industry;
- additions or departures of key personnel;
- introduction of new products by us or our competitors;
- sales of our common stock or other securities in the open market; and

other events or factors, many of which are beyond our control.

The stock market is subject to significant price and volume fluctuations. In the past, following periods of volatility in the market price of a company's securities, securities class action litigation has

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often been initiated against such company. Litigation initiated against us, whether or not successful, could result in substantial costs and diversion of our management's attention and resources, which could harm our business and financial condition.

Investors may experience dilution of their ownership interests because of the future issuance of additional shares of our common stock, or securities exercisable or convertible into, or exchangeable for, shares of our common stock.

As of April 22, 2014, there were outstanding warrants to purchase 3,208,224 shares of our common stock, and outstanding options to purchase 10,377,267 shares of our common stock. We expect to issue additional equity awards to compensate employees, consultants and directors, and may issue additional securities to raise capital, to acquire other companies or technologies, to pay for services, or for other corporate purposes. Any such issuances will have the effect of diluting the interest of current stockholders. The future issuance of any such additional securities, including the securities offered in this prospectus supplement and accompanying prospectus, may create downward pressure on the trading price of the common stock. There can be no assurance that we will not be required to issue additional shares, warrants or other securities exercisable or convertible into, or exchangeable for, shares of our common stock in the future in conjunction with any capital raising efforts, including at a price (or exercise or conversion prices) below the price at which shares of our common stock are currently quoted on the OTCQB.

We are in litigation with Francis M. Reynolds, our former Chairman, Chief Executive Officer and Chief Financial Officer. The pending litigation with Mr. Reynolds will consume significant management time and Company resources and could materially negatively affect our financial position and cause our stock price to decline.

In November 2013, we filed a lawsuit against Francis M. Reynolds, our former Chairman, Chief Executive Officer and Chief Financial Officer, in Middlesex Superior Court, Middlesex County, Massachusetts (InVivo Therapeutics Holdings Corp. v. Reynolds, Civil Action No. 13 5004). The complaint alleges breaches of fiduciary duties, breach of contract, conversion, misappropriation of corporate assets, unjust enrichment, corporate waste, and seeks money damages and an accounting. In December 2013, Mr. Reynolds answered the complaint and filed counterclaims against us and our Board of Directors alleging breach of contract, breach of the covenant of good faith and fair dealing, and tortious interference with contract, and seeking monetary damages and a declaratory judgment. In January 2014, we and the directors named in the counterclaims filed an answer, and the parties are currently conducting pre-trial discovery. While at this early stage we do not believe that the continuation of the pending actions or the settlement or judicial resolution thereof will materially impact our financial condition, neither the ultimate outcome of the litigation nor the amount and range of potential costs associated with the litigation can be assessed with certainty. Defending this lawsuit will consume significant management time and resources and could, depending on the outcome, materially negatively affect our financial position and cause our stock price to decline.

Our former Chairman, Chief Executive Officer and Chief Financial Officer, Francis M. Reynolds, has nominated himself for election as a Class III director at our 2014 annual meeting of stockholders. Any proxy contest, should Mr. Reynolds engage in a full opposition solicitation campaign, would consume significant management time and resources, and could materially negatively affect our financial position and cause our stock price to decline.

In March 2014, Francis M. Reynolds, our former Chairman, Chief Executive Officer and Chief Financial Officer, nominated himself pursuant to our bylaws as a Class III director-nominee for election at our 2014 annual meeting of stockholders. Mr. Reynolds subsequently indicated his intention to solicit proxies for his election at the 2014 annual meeting, and we anticipate that Mr. Reynolds may

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engage in a full solicitation campaign in opposition to the election of as a Class III director of expected nominee Mark Perrin, our Chief Executive Officer and current Class III director. Any proxy contest with Mr. Reynolds would consume significant management time and resources, and could materially negatively affect our financial position and cause our stock price to decline. If Mr. Reynolds is elected to our Board of Directors, it could affect the ability of our Board of Directors to function effectively, create perceived uncertainties as to our future direction and may make it more difficult for us to attract and retain qualified personnel and business partners.

Anti-takeover effects of certain provisions of our articles of incorporation and Nevada state law may discourage or prevent a takeover.

Our articles of incorporation divide the board of directors into three classes, with three-year staggered terms. The classified board provision could increase the likelihood that, in the event an outside party acquired a controlling block of our stock, incumbent directors nevertheless would retain their positions for a substantial period, which may have the effect of discouraging, delaying or preventing a change in control. In addition, Nevada has a business combination law, which prohibits certain business combinations between Nevada corporations and "interested stockholders" for three years after the interested stockholder first becomes an interested stockholder, unless the corporation's board of directors approves the combination in advance. In addition, we may become subject to Nevada's control share laws. A corporation is subject to Nevada's control share law if it has more than 200 stockholders, at least 100 of whom are stockholders of record and residents of Nevada, and if the corporation does business in Nevada, including through an affiliated corporation. This control share law may have the effect of discouraging corporate takeovers. Currently, we have less than 100 stockholders of record who are residents of Nevada, and are therefore not subject to the control share laws.

The provisions of our articles of incorporation and Nevada's business combination and control share laws make it more difficult for a third party to acquire us and make a takeover more difficult to complete, even if such a transaction were in our stockholders' interest or might result in a premium over the market price for our common stock.

We have never declared any cash dividends and do not expect to declare any in the near future.

We have never paid cash dividends on our common stock. It is currently anticipated that we will retain earnings, if any, for use in the development of our business and we do not anticipate paying any cash dividends in the foreseeable future.

Our management will have broad discretion as to the use of the net proceeds from this offering, and may not use the proceeds effectively.

Our management will have broad discretion in the application of the net proceeds from this offering and could spend the proceeds in ways that you do not agree with or that do not improve our results of operations or enhance the value of our common stock, see "Use of Proceeds" in this prospectus supplement for more information. Our failure to apply these funds effectively could have a material adverse effect on our business and cause the price of our common stock to decline.

You will experience immediate and substantial dilution in the book value per share of the common stock you purchase.

Because the price per share of our common stock being offered is substantially higher than the net tangible book value per share of our common stock, you will suffer substantial dilution in the net tangible book value of the common stock you purchase in this offering. If you purchase shares of common stock and warrants in this offering, you will suffer immediate and substantial dilution of $ per share in the net tangible book value of the common stock. See "Dilution" in this prospectus supplement for a more detailed discussion of the dilution which you will incur if you purchase securities in this offering.

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Special Note Regarding Forward-Looking Information

This prospectus supplement, the accompanying prospectus and the documents we have filed with the SEC that are incorporated by reference into this prospectus supplement and the accompanying prospectus contain "forward-looking statements" within the meaning of Section 27A of the Securities Act of 1933, as amended, or the Securities Act, and Section 21E of the Securities Exchange Act of 1934, as amended, or the Exchange Act. These statements relate to future events or to our future operating or financial performance and involve known and unknown risks, uncertainties and other factors which may cause our actual results, performance or achievements to be materially different from any future results, performances or achievements expressed or implied by the forward-looking statements. Forward-looking statements may include, but are not limited to, statements about:

- our limited operating history and history of net losses;
- our ability to raise substantial additional capital to finance our planned operations;
- our ability to successfully commercialize our current and future product candidates, including our bioresorbable polymer scaffold and our bioresorbable hydrogel;
- our ability to successfully complete clinical trials and obtain and maintain regulatory approval of our product candidates;
- our ability to protect and maintain our intellectual property and licensing arrangements;
- market acceptance of our technology and products;
- our ability to promote, manufacture and sell our products, either directly or through collaborative and other arrangements with third parties;
- our ability to attract and retain key personnel; and
- our use of proceeds from this offering.

In some cases, you can identify forward-looking statements by terms such as "may," "will," "should," "could," "would," "expects," "plans," "anticipates," "believes," "estimates," "projects," "predicts," "potential" and similar expressions intended to identify forward-looking statements. These statements reflect our current views with respect to future events and are based on assumptions and subject to risks and uncertainties. Given these uncertainties, you should not place undue reliance on these forward-looking statements. We discuss many of these risks in greater detail under the heading "Risk Factors" on page S-5 of this prospectus supplement and on page 5 of the accompanying prospectus and in our SEC filings. Also, these forward-looking statements represent our estimates and assumptions only as of the date of the document containing the applicable statement.

You should read this prospectus supplement, the accompanying prospectus and the documents we have filed with the SEC that are incorporated by reference into this prospectus supplement and the accompanying prospectus completely and with the understanding that our actual future results may be materially different from what we expect. We qualify all of the forward-looking statements in the foregoing documents by these cautionary statements.

You should rely only on the information contained in or incorporated by reference in this prospectus supplement and the accompanying prospectus. We have not, and the underwriters have not, authorized anyone to provide you with different information. If anyone provides you with different or inconsistent information, you should not rely on it. We are not, and the underwriters are not, making an offer to sell these securities in any jurisdiction where the offer or sale is not permitted. You should assume that the information appearing in this prospectus

supplement, the accompanying prospectus, and the documents incorporated by reference in this prospectus supplement and the accompanying prospectus, is accurate only as of the date of those respective documents. Our business, financial condition, results of operations and prospects may have changed since those dates. Unless required by law, we undertake no obligation to update or revise any forward-looking statements to reflect new information or future events or developments.

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Use of Proceeds

We estimate that the net proceeds from the sale of the shares of common stock and warrants that we are offering will be approximately $, or approximately $ if the underwriters exercise in full their option to purchase up to additional shares of common stock and additional warrants, after deducting the underwriting discount and estimated offering expenses payable by us.

We currently intend to use the estimated net proceeds from this offering for general corporate purposes, including for the research, development and pre-clinical studies for our product candidates, the completion of our scaffold pilot clinical study, and for working capital.

We have not yet determined the amount of net proceeds to be used specifically for any of the foregoing purposes. Accordingly, our management will have significant discretion and flexibility in applying the net proceeds from the sale of these securities. Pending any use, as described above, we intend to invest the net proceeds in high-quality, short-term, interest-bearing securities.

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Dilution

Our net tangible book value as of December 31, 2013 was $12.9 million, or $0.16 per share. Net tangible book value per share is determined by dividing our total tangible assets, less total liabilities, by the number of shares of our common stock outstanding as of December 31, 2013. Dilution with respect to net tangible book value per share represents the difference between the amount per share paid by purchasers of shares of common stock in this offering and the net tangible book value per share of our common stock immediately after this offering.

After giving effect to the sale of shares of our common stock and warrants to purchase shares of common stock in this offering at the public offering price of $ per share and $ per warrant and after deducting the underwriting discount and estimated offering expenses payable by us, our as adjusted net tangible book value as of December 31, 2013 would have been approximately $, or $ per share. This represents an immediate increase in net tangible book value of $ per share to existing stockholders and immediate dilution of $ per share to investors purchasing our common stock in this offering at the public offering price. The following table illustrates this dilution on a per share basis:

Public offering price per share		$
Net tangible book value per share as of December 31, 2013	$ 0.16	
Increase in net tangible book value per share attributable to investors purchasing our common stock in this offering	$	
As adjusted net tangible book value per share as of December 31, 2013 after giving effect to this offering		$
Dilution per share to investors purchasing our common stock in this offering		$

If the underwriters exercise in full their option to purchase up to additional shares of common stock and warrants to purchase shares of common stock, the as adjusted net tangible book value after this offering would be $ per share, representing an increase in net tangible book value of $ per share to existing stockholders and immediate dilution of $ per share to investors purchasing our common stock and warrants in this offering at the public offering price.

The above discussion and table are based on 78,773,736 shares outstanding as of December 31, 2013, and excludes as of that date:

- 3,283,134 shares of our common stock issuable upon exercise of warrants, having a weighted average exercise price of $1.41 per share;
- 8,055,522 shares of our common stock issuable upon exercise of outstanding stock options, having a weighted average exercise price of $1.56 per share; and
- 4,923,675 shares of our common stock reserved for future issuances under our incentive compensation plans and 401(k) plan.

To the extent that outstanding options or warrants outstanding as of December 31, 2013 have been or may be exercised or other shares are issued, investors purchasing our securities in this offering may experience further dilution. In addition, we may choose to raise additional capital due to market conditions or strategic considerations even if we believe we have sufficient funds for our current or future operating plans. To the extent that additional capital is raised through the sale of equity or convertible debt securities, the issuance of these securities could result in further dilution to our stockholders.

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Business

Overview

We develop novel biomaterial technologies for the treatment of spinal cord injuries and hydrogels for therapeutics delivery. Our proprietary technologies incorporate intellectual property licensed under an exclusive, world-wide license from Children's Medical Center Corporation ("CMCC") and the Massachusetts Institute of Technology ("MIT"), and intellectual property that has been developed internally, including in collaboration with our advisors and partners. At December 31, 2013, we were considered a "development stage enterprise" and will continue to be so until we commence commercial operations. A development stage enterprise is one in which planned principal operations have not commenced or, if its operations have commenced, there has been no significant revenue from operations. Development stage companies report cumulative costs from the date of inception of the enterprise. During the period from our inception on November 28, 2005 to December 31, 2013, we experienced total net losses of approximately $81,909,055.

We were incorporated on April 2, 2003, under the name of Design Source, Inc. On October 26, 2010, we acquired the business of InVivo Therapeutics Corporation, which was founded in 2005, and are continuing the existing business operations of InVivo Therapeutics Corporation as our wholly-owned subsidiary.

Our executive offices are located in leased premises at One Kendall Square, Suite B14402 and our phone number is 617-863-5500.

Market Opportunity

Our lead program that we are developing is intended to address the lack of successful treatments for spinal cord injuries. Current treatments for spinal cord injury consist of a collection of approaches that only focus on symptoms of spinal cord injury. To date, we are not aware of any product on the market that addresses the underlying pathology of spinal cord injury.

Currently, there are no successful spinal cord injury treatment options for spinal cord injury patients, and we believe that the market opportunity for our technology is significant. Since 1973, the National Spinal Cord Injury Statistical Center ("NSCISC") at the University of Alabama has been commissioned by the U.S. government to maintain a national database of spinal cord injury statistics. In the United States, approximately 273,000 people are currently living with paralysis due to spinal cord injury and the NSCISC estimates that an additional 12,000 individuals will become fully or partially paralyzed this year alone. The financial impact of spinal cord injuries, as reported by the NSCISC, is enormous. According to the NSCISC's February 2013 report "Spinal Cord Injury Facts and Figures at a Glance," (i) during the first year, average "cost of care" ranges from $340,787 to $1,044,197, depending on the severity of the injury, (ii) the net present value ("NPV") to maintain a quadriplegic injured at age 25 for life is $4,633,137, and (iii) the NPV to maintain a paraplegic injured at age 25 for life is $2,265,584. These costs place a tremendous financial burden on families, insurance providers, and government agencies. Moreover, despite all financial investment, the patient remains disabled for life because current medical interventions address only the symptoms of spinal cord injury rather than the underlying neurological cause. We believe our approach could represent an important advance in the treatment for spinal cord injuries.

Product Development

Bioresorbable Polymer Scaffold Device

The first product that we are developing is a poly-lactic-glycolic-acid/poly-l-lysine (PLGA-PLL) scaffold that will be inserted into the spinal cord at the center of the site of injury. The scaffold is

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made of bioresorbable materials that will break down over the course of several months, and incorporates components that promote cell adherence. We believe our scaffold will provide structural support and an environment supportive of cell survival and/or growth.

Because of the complexity of spinal cord injuries, it is likely that multi-modal therapies will be required in order to maximize positive outcomes in spinal cord injury patients. In the future, we may attempt to further enhance the performance of our scaffold by multiple combination strategies involving additional biomaterials, U.S. Food & Drug Administration ("FDA") approved drugs, growth factors, or human neural stem cells.

As noted below, we received a Humanitarian Use Device (HUD) designation for our scaffold and an Investigational Device Exemption (IDE) to begin a pilot clinical trial of our scaffold product in 2013.

Pre-clinical Studies

Spinal cord injury (SCI) can result in permanent paralysis, sensory impairment, and autonomic, bowel, bladder, and sexual dysfunction. These functional deficits result from damage to or loss of cells (neurons and glia) in the affected region of the spinal cord, either from the initial mechanical trauma or through secondary mechanisms that persists for several weeks. The ability of potential treatments for SCI to mitigate loss of function or promote recovery can be evaluated in preclinical models using different species and different methods of inducing SCI. In our pre-clinical studies, we utilized both rat and non-human primate models because both exhibit a pattern of neuropathology following SCI that is similar to human SCI. Hemisection injury models, in which sections of spinal cord are surgically removed, are useful in the evaluation of treatment strategies that involve device implantation. Unilateral hemisection models preserve function on one side of the cord, resulting in improved recovery of bladder and bowel function. We therefore evaluated the bioresorbable polymer scaffold device in both rats and non-human primates with unilateral hemisection injury. Because most human SCIs are non-penetrating contusion injuries resulting from rapid compression of spinal tissue by intrusion of bone or disc material following mechanical disruption of the vertebral column, we also evaluated the bioresorbable polymer scaffold device in a rat model of spinal contusion injury.

The first pre-clinical study was conducted by founding scientists of our wholly-owned subsidiary in rats with surgically induced unilateral spinal cord hemisection injury. This study (see Teng, Y. D., Lavik, E. B., Qu, X., Park, K. I., Ourednik, J., Zurakowski, D., Langer, R., and Snyder, E. Y., Functional recovery following traumatic spinal cord injury mediated by a unique polymer scaffold seeded with neural stem cells, Proceedings of the National Academy of Sciences 99, pg 3024-3029, 2002) demonstrated the baseline safety and efficacy of porous, biodegradable scaffolds fabricated from PLGA-PLL polymer.

A series of studies in African green monkeys was then performed in order to evaluate the bioresorbable polymer scaffold device in a non-human primate. Our first study in African green monkeys established that unilateral thoracic hemisection SCI (a new model in this species) produced a consistent functional deficit, and we observed a consistently positive response to scaffold implantation (see Pritchard, C. D., Slotkin, J. R., Yu, D., Dai, H., Lawrence, M. S., Bronson, R. T., Reynolds, F. M., Teng, Y. D., Woodard, E. J., and Langer, R. S. Establishing a model spinal cord injury in the African green monkey for the preclinical evaluation of biodegradable polymer scaffolds seeded with human neural stem cells, Journal of Neuroscience Methods 188, pg 258-269, 2010). We then conducted two larger studies evaluating the safety and efficacy of the bioresorbable polymer scaffold device in the African green monkey. The extent and time course of functional recovery in biopolymer implant treated primates was assessed with video capture and KinemaTracer evaluation of locomotor behavior with synchronous EMG recording along with locomotor observation rating. When the results of these two studies were combined and analyzed together, we found that implantation of the bioresorbable

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polymer scaffold device resulted in an increase in remodeled tissue in the region of the hemisection compared to non-implant controls, and improved recovery of locomotion in subjects with full unilateral hemisection lesions. A manuscript describing the results from these studies is in preparation.

In parallel with the non-human primate studies, several studies were undertaken to evaluate the safety and efficacy of implantation of the bioresorbable polymer scaffold device following spinal cord contusion injury in rats. Initial studies indicated that 24 hours after contusion injury was an appropriate time for device implantation based on both histological evaluation and ex vivo MRI techniques. Based on these results, a larger rat contusion study was performed at our laboratory. Functional recovery was evaluated with the 21-point Basso, Beattie, and Bresnahan (BBB) locomotor rating scale to assess open field locomotion. In this experiment, the BBB score was not improved by the scaffold device. Taken together, the results from these pre-clinical studies in two injury models in the rat, and in a unilateral hemisection injury in the African green monkey, suggest that implantation of the bioresorbable polymer scaffold device can be tolerated. Further study is ongoing to assess the functional therapeutic potential of the scaffold in animal models of spinal cord contusion injury.

Second-Generation Potential

Because initial pre-clinical studies indicate the potential for use of bioresorbable polymer scaffold devices as part of a strategy to treat SCI, we intend to evaluate second-generation bioresorbable polymer scaffold devices. For example, such second-generation devices might have novel chemistries and geometries that are optimized to support the survival of cell types, like human neural stem cells, that have been shown to promote recovery following implantation in animal models of SCI.

Bioresorbable Hydrogels

We are also developing an injectable, resorbable family of hydrogels for localized, controlled release of small molecules and proteins. Currently as we progress in select pre-clinical activities, we are reaching out to potential biopharmaceutical partners in order to identify collaborations or acquisitions that will maximize the value of our technology in combination with approved and developmental therapeutics. This technology platform encompasses a broad design space with highly tunable chemical and physical properties that allow for precise control of gel formation/degradation and drug release rates. We are exploring the use of this platform in several clinical indications including neurotrauma, postoperative pain, radicular pain, and oncology. Furthermore, there are several opportunities being explored in the neurotrauma space for which the hydrogel technology could be developed as a device only (e.g. dural sealants, dural grafts, adhesion barriers).

A third party holds intellectual property, including patent rights, that may be important or necessary to the development and commercialization of certain of our hydrogel products. Accordingly, it may be necessary for us to use the patented or proprietary technology of third parties to commercialize our hydrogel products, in which case we would be required to obtain a license from such third parties or acquire such intellectual property rights. Alternatively, we can design a work-around solution or challenge the validity of such intellectual property.

Clinical/Regulatory Strategy

Our scaffold is expected to be regulated by the FDA as a Class III medical device. A Class III medical device typically will require FDA approval of a Pre-Market Approval Application (PMA) before we can begin selling the product in the United States. Alternatively, a Class III device may qualify for FDA approval to be distributed under a Humanitarian Device Exemption (HDE) rather than a PMA. In order for a device to be eligible for an HDE, it must be first designated by the FDA as a Humanitarian Use Device (HUD) intended to benefit patients in the treatment or diagnosis of a disease or condition that affects fewer than 4,000 individuals in the United States per year. The HDE

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also requires there must be no other comparable device available to provide therapy for this condition, and although exempt from the effectiveness requirements of a PMA, does require sufficient information for FDA to determine that the device does not pose an unreasonable or significant risk of illness or injury, and that the probable benefit to health outweighs the risk of injury or illness from its use.

We are required to conduct human clinical trials before an HDE can be submitted to the FDA to obtain evidence of safety and the probable benefit to health. Before clinical studies can commence, an Investigational Device Exemption application (IDE) must be submitted to and approved by the FDA. The completion of the human clinical studies and obtaining the FDA approval of a PMA could take between three to five years depending on a number of factors including the FDA review and approval process for the IDE and the clinical trial designs, the amount of time it will take to enroll and treat patients in the studies, and the FDA review and approval process for the PMA.

In 2013, the FDA approved our IDE and granted HUD designation for our scaffold. Our scaffold will be studied in an early feasibility, five subject pilot study under our approved IDE. The pilot study will be conducted with staged enrollment requiring a three month wait between consecutive subjects to allow for the monitoring of initial investigational product safety and resorption, because this is a first in human study for this type of device. The pilot study will be conducted in as many as six sites across the United States. In April 2014, we shipped our scaffold to our initial clinical site at The University of Arizona Medical Center in Tucson, Arizona. We have received Institutional Review Board, or IRB, approval from two additional clinical study sites and expect that these two sites will be open to enroll subjects in the second quarter of 2014.

Under the conditions of the FDA's approval of the IDE, our pilot clinical study is a staggered trial such that each patient that meets the study criteria will be followed for three months prior to requesting approval to enroll the next patient. In addition, following implantation of our scaffold, we will monitor the patient at 24, 48 and 72 hours, one week, at discharge, and at one, three, six and 12 months. Following study design consideration discussions with the FDA, we are also planning a second larger pivotal clinical study in acute spinal cord injury patients.

Even if our pilot and pivotal clinical studies are successful and we are able to obtain FDA approval of a HDE for our scaffold, because the scaffold is a new unproven technology, we will have to demonstrate the clinical utility of the product and gain acceptance from physicians and obtain third party reimbursement for our product. For major markets outside the United States, we would be required to seek regulatory approvals in those markets after the clinical trials are conducted in the United States.

Intellectual Property

We rely on a combination of patents, licenses, trade secrets and non-disclosure agreements to develop, protect and maintain our intellectual property. Our patent portfolio includes patents and patent applications. We seek to develop or obtain intellectual property that we believe might be useful or complementary with our products and technologies, including by way of licenses or acquisitions of other companies or intellectual property from third parties.

As of the date of this prospectus supplement, we have filed, or filed jointly with MIT, ten United States patent applications with respect to our scaffold and our hydrogel technology under development that are at various stages of prosecution. In addition, we hold an exclusive worldwide license to a broad suite of patents co-owned by MIT and CMCC covering the use of a wide range of biopolymers to treat spinal cord injury, and to promote the survival and proliferation of human stem cells in the spinal cord (the "CMCC License"). Pending patent applications licensed under the CMCC License cover the technology underlying our scaffold. Issued patents and pending applications cover the use of a wide range of biomaterial scaffolding as an extracellular matrix substitute for treating spinal cord injury by

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itself or in combination with drugs, growth factors or human stem cells. The CMCC License covers 7 issued United States patents and 23 issued international patents expiring between 2014 and 2026, and two pending United States patents and 13 pending international patents.

The CMCC License has a 15-year term, or as long as the life of the last expiring patent right, whichever is longer, unless terminated earlier by CMCC. In connection with the CMCC License, we submitted to CMCC and MIT a 5-year plan with certain targets and projections that involve the timing of product development and regulatory approvals. We are required to meet the objectives in the plan, or else we are required to notify CMCC and revise the plan. CMCC has the right to terminate the CMCC License for failure by us to either meet the objectives in the plan or submit an acceptable revision to the plan within a 60-day cure period after notification by CMCC that we are not in compliance with the plan. Currently, we are in compliance with our plan.

Under the CMCC License, we have the right to sublicense the patents and have full control and authority over the development and commercialization of the licensed products, including clinical trials, manufacturing, marketing, and regulatory filings. We also own the rights to the data generated pursuant to the CMCC License. We have the first right of negotiation for a 30-day period to any improvements to the intellectual property covered by the CMCC License.

We are required to pay certain fees and royalties under the CMCC License. We paid a license issue fee upon execution of the CMCC License and are required to pay a license amendment fee as consideration for the expansion of the field of use. We are also required to make milestone payments upon completing various phases of product development, including upon (i) FDA filing of first investigational new drug application and IDE application; (ii) enrolling first patient in Phase II testing; (iii) enrolling first patient in Phase III testing; (iv) FDA approval of first new drug application or related application, and (v) first market approval in any country outside the United States. Each year prior to the release of a licensed product, we are also required to pay a maintenance fee. Further, we are required to make payments based on sublicenses to manufacturers and distributors. Following commercialization, we are required to make ongoing royalty payments equal to a percentage of net sales of the licensed products.

Competitors

We have many potential competitors, including major drug companies, specialized biotechnology firms, academic institutions, government agencies and private and public research institutions. Many of these competitors have significantly greater financial and technical resources than us, and superior experience and expertise in research and development, preclinical testing, designing and implementing clinical trials, regulatory processes and approvals, production and manufacturing, and sales and marketing of approved products. Smaller or early-stage companies and research institutions may also prove to be significant competitors, particularly through collaborative arrangements with large and established biotech or other companies. We will also face competition from these parties in recruiting and retaining qualified scientific and management personnel, establishing clinical trial sites and registering subjects for clinical trials.

In order to effectively compete, we will have to make substantial investments in development, testing, manufacturing and sales and marketing or partner with one or more established companies. There is no assurance that we will be successful in having our products approved or gaining significant market share for any of our products. Our technologies and products also may be rendered obsolete or noncompetitive as a result of products introduced by our competitors.

Manufacturing

We have developed a proprietary manufacturing process to build our scaffold. We manufacture our scaffolds following FDA requirements of Design Controls using two fully operational manufacturing

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cleanrooms located at our Cambridge, Massachusetts facility. These two cleanrooms are validated to ISO 14644-1 Class ISO-7 (Class 10k) and Class ISO-8 (Class 100k) cleanroom standards, respectively. In addition, the manufacturing process contains numerous quality control steps including in-process and final inspection. To date, we have only begun manufacturing our scaffold on a small scale for use in our pilot clinical study. If we are unable to scale up our manufacturing to meet requirements for our pilot or pivotal clinical studies, we may be required to rely on contract manufacturers.

Sales and Marketing

If we obtain approval to commercialize our products, we plan to sell our products through a to-be-established direct sales force for major markets in the United States and through distributors in foreign markets. The direct sales force would focus its efforts on maximizing revenue through product training, placement and support. We would also seek to establish strong relationships with orthopedic spine surgeons and neurosurgeons and would expect to provide a high level of service for the products including providing on-site assistance and service during procedures. In addition, we expect to establish medical education programs to reach practitioners in physical medicine and rehabilitation centers, and through patient advocacy groups. We may also seek corporate partners with expertise in commercialization.

Compliance with Environmental, Health and Safety Laws

In addition to FDA regulations noted above, we are also subject to evolving federal, state and local environmental, health and safety laws and regulations. In the past, compliance with environmental, health and safety laws and regulations has not had a material effect on our capital expenditures. We believe that we comply in all material respects with existing environmental, health and safety laws and regulations applicable to us.

Employees

As of the date of this prospectus supplement, we have 49 employees, consisting of 43 full-time employees and 6 part-time employees. None of our employees is represented by a labor union, and we consider our employee relations to be good. We also utilize a number of consultants to assist with research and development and regulatory activities. We believe that our future success will depend in part on our continued ability to attract, hire and retain qualified personnel.

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Description of Warrants

The material terms and provisions of the warrants being issued in this offering are summarized below. The following description is subject to, and qualified in its entirety by, the form of warrant, which will be filed as an exhibit to a Current Report on Form 8-K to be filed by us with the SEC in connection with this offering. Prospective investors should carefully review the terms and provisions set forth in the form of warrant.

Exercisability

The warrants are exercisable immediately upon issuance and at any time up to the date that is five years from the date of issuance. The warrants will be exercisable, at the option of each holder, in whole or in part by delivering to us a duly executed exercise notice and payment in full for the number of shares of our common stock purchased upon such exercise (except in the case of a cashless exercise as discussed below). Unless otherwise specified in the warrant, the holder will not have the right to exercise any portion of the warrant if the holder (together with its affiliates) would beneficially own in excess of 9.99% of the number of shares of our common stock outstanding immediately after giving effect to the exercise, as such percentage ownership is determined in accordance with the terms of the warrants.

Exercise Price

The initial exercise price per share of common stock purchasable upon exercise of the warrants is $ per share.

Cashless Exercise

In the event that shares of common stock underlying the warrants are no longer registered under the Exchange Act, the holder may, in its sole discretion, exercise the warrant in whole or in part and, in lieu of making cash payment otherwise contemplated to be made to us upon such exercise in payment of the aggregate exercise price, elect instead to receive upon such exercise the net number of shares of common stock determined according to the formula set forth in the warrant.

Transferability

Subject to applicable laws, the warrants may be transferred at the option of the holders upon surrender of the warrants to us together with the appropriate instruments of transfer.

Anti-Dilution Provisions

The exercise price and the number of shares issuable upon exercise are subject to adjustment in the event of certain stock dividends and distributions, stock splits, stock combinations, reclassifications or similar events affecting our common stock, sales of our common stock at a price per share less than the exercise price then in effect (or securities convertible or exercisable into common stock at a conversion or exercise price less than the exercise price then in effect) and also upon any distributions of assets, including cash, stock or other property to our stockholders.

Fundamental Transaction

Upon the consummation of a Fundamental Transaction (as defined in the warrant), the holder of the warrant will have the right to receive, upon exercise of the warrant, the same amount and kind of securities, cash or property as it would have been entitled to receive upon the occurrence of such Fundamental Transaction if it had been, immediately prior to such Fundamental Transaction, the holder

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of the number of shares then issuable upon exercise in full of the warrant without regard to any limitations on exercise contained in the warrant.

A "Fundamental Transaction" is defined under the warrants as (i) we or any of our subsidiaries shall directly or indirectly (1) consolidate or merge with or into any other entity, or (2) sell, lease, license, assign, transfer, convey or otherwise dispose of all or substantially all of our respective properties or assets to any other person or entity, or (3) allow any other entity to make a purchase, tender or exchange offer that is accepted by the holders of more than 50% of the outstanding shares of our voting stock or (4) consummate a stock or share purchase agreement or other business combination with any other entity whereby such other person or entity acquires more than 50% of the outstanding shares of our voting stock or (5) (I) reorganize, recapitalize or reclassify our common stock, (II) effect or consummate a stock combination, reverse stock split or other similar transaction involving our common stock or (III) make any public announcement or disclosure with respect to any stock combination, reverse stock split or other similar transaction involving our common stock or (ii) any "person" or "group" (as these terms are used for purposes of Sections 13(d) and 14(d) of the Exchange Act and the rules and regulations promulgated thereunder) is or shall become the "beneficial owner" (as defined in Rule 13d-3 under the Exchange Act), directly or indirectly, of 50% of the aggregate ordinary voting power represented by issued and outstanding voting stock of ours.

Mandatory Exercise

We will have the right to require the holder to exercise the warrant for all of the then-remaining warrant shares, if at any time after the thirty (30) day anniversary of the issuance of the warrant, referred to as "Mandatory Exercise Eligibility Date," (i) the closing sale price of our common stock is equal to or greater than $2.875 per share (as adjusted for stock splits, stock combinations and similar transactions occurring from and after the issuance of the warrant) for a period of twenty (20) consecutive trading days following the Mandatory Exercise Eligibility Date, (ii) the aggregate dollar trading volume, as reported on Bloomberg, of the common stock on for each trading day during such 20-day period exceeds $250,000 per day and (iii) certain equity conditions set forth in the warrant have been satisfied or waived.

Rights as a Shareholder

Except as otherwise provided in the warrants or by virtue of such holder's ownership of shares of our common stock, the holder of a warrant does not have the rights or privileges of a holder of our common stock, including any voting rights, until the holder exercises the warrant.

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Underwriting

Aegis Capital Corp. is acting as the representative of the underwriters of the offering. We have entered into an underwriting agreement dated , 2014 with the representative. Subject to the terms and conditions of the underwriting agreement, we have agreed to sell to each underwriter named below, and each underwriter named below has severally agreed to purchase, at the public offering price less the underwriting discounts and commissions set forth on the cover page of this prospectus supplement, the number of shares of common stock and warrants listed next to its name in the following table:

Underwriter	Number of Shares	Number of Warrants
Aegis Capital Corp.		
Total		

The underwriters are committed to purchase all the shares of common stock and warrants offered by us other than those covered by the option to purchase additional shares and warrants described below, if they purchase any shares or warrants. The obligations of the underwriters may be terminated upon the occurrence of certain events specified in the underwriting agreement. Furthermore, pursuant to the underwriting agreement, the underwriters' obligations are subject to customary conditions, representations and warranties contained in the underwriting agreement, such as receipt by the underwriters of officers' certificates and legal opinions.

We have agreed to indemnify the underwriters against specified liabilities, including liabilities under the Securities Act, and to contribute to payments the underwriters may be required to make in respect thereof.

The underwriters propose to offer the shares and warrants offered by us to the public at the public offering price set forth on the cover of this prospectus supplement. In addition, the underwriters may offer some of the shares or warrants to other securities dealers at such price less a concession of $ per share and $ per warrant. If all of the shares and warrants offered by us are not sold at the public offering price, the underwriters may change the offering price and other selling terms by means of a further supplement to this prospectus supplement.

Discounts and Commissions. The following table shows the public offering price, underwriting discount and proceeds, before expenses, to us. The information assumes either no exercise or full exercise of the over-allotment option:

	Per Share	Per Warrant	Total Without Over-Allotment	Total With Over-Allotment
Public offering price	$	$	$	$
Underwriting discount (7%)	$	$	$	$
Non-accountable expense allowance (1%)(1)	$	$	$	$
Proceeds, before expense, to us	$	$	$	$

(1) The non-accountable expenses allowance of 1% is not payable with respect to the shares and/or warrants sold upon the exercise of the underwriters' over-allotment option.

We have agreed to pay expenses relating to the offering, including (a) all fees, expenses and disbursements relating to background checks of our officers and directors in an amount not to exceed $5,000 per individual and $15,000 in the aggregate; (b) all fees, expenses and disbursements relating to the registration, qualification or exemption of securities offered under the securities laws of foreign

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jurisdictions designated by the underwriters; (c) upon successfully completing this offering, $21,775 for the underwriters' use of Ipreo's book-building, prospectus supplement tracking and compliance software for this offering; and (d) up to $10,000 of the underwriters' actual accountable "road show" expenses for the offering.

We estimate that the total expenses of the offering payable by us, excluding the total underwriting discount, will be approximately $.

Over-allotment Option. We have granted the representative an over-allotment option. This option, which is exercisable for up to 45 days after the date of this prospectus supplement, permits the representative to purchase a maximum of additional shares and/or warrants to purchase additional shares of common stock (15% of the shares and/or warrants sold in this offering) from us to cover over-allotments, if any. If the representative exercises all or part of this option, it will purchase shares and/or warrants covered by the option at the public offering price that appears on the cover page of this prospectus supplement, less the underwriting discount. If this option is exercised in full, the total price to the public will be $ and the total net proceeds, before expenses, to us will be $.

Discretionary Accounts. The underwriters do not intend to confirm sales of the securities offered hereby to any accounts over which they have discretionary authority.

Lock-Up Agreements. We, our directors and executive officers will enter into lock up agreements with the representative, pursuant to which each of these persons, for a period of three months from the date of this prospectus supplement without the prior written consent of the representative, agrees not to (1) offer, pledge, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase, lend, or otherwise transfer or dispose of, directly or indirectly, any shares of our securities or any securities convertible into or exercisable or exchangeable for shares of our common stock owned or acquired on or prior to the closing date of this offering (including any shares of common stock acquired after the closing date of this offering upon the conversion, exercise or exchange of such securities); (2) file or cause to be filed any registration statement relating to the offering of any shares of our capital stock; or (3) enter into any swap or other arrangement that transfers to another, in whole or in part, any of the economic consequences of ownership of the common stock, whether any such transaction described in clause (1), (2) or (3) above is to be settled by delivery of common stock or such other securities, in cash or otherwise, except for certain exceptions and limitations.

The lock-up period described in the preceding paragraph will be automatically extended if: (1) during the last 17 days of the lock-up period, we issue an earnings release or announce material news or a material event; or (2) prior to the expiration of the lock-up period, we announce that we will release earnings results during the 16-day period beginning on the last day of the lock-up period, in which case the restrictions described in the preceding paragraph will continue to apply until the expiration of the 18-day period beginning on the date of the earnings release or the occurrence of the material news or the material event, as applicable.

Electronic Offer, Sale and Distribution of Securities. A prospectus supplement in electronic format may be made available on the websites maintained by one or more of the underwriters or selling group members, if any, participating in this offering and one or more of the underwriters participating in this offering may distribute prospectus supplements electronically. The representative may agree to allocate a number of shares and warrants to underwriters and selling group members for sale to their online brokerage account holders. Internet distributions will be allocated by the underwriters and selling group members that will make Internet distributions on the same basis as other allocations. Other than the prospectus supplement in electronic format, the information on these websites is not part of, nor incorporated by reference into, this prospectus supplement or the registration statement related to the

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securities offered hereby, has not been approved or endorsed by us or any underwriter in its capacity as underwriter, and should not be relied upon by investors.

Stabilization. In connection with this offering, the underwriters may engage in stabilizing transactions, over-allotment transactions, syndicate-covering transactions, penalty bids and purchases to cover positions created by short sales.

Stabilizing transactions permit bids to purchase securities so long as the stabilizing bids do not exceed a specified maximum, and are engaged in for the purpose of preventing or retarding a decline in the market price of the securities while the offering is in progress.

Over-allotment transactions involve sales by the underwriters of securities in excess of the number of securities the underwriters are obligated to purchase. This creates a syndicate short position which may be either a covered short position or a naked short position. In a covered short position, the number of securities over-allotted by the underwriters is not greater than the number of securities that they may purchase in the over-allotment option. In a naked short position, the number of securities involved is greater than the number of securities in the over-allotment option. The underwriters may close out any short position by exercising their over-allotment option and/or purchasing securities in the open market.

Syndicate covering transactions involve purchases of securities in the open market after the distribution has been completed in order to cover syndicate short positions. In determining the source of securities to close out the short position, the underwriters will consider, among other things, the price of securities available for purchase in the open market as compared with the price at which they may purchase securities through exercise of the over-allotment option. If the underwriters sell more securities than could be covered by exercise of the over-allotment option and, therefore, have a naked short position, the position can be closed out only by buying securities in the open market. A naked short position is more likely to be created if the underwriters are concerned that after pricing there could be downward pressure on the price of the securities in the open market that could adversely affect investors who purchase in the offering.

Penalty bids permit the representative to reclaim a selling concession from a syndicate member when the securities originally sold by that syndicate member are purchased in stabilizing or syndicate covering transactions to cover syndicate short positions.

These stabilizing transactions, syndicate covering transactions and penalty bids may have the effect of raising or maintaining the market price of our securities or preventing or retarding a decline in the market price of our securities. As a result, the price of our securities in the open market may be higher than it would otherwise be in the absence of these transactions. Neither we nor the underwriters make any representation or prediction as to the effect that the transactions described above may have on the price of our securities. These transactions may be effected in the over-the-counter market or otherwise and, if commenced, may be discontinued at any time.

Passive market making. In connection with this offering, underwriters and selling group members may engage in passive market making transactions in our common stock on the over-the-counter market in accordance with Rule 103 of Regulation M under the Exchange Act, during a period before the commencement of offers or sales of the shares and extending through the completion of the distribution. A passive market maker must display its bid at a price not in excess of the highest independent bid of that security. However, if all independent bids are lowered below the passive market maker's bid, then that bid must then be lowered when specified purchase limits are exceeded.

Potential Conflicts of Interest. The underwriters and their affiliates have provided, or may in the future provide, various investment banking, commercial banking, financial advisory, brokerage and

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other services to us and our affiliates for which services they have received, and may in the future receive, customary fees and expense reimbursement. Aegis Capital Corp. acted as the representatives of the underwriters in connection with our public offering of common stock, which was consummated on February 23, 2012, and we paid to Aegis Capital Corp. a commission of $1,400,000 and $200,000 of reimbursement of non-accountable expenses.

The underwriters and their affiliates may, from time to time, engage in transactions with and perform services for us in the ordinary course of their business for which they may receive customary fees and reimbursement of expenses. In the ordinary course of their various business activities, the underwriters and their affiliates may make or hold a broad array of investments and actively trade debt and equity securities (or related derivative securities) and financial instruments (including bank loans) for their own accounts and for the accounts of their customers and such investment and securities activities may involve securities and/or instruments of our company. The underwriters and their affiliates may also make investment recommendations and/or publish or express independent research views in respect of such securities or instruments and may at any time hold, or recommend to clients that they acquire, long and/or short positions in such securities and instruments.

The principal business address of Aegis Capital Corp. is 810 Seventh Avenue, 18th Floor, New York, New York 10019.

Information Regarding State Securities Laws

We will offer and sell shares and warrants to retail customers only in New York. In New York, we have relied on exemptions from the state registration requirements.

If you are not an institutional investor, you may purchase our securities in this offering only in the jurisdictions described directly above. Institutional investors in every state except Idaho may purchase shares and warrants in this offering pursuant to exemptions under the securities laws of various states. The definition of an "institutional investor" varies from state to state but generally includes financial institutions, broker-dealers, banks, insurance companies and other qualified entities.

The National Securities Markets Improvement Act of 1996, which is a federal statute, pre-empts the states from regulating transactions in certain securities, which are referred to as "covered securities." The resale of the shares and warrants, from and after the effective date, are exempt from state registration requirements under the National Securities Markets Improvement Act because we will continue to file periodic and annual reports under the Exchange Act. However, states are permitted to require notice filings and collect fees with regard to these transactions and a state may suspend the offer and sale of securities within such state if any such required filing is not made or fee is not paid. As of the date of this prospectus supplement, Alabama, Alaska, Arizona, Arkansas, California, Colorado, Connecticut, Delaware, Florida, Georgia, Hawaii, Idaho, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Massachusetts, Minnesota, Mississippi, Missouri, Nebraska, Nevada, New Jersey, New Mexico, New York, North Carolina, Oklahoma, Pennsylvania, South Carolina, South Dakota, Utah, Virginia, Washington, West Virginia, Wisconsin and Wyoming either do not presently require any notice filings or fee payments or have not yet issued rules or regulations indicating whether notice filings or fee payments will be required. The District of Columbia, Illinois, Maryland, Michigan, Montana, New Hampshire, North Dakota, Ohio, Oregon, Puerto Rico, Rhode Island, Tennessee, Texas and Vermont currently permit the resale of the shares and warrants, if we have registered the securities in the state or the proper notice filings and fees have been submitted. As of the date of this prospectus supplement, we have not determined in which, if any, of these states we will submit the required notice filings or pay the required fee. Additionally, if any of these states that has not yet adopted a statute relating to the National Securities Markets Improvement Act adopts such a statute in the future requiring a filing or fee or if any state amends its existing statutes with respect to its requirements, we

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would need to comply with those new requirements in order for our securities to continue to be eligible for resale in those jurisdictions.

Aside from the exemption from registration provided by the National Securities Markets Improvement Act, we believe that the shares and warrants, from and after the closing date, will be eligible for sale on a secondary market basis in various states based on the availability of another applicable exemption from state registration requirements, in certain instances subject to waiting periods, notice filings or fee payments.

Offer Restrictions Outside the United States

Other than in the United States, no action has been taken by us or the underwriters that would permit a public offering of the securities offered by this prospectus supplement in any jurisdiction where action for that purpose is required. The securities offered by this prospectus supplement may not be offered or sold, directly or indirectly, nor may this prospectus supplement or any other offering material or advertisements in connection with the offer and sale of any such securities be distributed or published in any jurisdiction, except under circumstances that will result in compliance with the applicable rules and regulations of that jurisdiction. Persons into whose possession this prospectus supplement comes are advised to inform themselves about and to observe any restrictions relating to the offering and the distribution of this prospectus supplement. This prospectus supplement does not constitute an offer to sell or a solicitation of an offer to buy any securities offered by this prospectus supplement in any jurisdiction in which such an offer or a solicitation is unlawful.

Australia

This prospectus supplement is not a disclosure document under Chapter 6D of the Australian Corporations Act, has not been lodged with the Australian Securities and Investments Commission and does not purport to include the information required of a disclosure document under Chapter 6D of the Australian Corporations Act. Accordingly, (i) the offer of the securities under this prospectus supplement is only made to persons to whom it is lawful to offer the securities without disclosure under Chapter 6D of the Australian Corporations Act under one or more exemptions set out in section 708 of the Australian Corporations Act, (ii) this prospectus supplement is made available in Australia only to those persons as set forth in clause (i) above, and (iii) the offeree must be sent a notice stating in substance that by accepting this offer, the offeree represents that the offeree is such a person as set forth in clause (i) above, and, unless permitted under the Australian Corporations Act, agrees not to sell or offer for sale within Australia any of the securities sold to the offeree within 12 months after its transfer for the offeree under this prospectus supplement.

China

The information in this document does not constitute a public offer of the securities, whether by way of sale or subscription, in the People's Republic of China (excluding, for purposes of this paragraph, Hong Kong Special Administrative Region, Macau Special Administrative Region and Taiwan). The securities may not be offered or sold directly or indirectly in the PRC to legal or natural persons other than directly to "qualified domestic institutional investors."

European Economic Area Belgium, Germany, Luxembourg and Netherlands

The information in this document has been prepared on the basis that all offers of common stock and warrants will be made pursuant to an exemption under the Directive 2003/71/EC ("Prospectus Directive"), as implemented in Member States of the European Economic Area (each, a "Relevant Member State"), from the requirement to produce a prospectus for offers of securities.

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An offer to the public of common stock and warrants has not been made, and may not be made, in a Relevant Member State except pursuant to one of the following exemptions under the Prospectus Directive as implemented in that Relevant Member State:

a) to legal entities that are authorized or regulated to operate in the financial markets or, if not so authorized or regulated, whose corporate purpose is solely to invest in securities;

b) to any legal entity that has two or more of (i) an average of at least 250 employees during its last fiscal year; (ii) a total balance sheet of more than €43,000,000 (as shown on its last annual unconsolidated or consolidated financial statements) and (iii) an annual net turnover of more than €50,000,000 (as shown on its last annual unconsolidated or consolidated financial statement);

c) to fewer than 100 natural or legal persons (other than qualified investors within the meaning of Article 2(1)I of the Prospectus Directive) subject to obtaining the prior consent of the company or any underwriter for any such offer; or

d) in any other circumstances falling within Article 3(2) of the Prospectus Directive, provided that no such offer of common stock and warrants shall result in a requirement for the publication by the company of a prospectus pursuant to Article 3 of the Prospectus Directive.

France

This document is not being distributed in the context of a public offering of financial securities (*offre au public de titres financiers*) in France within the meaning of Article L.411-1 of the French Monetary and Financial Code (*Code monétaire et financier*) and Articles 211-1 et seq. of the General Regulation of the French *Autorité des marchés financiers* ("AMF"). The common stock and warrants have not been offered or sold and will not be offered or sold, directly or indirectly, to the public in France.

This document and any other offering material relating to the common stock and warrants have not been, and will not be, submitted to the AMF for approval in France and, accordingly, may not be distributed or caused to distributed, directly or indirectly, to the public in France.

Such offers, sales and distributions have been and shall only be made in France to (i) qualified investors (*investisseurs qualifiés*) acting for their own account, as defined in and in accordance with Articles L.411-2-II-2° and D.411-1 to D.411-3, D. 744-1, D.754-1 and D.764-1 of the French Monetary and Financial Code and any implementing regulation and/or (ii) a restricted number of non-qualified investors (*cercle restreint d'investisseurs non-qualifiés*) acting for their own account, as defined in and in accordance with Articles L.411-2-II-2° and D.411-4, D.744-1, D.754-1 and D.764-1 of the French Monetary and Financial Code and any implementing regulation.

Pursuant to Article 211-3 of the General Regulation of the AMF, investors in France are informed that the common stock and warrants cannot be distributed (directly or indirectly) to the public by the investors otherwise than in accordance with Articles L.411-1, L.411-2, L.412-1 and L.621-8 to L.621-8-3 of the French Monetary and Financial Code.

Ireland

The information in this document does not constitute a prospectus under any Irish laws or regulations and this document has not been filed with or approved by any Irish regulatory authority as the information has not been prepared in the context of a public offering of securities in Ireland within the meaning of the Irish Prospectus (Directive 2003/71/EC) Regulations 2005 (the "Prospectus Regulations"). The common stock and warrants have not been offered or sold, and will not be offered, sold or delivered directly or indirectly in Ireland by way of a public offering, except to (i) qualified

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investors as defined in Regulation 2(l) of the Prospectus Regulations and (ii) fewer than 100 natural or legal persons who are not qualified investors.

Israel

The common stock and warrants offered by this prospectus supplement have not been approved or disapproved by the Israeli Securities Authority (the "ISA"), nor have such common stock and warrants been registered for sale in Israel. The shares and warrants may not be offered or sold, directly or indirectly, to the public in Israel, absent the publication of a prospectus. The ISA has not issued permits, approvals or licenses in connection with the offering or publishing this prospectus supplement; nor has it authenticated the details included herein, confirmed their reliability or completeness, or rendered an opinion as to the quality of the common stock and warrants being offered. Any resale in Israel, directly or indirectly, to the public of the common stock and warrants offered by this prospectus supplement is subject to restrictions on transferability and must be effected only in compliance with the Israeli securities laws and regulations.

Italy

The offering of the common stock and warrants in Italy has not been authorized by the Italian Securities and Exchange Commission (*Commissione Nazionale per le Società e la Borsa*, "*CONSOB*") pursuant to the Italian securities legislation and, accordingly, no offering material relating to the common stock and warrants may be distributed in Italy and such securities may not be offered or sold in Italy in a public offer within the meaning of Article 1.1(t) of Legislative Decree No. 58 of 24 February 1998 ("Decree No. 58"), other than:

- to Italian qualified investors, as defined in Article 100 of Decree no. 58 by reference to Article 34-ter of CONSOB Regulation no. 11971 of 14 May 1999 ("Regulation no. 1197l") as amended ("Qualified Investors"); and

- in other circumstances that are exempt from the rules on public offer pursuant to Article 100 of Decree No. 58 and Article 34-ter of Regulation No. 11971, as amended.

Any offer, sale or delivery of the common stock and warrants or distribution of any offer document relating to the common stock and warrants in Italy (excluding placements where a Qualified Investor solicits an offer from the issuer) under the paragraphs above must be:

- made by investment firms, banks or financial intermediaries permitted to conduct such activities in Italy in accordance with Legislative Decree No. 385 of 1 September 1993 (as amended), Decree No. 58, CONSOB Regulation No. 16190 of 29 October 2007 and any other applicable laws; and

- in compliance with all relevant Italian securities, tax and exchange controls and any other applicable laws.

Any subsequent distribution of the common stock and warrants in Italy must be made in compliance with the public offer and prospectus requirement rules provided under Decree No. 58 and the Regulation No. 11971 as amended, unless an exception from those rules applies. Failure to comply with such rules may result in the sale of such common stock and warrants being declared null and void and in the liability of the entity transferring the common stock and warrants for any damages suffered by the investors.

Japan

The common stock and warrants have not been and will not be registered under Article 4, paragraph 1 of the Financial Instruments and Exchange Law of Japan (Law No. 25 of 1948), as

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amended (the "FIEL") pursuant to an exemption from the registration requirements applicable to a private placement of securities to Qualified Institutional Investors (as defined in and in accordance with Article 2, paragraph 3 of the FIEL and the regulations promulgated thereunder). Accordingly, the common stock and warrants may not be offered or sold, directly or indirectly, in Japan or to, or for the benefit of, any resident of Japan other than Qualified Institutional Investors. Any Qualified Institutional Investor who acquires common stock and warrants may not resell them to any person in Japan that is not a Qualified Institutional Investor, and acquisition by any such person of common stock and warrants is conditional upon the execution of an agreement to that effect.

Portugal

This document is not being distributed in the context of a public offer of financial securities (*oferta pública de valores mobiliários*) in Portugal, within the meaning of Article 109 of the Portuguese Securities Code (*Código dos Valores Mobiliários*). The common stock and warrants have not been offered or sold and will not be offered or sold, directly or indirectly, to the public in Portugal. This document and any other offering material relating to the common stock and warrants have not been, and will not be, submitted to the Portuguese Securities Market Commission (*Comissão do Mercado de Valores Mobiliários*) for approval in Portugal and, accordingly, may not be distributed or caused to distributed, directly or indirectly, to the public in Portugal, other than under circumstances that are deemed not to qualify as a public offer under the Portuguese Securities Code. Such offers, sales and distributions of common stock and warrants in Portugal are limited to persons who are "qualified investors" (as defined in the Portuguese Securities Code). Only such investors may receive this document and they may not distribute it or the information contained in it to any other person.

Sweden

This document has not been, and will not be, registered with or approved by *Finansinspektionen* (the Swedish Financial Supervisory Authority). Accordingly, this document may not be made available, nor may the common stock and warrants be offered for sale in Sweden, other than under circumstances that are deemed not to require a prospectus under the Swedish Financial Instruments Trading Act (1991:980) (Sw. *lag (1991:980) om handel med finansiella instrument*). Any offering of common stock and warrants in Sweden is limited to persons who are "qualified investors" (as defined in the Financial Instruments Trading Act). Only such investors may receive this document and they may not distribute it or the information contained in it to any other person.

Switzerland

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

Neither this document nor any other offering material relating to the common stock and warrants has been or will be filed with or approved by any Swiss regulatory authority. In particular, this document will not be filed with, and the offer of common stock and warrants will not be supervised by, the Swiss Financial Market Supervisory Authority (FINMA). This document is personal to the recipient only and not for general circulation in Switzerland.

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United Arab Emirates

Neither this document nor the common stock and warrants have been approved, disapproved or passed on in any way by the Central Bank of the United Arab Emirates or any other governmental authority in the United Arab Emirates, nor have we received authorization or licensing from the Central Bank of the United Arab Emirates or any other governmental authority in the United Arab Emirates to market or sell the common stock and warrants within the United Arab Emirates. This document does not constitute and may not be used for the purpose of an offer or invitation. No services relating to the common stock and warrants, including the receipt of applications and/or the allotment or redemption of such securities, may be rendered within the United Arab Emirates by us.

No offer or invitation to subscribe for common stock and warrants is valid or permitted in the Dubai International Financial Centre.

United Kingdom

Neither the information in this document nor any other document relating to the offer has been delivered for approval to the Financial Services Authority in the United Kingdom and no prospectus (within the meaning of section 85 of the Financial Services and Markets Act 2000, as amended ("FSMA")) has been published or is intended to be published in respect of the common stock and warrants. This document is issued on a confidential basis to "qualified investors" (within the meaning of section 86(7) of FSMA) in the United Kingdom, and the common stock and warrants may not be offered or sold in the United Kingdom by means of this document, any accompanying letter or any other document, except in circumstances which do not require the publication of a prospectus pursuant to section 86(1) FSMA. This document should not be distributed, published or reproduced, in whole or in part, nor may its contents be disclosed by recipients to any other person in the United Kingdom.

Any invitation or inducement to engage in investment activity (within the meaning of section 21 of FSMA) received in connection with the issue or sale of the common stock and warrants has only been communicated or caused to be communicated and will only be communicated or caused to be communicated in the United Kingdom in circumstances in which section 21(1) of FSMA does not apply to us.

In the United Kingdom, this document is being distributed only to, and is directed at, persons (i) who have professional experience in matters relating to investments falling within Article 19(5) (investment professionals) of the Financial Services and Markets Act 2000 (Financial Promotions) Order 2005 ("FPO"), (ii) who fall within the categories of persons referred to in Article 49(2)(a) to (d) (high net worth companies, unincorporated associations, etc.) of the FPO or (iii) to whom it may otherwise be lawfully communicated (together "relevant persons"). The investments to which this document relates are available only to, and any invitation, offer or agreement to purchase will be engaged in only with, relevant persons. Any person who is not a relevant person should not act or rely on this document or any of its contents.

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Legal Matters

The validity of the securities offered by this prospectus supplement and the accompanying prospectus will be passed upon for us by Greenberg Traurig, LLP, Boston, Massachusetts. Blank Rome LLP, New York, New York, is counsel for the underwriters in connection with this offering.

Experts

The consolidated balance sheets of InVivo Therapeutics Holdings Corp. as of December 31, 2013 and 2012, and the related consolidated statements of operations, changes in stockholders' deficit and cash flows for the years then ended and for the period from November 28, 2005 (inception) to December 31, 2013 have been audited by Wolf & Company, P.C., an independent registered public accounting firm, as indicated in their report with respect thereto, and are incorporated by reference herein in reliance upon the authority of said firm as experts in accounting and auditing.

Where You Can Find More Information

This prospectus supplement and the accompanying prospectus are part of the registration statement on Form S-3 we filed with the SEC under the Securities Act and do not contain all the information set forth in the registration statement. Whenever a reference is made in this prospectus supplement or the accompanying prospectus to any of our contracts, agreements or other documents, the reference may not be complete and you should refer to the exhibits that are a part of the registration statement or the exhibits to the reports or other documents incorporated by reference in this prospectus supplement and the accompanying prospectus for a copy of such contract, agreement or other document. Because we are subject to the information and reporting requirements of the Exchange Act, we file annual, quarterly and current reports, proxy statements and other information with the SEC. Our SEC filings are available to the public over the Internet at the SEC's website at http://www.sec.gov. You may also read and copy any document we file at the SEC's Public Reference Room at 100 F Street, N.E., Washington, D.C. 20549. Please call the SEC at 1-800-SEC-0330 for further information on the operation of the Public Reference Room.

Incorporation of Certain Documents by Reference

The SEC allows us to "incorporate by reference" information from other documents that we file with it, which means that we can disclose important information to you by referring you to those documents. The information incorporated by reference is considered to be part of this prospectus supplement and the accompanying prospectus. Information contained in this prospectus supplement and the accompanying prospectus and information that we file with the SEC in the future and incorporate by reference in this prospectus supplement and the accompanying prospectus will automatically update and supersede this information. We incorporate by reference the documents listed below and any future filings (other than Current Reports on Form 8-K furnished under Item 2.02 or Item 7.01 and exhibits filed on such form that are related to such items) we make with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act after the date of the prospectus supplement and before the sale of all the securities covered by this prospectus supplement:

- our Annual Report on Form 10-K for the fiscal year ended December 31, 2013, filed on March 17, 2014, as amended by Amendment No. 1 filed on April 29, 2014;
- our Current Report on Form 8-K filed on April 30, 2014; and
- the description of our common stock contained in our Registration Statement on Form 8-A, filed with the SEC on June 30, 2006, including any amendments or reports filed for the purpose of updating that description.

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You may request a copy of these filings, at no cost, by writing or calling us at the following address or telephone number:

InVivo Therapeutics Holdings Corp.
One Kendall Square, Building 1400 East, 4th Floor
Cambridge, Massachusetts 02139
Attn: Investor Relations
(617) 863-5500

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PROSPECTUS

INVIVO THERAPEUTICS HOLDINGS CORP.

$50,000,000

Common Stock
Warrants
Units

This prospectus relates to common stock, warrants and units that we may sell from time to time in one or more offerings up to a total dollar amount of $50,000,000 on terms to be determined at the time of sale. We will provide specific terms of these securities in supplements to this prospectus. You should read this prospectus and any supplement carefully before you invest. This prospectus may not be used to offer and sell securities unless accompanied by a prospectus supplement for those securities.

Our common stock is quoted on the OTC Bulletin Board under the symbol "NVIV.OB." On January 5, 2012, the last sales price of our common stock as reported on the OTC Bulletin Board was $2.58 per share.

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

Investing in our securities involves a high degree of risk. Beginning on page 5, we discuss several "Risk Factors "that you should consider before investing in our securities.

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

The date of this prospectus is January 19, 2012.

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Prior to the offering to which this prospectus relates, we commenced and abandoned a private offering in which we sought to raise up to approximately $10 million in proceeds from the sale of our securities. The private offering was made solely to persons or entities whom we believed to be accredited investors. We abandoned the private offering on December 9, 2011. We did not accept any offers to buy or indications of interest in the private offering. This prospectus supersedes any offering materials used in the private offering.

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ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement that we filed with the Securities and Exchange Commission, or the SEC, using a "shelf" registration process. Under this shelf registration process, we may sell any combination of the securities described in this prospectus in one or more offerings up to a total dollar amount of $50,000,000. This prospectus provides you with a general description of the securities we may offer. Each time we sell securities, we will provide a prospectus supplement that will contain specific information about the securities being offered and the terms of that offering. The prospectus supplement may also add to, update or change information contained in this prospectus. You should read both this prospectus and any prospectus supplement together with the additional information described under the heading "Where You Can Find More Information" carefully before making an investment decision.

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

You should not assume that the information appearing in this prospectus or any applicable prospectus supplement is accurate as of any date other than the date on the front cover of this prospectus or the applicable prospectus supplement, or that the information contained in any document incorporated by reference is accurate as of any date other than the date of the document incorporated by reference, regardless of the time of delivery of this prospectus or any prospectus supplement or any sale of a security. Our business, financial condition, results of operations and prospects may have changed since such dates.

Unless the context otherwise requires, the terms "InVivo Therapeutics," "InVivo," "the Company," "our company," "we," "us," "our" and similar names refer collectively to InVivo Therapeutics Holdings Corp. and its subsidiaries.

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ABOUT INVIVO THERAPEUTICS HOLDINGS CORP.

History

InVivo Therapeutics Corporation ("InVivo") was incorporated on November 28, 2005 under the laws of the State of Delaware. On October 26, 2010, InVivo completed a reverse merger transaction (the "Merger") with InVivo Therapeutics Holdings Corporation (formerly Design Source, Inc.), a publicly traded company incorporated under the laws of the State of Nevada. InVivo became a wholly owned subsidiary of InVivo Therapeutics, which continues to operate the business of InVivo. As part of the Merger, InVivo Therapeutics issued 31,147,190 shares of its common stock, par value $0.00001 per share (the "Common Stock"), to the holders of InVivo common stock on October 26, 2010 on a 13.7706 for 1 basis in exchange for the 2,261,862 outstanding common shares of InVivo. All of the issued and outstanding options to purchase shares of InVivo common stock, and the issued and outstanding bridge warrants to purchase shares of InVivo common stock, converted, respectively, into options and new bridge warrants to purchase shares of our Common Stock.

The Merger was a "reverse merger," and InVivo is deemed to be the acquirer and ongoing operating company. The Merger was recorded as a recapitalization of InVivo, equivalent to the issuance of common stock by InVivo for the net monetary assets of InVivo Therapeutics accompanied by a recapitalization. At the date of the Merger, the 6,999,981 outstanding InVivo Therapeutics shares are reflected as an issuance of InVivo common stock to the prior shareholders of InVivo Therapeutics. InVivo Therapeutics had no net monetary assets as of the Merger so this issuance was recorded as a reclassification between additional paid-in capital and par value of Common Stock.

Simultaneously with the closing of the Merger on October 26, 2010, InVivo Therapeutics transferred all of its operating assets and liabilities to its wholly-owned subsidiary, D Source Split Corp., a company organized under the laws of Nevada ("DSSC"). DSSC was then split-off from InVivo Therapeutics through the sale of all outstanding shares of DSSC (the "Split-Off"). In connection with the Split-Off, 14,747,554 shares of our Common Stock held by Peter Reichard, Lawrence Reichard and Peter Coker (the "Split-Off Shareholders") were surrendered and cancelled without further consideration, other than the shares of DSSC. An additional 1,014,490 shares of our Common Stock were cancelled by a shareholder for no additional consideration. The assets and liabilities of InVivo Therapeutics were transferred to the Split-Off Shareholders in the Split-Off. InVivo Therapeutics executed a split off agreement with the Split-Off Shareholders which obligates the Split-Off Shareholders to assume all prior liabilities associated with InVivo Therapeutics before the Merger.

In connection with the Merger, on October 26, November 10 and December 3, 2010, we completed a private placement (the "2010 Private Placement") of 13,000,000 units of our securities, consisting of one share of Common Stock and a warrant to purchase one share of Common Stock. Prior to the Merger, InVivo had completed a bridge financing, wherein it sold $500,000 in principal amount of its bridge notes and 36,310 bridge warrants to accredited investors. On December 21, 2011, we completed a private placement of 980,382 shares of Common Stock and sold a warrant to purchase 343,137 shares of Common Stock to one accredited investor.

Our principal executive offices are located at One Broadway, 14th Floor, Cambridge, Massachusetts 02142. On November 29, 2011, we executed a commercial lease for 20,917 square feet of office, laboratory and manufacturing space in Cambridge, MA for a period of six years and three months.

Business Overview

We develop and commercialize new technologies for the treatment of spinal cord injuries. Our proprietary technology was co-invented by Robert S. Langer, ScD, Professor at Massachusetts Institute of Technology, and Joseph P. Vacanti, MD, affiliated with Massachusetts General Hospital. The intellectual property rights that are the basis for our products are licensed under an exclusive, world-wide license from Children's Medical Center Corporation ("CMCC") and Massachusetts Institute of Technology ("MIT").

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We intend to create new treatments for spinal cord injury. Current treatments consist of a collection of approaches that only focus on symptoms of spinal cord injury. To date, we are not aware of any product on the market that addresses the underlying pathology of spinal cord injury.

Currently, there are no successful spinal cord injury treatment options for spinal cord injury patients. We take a different approach to spinal cord injury and focus on protection of the spinal cord and prevention of secondary injury rather than regeneration. Our platform technologies focus on minimizing tissue damage sustained following acute injury and promoting neural plasticity of the spared healthy tissue, which may result in full or partial functional recovery. The technologies encompass multiple strategies involving biomaterials, U.S. Food & Drug Administration ("FDA") approved drugs, growth factors, and human neural stem cells. We believe our approach could become a standard treatment for both acute and chronic spinal cord injuries.

We intend to leverage our primary platform technology to develop and commercialize several products as follows:

A biocompatible polymer scaffolding device to treat acute spinal cord injuries.

A biocompatible hydrogel for local controlled release of methylprednisolone to treat acute spinal cord injuries and peripheral nerve injuries.

A biocompatible polymer scaffolding device seeded with autologous human neural stem cells to treat acute and chronic spinal cord injuries.

Our biopolymer-based devices are surgically implanted or injected into the lesion created during traumatic injury, or the "primary injury." The Company expects the biopolymer scaffolding devices will protect the damaged spinal cord by mitigating the progression of "secondary injury" resulting from the body's inflammatory and immune response to injury, and will promote neuroplasticity, a process where functional recovery (the recovery of motor movement or sensation) may occur through the rerouting of signaling pathways to the spared healthy tissue. Achieving these results is essential to the recovery process, as secondary injury can significantly worsen the immediate damage sustained during trauma. The additional damage dramatically reduces patient quality of life post-injury.

Our first product, the biocompatible polymer scaffolding device to treat acute spinal cord injuries is expected to be regulated by the FDA as a Class III medical device. A Class III medical device will require FDA approval of a Pre-Market Approval Application ("PMA") before we can start selling the product in the U.S. We will be required to demonstrate safety and efficacy in human clinical studies before we can submit a PMA to the FDA. Before clinical studies can commence, we must submit an Investigational Device Exemption application ("IDE") to the FDA and the FDA must approve the IDE. Once the IDE has been filed with the FDA, the FDA has a thirty-day period to approve the IDE, or disapprove the IDE, in which case the applicant is provided the opportunity to provide additional information to the FDA to respond to the filing deficiencies. We have conducted a Pre-IDE meeting with the FDA at which we reviewed the pre-clinical data and the clinical trial protocol. At the meeting, the FDA provided the Company observations and guidance concerning the pre-clinical data required for the IDE submission, the description of the manufacturing methods used to make the device and the proposed clinical study protocol

We submitted an IDE application for our biopolymer scaffolding device to the FDA on July 7, 2011. The FDA has provided us with comments to the IDE filing and we are in the process of responding to the FDA comments. We anticipate that the IDE will be approved by the FDA during 2012. We plan to first conduct a pilot study in ten acute spinal cord patients followed by a larger pivotal study. The completion of the human clinical studies and the FDA approval of the PMA could take between three to five years to achieve, depending on a number of factors including the FDA review and clearance process for the IDE, the clinical trial designs and amount of time it will take to enroll and treat patients, and the FDA review and approval process for the PMA. The FDA regulatory approval process is lengthy, and the outcome is highly uncertain. The risk exists that the first product may never be approved, or that the approval is significantly delayed such that we are unable to raise additional capital to continue to fund the Company. Please see "Risk Factors" beginning on page 5 for a more detailed discussion of these risks.

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If the product is approved by the FDA, we will need to expand manufacturing capacity, and establish sales, marketing and distribution channels to sell the product. We intend to retain manufacturing rights and plans to market and sell the product through a direct sales force in the United States. For major markets outside the United States, we plan to seek regulatory approvals after the clinical trials are conducted in the United States.

Additional applications of our platform technologies include the potential treatment for spinal cord injury following tumor removal, peripheral nerve damage, and postsurgical treatment of any transected nerve. Our first product, the biocompatible scaffolding device for the treatment of acute spinal cord injury, is regulated as a Class III medical device by the FDA. The product has been evaluated in a number of animal studies, including a third primate study which began in 2011. The data collected from this study is intended to support results from previous pre-clinical studies. The study includes 24 additional primates utilizing the same trial design as the second African green monkey study. Initial results are consistent with data from prior monkey and rodent studies. The biocompatible hydrogel for the local release of methylprednisolone to treat acute spinal cord and peripheral nerve injuries and the biocompatible polymer scaffolding device seeded with autologous human neural stem cells to treat acute and chronic spinal cord injuries are likely to be regulated as combination drug/devices and as such will require significantly longer regulatory approval times than the biopolymer scaffolding device.

We are a development stage company, and as such face significant uncertainty regarding our future capital needs and timelines for our intended products.

Our principal executive offices are located at One Broadway, 14th Floor, Cambridge, Massachusetts 02142. Our telephone number is (617) 475-1520. We maintain a website at *www.invivotherapeutics.com*. The URL of our website is included herein as an inactive textual reference. Information contained on, or accessible through, our website is not a part of, and is not incorporated by reference into, this prospectus or any prospectus supplement.

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RISK FACTORS

Investing in our securities involves significant risks. Before making an investment decision, you should carefully consider these risks as well as other information we include or incorporate by reference in this prospectus and any prospectus supplement. The risks and uncertainties we have described are not the only ones facing our company. Additional risks and uncertainties not presently known to us or that we currently deem immaterial may also affect our business operations.

Risks Relating to Our Business and Our Industry

We have a limited operating history and it is difficult to predict our future growth and operating results.

We have a limited operating history and limited operations and assets. Accordingly, you should consider our prospects in light of the costs, uncertainties, delays and difficulties encountered by companies in the early stage of development. As a development stage company, our development timelines have been and may continue to be subject to adjustments that could negatively affect our cash flow and ability to develop or bring products to market, if at all. Predicting our future operating and other results is extremely difficult, if not impossible.

Our prospects must be considered in light of inherent risks, expenses and difficulties encountered by all early stage companies, particularly companies in new and evolving markets. These risks include, by way of example and not limitation, unforeseen capital requirements, unforeseen technical problems, delays in obtaining regulatory approvals, failure of market acceptance and competition from foreseen and unforeseen sources.

We have not generated any revenues to date and have a history of losses since inception.

We have not generated any revenue to date and, through September 30, 2011, have incurred net losses of approximately $12,670,000 since inception. It can be expected that we will continue to incur significant operating expenses and continue to experience losses in the foreseeable future. As a result, we cannot predict when, if ever, we might achieve profitability and cannot be certain that we will be able to sustain profitability, if achieved.

We will need substantial additional funding to develop our products and for our future operations. If we are unable to obtain the funds necessary to do so, we may be required to delay, scale back or eliminate our product development or may be unable to continue our business.

The development and approval to market and sell our product candidates will require a commitment of substantial funds, in excess of our current capital resources. Before we can market or sell any of our products, we will need to conduct costly and time-consuming research, which will include preclinical and clinical testing and regulatory approvals. We anticipate the amount of operating funds that we use will continue to increase along with our operating expenses over at least the next several years as we plan to bring our products to market. Our existing current capital resources will fund operations through June 30, 2012 and we will need to raise substantial capital to develop our products and fund future operations. Our future capital requirements will depend on many factors, including:

- the progress and costs of our research and development programs, including our ability to develop our current portfolio of therapeutic products, or discover and develop new ones;
- our ability, or our partners ability and willingness, to advance partnered products or programs;
- the cost of prosecuting, defending and enforcing patent claims and other intellectual property rights;
- the progress, scope, costs, and results of our preclinical and clinical testing of any current or future products;
- the time and cost involved in obtaining regulatory approvals;

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- the cost of manufacturing our product candidates;
- expenses related to complying with Good Manufacturing Practice manufacturing of product candidates;
- costs of financing the purchases of additional capital equipment and development technologies;
- competing technological and market developments;
- our ability to establish and maintain collaborative and other arrangements with third parties to assist in bringing our products to market and the cost of such arrangements;
- the amount and timing of payments or equity investments that we receive from collaborators and the timing and amount of expenses we incur;
- costs associated with the integration of any new operation, including costs relating to future mergers and acquisitions with companies that have complementary capabilities;
- expenses related to the establishment of sales and marketing capabilities for products awaiting approval or products that have been approved;
- the level of our sales and marketing expenses; and
- our ability to introduce and sell new products.

We cannot assure you that we will not need additional capital sooner than currently anticipated. We will need to raise substantial additional capital to fund our future operations. We cannot be certain that additional financing will be available on acceptable terms, or at all. In recent years, it has been difficult for companies to raise capital due to a variety of factors, which may or may not continue. If we are not successful in raising additional capital, we may not be able to continue as a going concern. To the extent we raise additional capital through the sale of equity securities, the ownership position of our existing stockholders could be substantially diluted. If additional funds are raised through the issuance of preferred stock or debt securities, these securities are likely to have rights, preferences and privileges senior to our common stock. Fluctuating interest rates could also increase the costs of any debt financing we may obtain.

Our products will represent new and rapidly evolving technologies.

Our proprietary spinal cord injury treatment technology depends on new, rapidly evolving technologies and on the marketability and profitability of our products. Approval by applicable regulatory agencies and commercialization of our spinal cord injury treatment technology could fail for a variety of reasons, both within and outside of our control. Furthermore, because there are no approved treatments for spinal cord injuries, the regulatory requirements governing this type of product may be more rigorous or less clearly established than for other analogous products.

We license our core technology from Children's Medical Center Corporation ("CMCC") and Massachusetts Institute of Technology ("MIT"), and we could lose our rights to this license if a dispute with CMCC or MIT arises or if we fail to comply with the financial and other terms of the license.

We license patents and core intellectual property from CMCC and MIT under the CMCC license. The CMCC license agreement imposes certain payment, milestone achievement, reporting, confidentiality and other obligations on us. In the event that we were to breach any of the obligations and fail to cure, CMCC would have the right to terminate the CMCC license agreement upon notice. In addition, CMCC has the right

to terminate the CMCC license agreement upon the bankruptcy or receivership of the Company. The termination of the CMCC license would have a material adverse effect on our business, as all of our current product candidates are based on the patents and licensed intellectual property. If any dispute arises with respect to our arrangement with CMCC or MIT, such dispute may disrupt our operations and would likely have a material and adverse impact on us if resolved in a manner that is unfavorable to us.

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We will face substantial competition.

The biotechnology industry in general is subject to intense competition and rapid and significant technological change. We have many potential competitors, including major drug companies, specialized biotechnology firms, academic institutions, government agencies and private and public research institutions. Many of these competitors have significantly greater financial and technical resources than us, and superior experience and expertise in research and development, preclinical testing, designing and implementing clinical trials, regulatory processes and approvals, production and manufacturing, and sales and marketing of approved products.

Principal competitive factors in our industry include the quality and breadth of an organization's technology; management of the organization and the execution of the organization's strategy; the skill and experience of an organization's employees and its ability to recruit and retain skilled and experienced employees; an organization's intellectual property portfolio; the range of capabilities, from target identification and validation to drug and device discovery and development to manufacturing and marketing; and the availability of substantial capital resources to fund discovery, development and commercialization activities.

Large and established companies compete in the biotech market. In particular, these companies have greater experience and expertise in securing government contracts and grants to support their research and development efforts, conducting testing and clinical trials, obtaining regulatory approvals to market products, manufacturing such products on a broad scale and marketing approved products.

Smaller or early-stage companies and research institutions may also prove to be significant competitors, particularly through collaborative arrangements with large and established biotech or other companies. We will also face competition from these parties in recruiting and retaining qualified scientific and management personnel, establishing clinical trial sites and registering subjects for clinical trials.

In order to effectively compete, we will have to make substantial investments in development, testing, manufacturing and sales and marketing or partner with one or more established companies. There is no assurance that we will be successful in having our products approved or gaining significant market share for any of our products. Our technologies and products also may be rendered obsolete or noncompetitive as a result of products introduced by our competitors.

We will require FDA approval before we can sell any of our products.

The development, manufacture and marketing of our products are subject to government regulation in the United States and other countries. In the United States and most foreign countries, we must complete rigorous preclinical testing and extensive human clinical trials that demonstrate the safety and efficacy of a product in order to apply for regulatory approval to market the product.

Our biopolymer scaffolding device is expected to be regulated as a Class III medical device by the FDA. The steps required by the FDA before our proposed medical device products may be marketed in the United States include performance of preclinical (animal and laboratory) tests; submissions to the FDA of an Investigational Device Exemption ("IDE") which must become effective before human clinical trials may commence; performance of adequate and well-controlled human clinical trials to establish the safety and efficacy of the product in the intended target population; performance of a consistent and reproducible manufacturing process intended for commercial use; Pre-Market Approval Application ("PMA"); and FDA approval of the PMA before any commercial sale or shipment of the product.

The processes are expensive and can take many years to complete, and we may not be able to demonstrate the safety and efficacy of our products to the satisfaction of such regulatory authorities. The start of clinical trials can be delayed or take longer than anticipated for many and varied reasons, many of which would be outside of our control. All statutes and regulations governing the conduct of clinical trials are subject to change in the future, which could affect the cost of such clinical trials. Safety concerns may emerge that could lengthen the ongoing trials or require additional trials to be conducted. Regulatory agencies may require us or our collaborators to delay,

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restrict or discontinue clinical trials on various grounds, including a finding that the subjects or patients are being exposed to an unacceptable health risk. Regulatory authorities may also require additional testing, and we may be required to demonstrate that our proposed products represent an improved form of treatment over existing therapies, which we may be unable to do without conducting further clinical studies. Delays in regulatory approval can be extremely costly in terms of lost sales opportunities, losing any potential marketing advantage of being early to market and increased trial costs. Moreover, if the FDA grants regulatory approval of a product, the approval may be limited to specific indications or limited with respect to its distribution. Expanded or additional indications for approved devices or drugs may not be approved, which could limit our potential revenues. Foreign regulatory authorities may apply similar limitations or may refuse to grant any approval. Consequently, even if we believe that preclinical and clinical data are sufficient to support regulatory approval for our product candidates, the FDA and foreign regulatory authorities may not ultimately grant approval for commercial sale in any jurisdiction. If our products are not approved, our ability to generate revenues will be limited and our business will be adversely affected.

The results seen in animal testing of our product candidates may not be replicated in humans.

Although we have obtained some results from preclinical testing of our intended products in animals, we may not see positive results when any of our product candidates undergo clinical testing in humans in the future. Our preclinical testing to date has been limited in nature and we cannot predict whether more extensive clinical testing will obtain similar results. Success in preclinical studies or completed clinical trials does not ensure that later studies or trials, including continuing preclinical studies and large-scale clinical trials, will be successful nor does it necessarily predict future results. The rate of failure is quite high, and many companies in the biotechnology industry have suffered significant setbacks in advanced clinical trials, even after promising results in earlier trials. Product candidates may fail to show desired safety and efficacy in larger and more diverse patient populations in later stage clinical trials, despite having progressed through early stage trials. Negative or inconclusive results from any of our ongoing preclinical studies or clinical trials could result in delays, modifications, or abandonment of ongoing or future clinical trials and the termination of our development of a product candidate. Additionally, even if we are able to successfully complete clinical trials, the FDA still may not approve our product candidates.

Our products are in an early stage of development and we currently have no therapeutic products approved for sale. We may be unable to develop or market any of our product candidates. If our product candidates are delayed or fail, our financial condition will be negatively affected, and we may have to curtail or cease our operations.

We currently do not sell any approved therapeutic products and do not expect to have any products commercially available for at least two years, if at all. We are subject to all of the uncertainties and complexities affecting an early stage biotechnology company. Our product candidates require additional research and development. Our strategy of using our technologies for the development of therapeutic products involves new approaches, some of which are unproven. To date, no one to our knowledge has developed or commercialized any therapeutic products using our technologies and we might never commercialize any product using our technologies and strategy. There are many reasons that our product candidates may fail or not advance to commercialization, including the possibility that our product candidates may be ineffective, unsafe or associated with unacceptable side effects; our product candidates may be too expensive to develop, manufacture or market; other parties may hold or acquire proprietary rights that could prevent us or our potential collaborators from developing or marketing our product candidates; physicians, patients, third-party payers or the medical community in general may not accept or use our contemplated products; our potential collaborators may withdraw support for or otherwise impair the development and commercialization of our product candidates; or others may develop equivalent or superior products.

If our current product candidates are delayed or fail, or we fail to successfully develop and commercialize new product candidates, our financial condition will be negatively affected, and we may have to curtail or cease our operations.

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Approval to promote, manufacture and/or sell our products, if granted, will be limited and subject to continuing review.

Even if a product gains regulatory approval, such approval is likely to limit the indicated uses for which it may be marketed, and the product and the manufacturer of the product will be subject to continuing regulatory review, including adverse event reporting requirements and the FDA's general prohibition against promoting products for unapproved uses. Failure to comply with any post-approval requirements can, among other things, result in warning letters, product seizures, recalls, substantial fines, injunctions, suspensions or revocations of marketing licenses, operating restrictions and criminal prosecutions. Any of these enforcement actions, any unanticipated changes in existing regulatory requirements or the adoption of new requirements, or any safety issues that arise with any approved products, could adversely affect our ability to market products and generate revenues and thus adversely affect our ability to continue our business.

We also may be restricted or prohibited from marketing or manufacturing a product, even after obtaining product approval, if previously unknown problems with the product or its manufacture are subsequently discovered and we cannot provide assurance that newly discovered or developed safety issues will not arise following any regulatory approval. With the use of any treatment by a wide patient population, serious adverse events may occur from time to time that initially do not appear to relate to the treatment itself, and only if the specific event occurs with some regularity over a period of time does the treatment become suspect as having a causal relationship to the adverse event. Any safety issues could cause us to suspend or cease marketing of our approved products, possibly subject us to substantial liabilities, and adversely affect our ability to generate revenues.

We will be required to obtain international regulatory approval to market and sell our products outside of the United States.

We intend to also have our product candidates marketed outside the United States. In order to market products in the European Union and many other non-U.S. jurisdictions, we must obtain separate regulatory approvals and comply with numerous and varying regulatory requirements. We may not obtain foreign regulatory approvals on a timely basis, if at all. Approval by the FDA does not ensure approval by regulatory agencies in other foreign countries. A failure or delay in obtaining regulatory approval in one jurisdiction may have a negative effect on the regulatory approval process in other jurisdictions, including approval by the FDA. The failure to obtain regulatory approval in foreign jurisdictions could harm our business.

We will depend upon strategic relationships to develop, exploit and manufacture our products.

The near and long-term viability of our products will depend in part on our ability to successfully establish new strategic collaborations with biotechnology companies, hospitals, insurance companies and government agencies. Establishing strategic collaborations is difficult and time-consuming. Potential collaborators may reject collaborations based upon their assessment of our financial, regulatory or intellectual property position. If we fail to establish a sufficient number of collaborations on acceptable terms, we may not be able to commercialize our products or generate sufficient revenue to fund further research and development efforts.

Even if we establish new collaborations, these relationships may never result in the successful development or commercialization of any product candidates for several reasons both within and outside of our control.

We will require quantities of manufactured product and may require third party manufacturers to fulfill some of our inventory requirements.

Completion of our clinical trials and commercialization of our products will require access to, or development of, facilities to manufacture a sufficient supply of our product or other product candidates. If we are unable to manufacture our products in commercial quantities, then we will need to rely on third parties. These

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third-party manufacturers must also receive FDA approval before they can produce clinical material or commercial products. Our products may be in competition with other products for access to these facilities and may be subject to delays in manufacture if third parties give other products greater priority. In addition, we may not be able to enter into any necessary third-party manufacturing arrangements on acceptable terms, or on a timely basis. Failure by us to manufacture products on a timely basis for clinical trials or for commercial needs will have a material adverse affect on us.

There are a limited number of suppliers that can provide materials to us.

We may rely on third-party suppliers and vendors for some of the materials used in the manufacture of our products or other of our product candidates. Any significant problem experienced by one of our suppliers could result in a delay or interruption in the supply of materials to us until such supplier resolves the problem or an alternative source of supply is located. Any delay or interruption could negatively affect our operations.

We will rely upon third parties for laboratory testing, animal and human studies.

We have been and will continue to be dependent on third-party contract research organizations to conduct some of our laboratory testing, animal and human studies. If we are unable to obtain any necessary testing services on acceptable terms, we may not complete our product development efforts in a timely manner. If we rely on third parties for laboratory testing and/or animal and human studies, we may lose some control over these activities and become too dependent upon these parties. These third parties may not complete testing activities on schedule or when we request. We may not be able to secure and maintain suitable contract research organizations to conduct our laboratory testing and/or animal and human studies. We are responsible for confirming that each of our clinical trials is conducted in accordance with our general plan and protocol. Moreover, the FDA and foreign regulatory agencies require us to comply with regulations and standards, commonly referred to as good clinical practices, for conducting, recording and reporting the results of clinical trials to assure that data and reported results are credible and accurate and that the trial participants are adequately protected. Our reliance on third parties does not relieve us of these responsibilities and requirements. If these third parties do not successfully carry out their contractual duties or regulatory obligations or meet expected deadlines, if the third parties need to be replaced or if the quality or accuracy of the data they obtain is compromised due to the failure to adhere to our clinical protocols or regulatory requirements or for other reasons, our pre-clinical development activities or clinical trials may be extended, delayed, suspended or terminated, and we may not be able to obtain regulatory approval for our product candidates.

To date we have performed limited preclinical safety testing of our hydrogel containing methylprednisolone sodium succinate delivered locally to treat spinal cord injuries. The intended product might not be safe for human use. If we cannot demonstrate the product is safe for human use, future development will be halted and the product will never be evaluated in human clinical studies.

Methylprednisolone sodium succinate is a powerful anti-inflammatory drug that is delivered systemically to treat spinal cord injuries. The drug is a corticosteroid administered in high dosage and its use increases the risk of serious adverse effects including pneumonia, sepsis and mortality. Even though we believe that our hydrogel, designed to locally deliver the drug over a period of days will be safer than systemic delivery, to date the combination product has only been evaluated in animal testing on a limited basis. The risk exists that the intended product will have the same serious adverse effects as with systemic delivery and the introduction of the polymer could potentially introduce new side effects.

We will have to demonstrate that this intended product is safe before we can commence human clinical testing. The risk exists that the product will not be safe for human use in which case development would be halted and the product would never be evaluated in human clinical studies.

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We may have product liability exposure.

We will have exposure to claims for product liability. Product liability coverage is expensive and sometimes difficult to obtain. We may not be able to obtain or maintain insurance at a reasonable cost. There can be no assurance that existing insurance coverage will extend to other products in the future. Any product liability insurance coverage may not be sufficient to satisfy all liabilities resulting from product liability claims. A successful claim may prevent us from obtaining adequate product liability insurance in the future on commercially desirable items, if at all. Even if a claim is not successful, defending such a claim would be time-consuming and expensive, may damage our reputation in the marketplace, and would likely divert management's attention.

Our products are new and will require market acceptance.

Even if we receive regulatory approvals for the commercial sale of our product candidates, the commercial success of these product candidates will depend on, among other things, their acceptance by physicians, patients, third party payers such as health insurance companies and other members of the medical community as a therapeutic and cost-effective alternative to competing products and treatments. If our product candidates fail to gain market acceptance, we may be unable to earn sufficient revenue to continue our business. Market acceptance of, and demand for, any product that we may develop and commercialize will depend on many factors, both within and outside of our control. If our product candidates do not become widely accepted by physicians, patients, third party payers and other members of the medical community, our business, financial condition and results of operations would be materially and adversely affected.

Physicians and hospitals will require training in order to utilize our products.

Our products have not been utilized in the past for spinal cord injury treatment. As is typical in the case of a new and rapidly evolving technology or medical treatment, demand and market acceptance for recently introduced products and services are subject to a high level of uncertainty and risk. In addition, physicians and hospitals will need to establish training and procedures to utilize and implement our products. There can be no assurance that these parties will adopt our products or that they develop sufficient training and procedures to properly utilize our products.

Our success will depend upon the level of third party reimbursement for the cost of our products to users.

Our successes may depend, in part, on the extent to which reimbursement for the costs of therapeutic products and related treatments will be available from third-party payers such as government health administration authorities, private health insurers, managed care programs, and other organizations. Over the past decade, the cost of health care has risen significantly, and there have been numerous proposals by legislators, regulators, and third-party health care payers to curb these costs. Some of these proposals have involved limitations on the amount of reimbursement for certain products. Similar federal or state health care legislation may be adopted in the future and any products that we or our collaborators seek to commercialize may not be considered cost-effective. Adequate third-party insurance coverage may not be available for us to establish and maintain price levels that are sufficient for us to continue our business or for realization of an appropriate return on investment in product development.

We will be subject to environmental, health and safety laws.

We are subject to various laws and regulations relating to safe working conditions, laboratory and manufacturing practices, the experimental use of animals and humans, emissions and wastewater discharges, and the use and disposal of hazardous or potentially hazardous substances used in connection with our research, including infectious disease agents. We also cannot accurately predict the extent of regulations that might result from any future legislative or administrative action. Any of these laws or regulations could cause us to incur additional expense or restrict our operations. Compliance with environmental laws and regulations may be expensive, and current or future environmental regulations may impair our research, development or production efforts.

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We must maintain the proprietary nature of our products and must operate without infringing on the proprietary rights of others.

Our success in large part depends on our ability to maintain the proprietary nature of our licensed technology. We will rely on a combination of patent, trademark, copyright and trade secret laws, as well as confidentiality agreements, license agreements and technical measures to protect our proprietary rights. We and our licensors must prosecute and maintain existing patents and obtain new patents. Some of our proprietary information may not be patentable, and there can be no assurance that others will not utilize similar or superior solutions to compete with us. We cannot guarantee that we will develop proprietary products and services or processes that are patentable, and that if issued, any patent will give a competitive advantage or that such patent will not be challenged by third parties, or that the patents of others will not have a material adverse effect on our ability to do business. We intend to register certain trademarks in, or claim certain trademark rights in, the United States and/or foreign jurisdictions. We cannot assure you that our means of protecting our proprietary rights will suffice or that our competitors will not independently develop competitive technology or duplicate processes or design around patents or other intellectual property rights issued to us.

We also must operate without infringing the proprietary rights of third parties or allowing third parties to infringe our rights. Our research, development and commercialization activities, including any product candidates or products resulting from these activities, may infringe or be claimed to infringe patents owned by third parties and to which we do not hold licenses or other rights. There may be rights that we are not aware of, including applications that have been filed but not published that, when issued, could be asserted against us. These third parties could bring claims against us that would cause us to incur substantial expenses and, if successful, could cause us to pay substantial damages. Further, if a patent infringement suit were brought against us, we could be forced to stop or delay research, development, manufacturing or sales of the product or biologic treatment candidate that is the subject of the suit.

In addition, competitors may infringe our patents or the patents of our collaborators or licensors. As a result, we may be required to file infringement claims to counter infringement for unauthorized use. This can be expensive and time-consuming. In addition, in an infringement proceeding, a court may decide that a patent licensed or owned by us is not valid or is unenforceable, or may refuse to stop the other party from using the technology at issue on the grounds that our licensed or owned patents do not cover its technology. An adverse determination of any litigation or defense proceedings could put one or more of our licensed or owned patents at risk of being invalidated or interpreted narrowly and could put our licensed or owned patent applications at the risk of not issuing.

Furthermore, because of the substantial amount of discovery required in connection with intellectual property litigation, there is a risk that some of our trade secrets or other confidential information could be compromised by disclosure during this type of litigation.

Our ability to raise capital as required may be difficult given the current condition of the capital and credit markets.

We are likely in the future to seek to access the capital markets for our capital needs. Traditionally, biotech companies have funded their research and development expenditures through raising capital in the equity markets. Declines and uncertainties in these markets over the past few years have severely restricted raising new capital and have affected companies' ability to continue to expand or fund existing research and development efforts. We will require significant capital beyond our current resources for research and development for our product candidates and clinical trials. The general economic and capital market conditions, both in the United States and worldwide have deteriorated significantly and will adversely affect our access to capital and may increase the cost of capital. If these economic conditions continue or become worse, our future cost of equity or debt capital and access to the capital markets could be adversely affected.

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We are dependent on our management and other key personnel.

We depend on our senior executive officers as well as key scientific and other personnel. The loss of any of these individuals could harm our business and significantly delay or prevent the achievement of research, development or business objectives. Competition for qualified employees is intense among biotechnology companies, and the loss of qualified employees, or an inability to attract, retain and motivate additional highly skilled employees could hinder our ability to successfully develop marketable products.

Our future success also depends on our ability to identify, attract, hire, train, retain and motivate other highly skilled scientific, technical, marketing, managerial and financial personnel. Although we will seek to hire and retain qualified personnel with experience and abilities commensurate with our needs, there is no assurance that we will succeed despite our collective efforts. The loss of the services of any of the principal members of our management or other key personnel could hinder our ability to fulfill our business plan and further develop and commercialize our products and services. Competition for personnel is intense, and any failure to attract and retain the necessary technical, marketing, managerial and financial personnel would have a material adverse effect on our business, prospects, financial condition and results of operations. Although we presently do not maintain "key person" life insurance policies on any of our personnel, we are currently in the process of obtaining key man insurance on Frank Reynolds, our Chairman, Chief Executive Officer and Chief Financial Officer.

Risks Related to Investment in Our Securities

Our securities are "Penny Stock" and subject to specific rules governing their sale to investors.

The SEC has adopted Rule 15g-9 which establishes the definition of a "penny stock," for the purposes relevant to us, as any equity security that has a market price of less than $5.00 per share or with an exercise price of less than $5.00 per share, subject to certain exceptions. For any transaction involving a penny stock, unless exempt, the rules require that a broker or dealer approve a person's account for transactions in penny stocks; and the broker or dealer receive from the investor a written agreement to the transaction, setting forth the identity and quantity of the penny stock to be purchased.

In order to approve a person's account for transactions in penny stocks, the broker or dealer must obtain financial information and investment experience objectives of the person; and make a reasonable determination that the transactions in penny stocks are suitable for that person and the person has sufficient knowledge and experience in financial matters to be capable of evaluating the risks of transactions in penny stocks.

The broker or dealer must also deliver, prior to any transaction in a penny stock, a disclosure schedule prescribed by the SEC relating to the penny stock market, which, in highlight form sets forth the basis on which the broker or dealer made the suitability determination; and that the broker or dealer received a signed, written agreement from the investor prior to the transaction.

Generally, brokers may be less willing to execute transactions in securities subject to the "penny stock" rules. This may make it more difficult for our shareholders to sell shares of our common stock.

Disclosure also has to be made about the risks of investing in penny stocks in both public offerings and in secondary trading and about the commissions payable to both the broker-dealer and the registered representative, current quotations for the securities and the rights and remedies available to an investor in cases of fraud in penny stock transactions. Finally, monthly statements have to be sent disclosing recent price information for the penny stock held in the account and information on the limited market in penny stocks.

Our common stock is quoted on the OTC Bulletin Board, which may limit the liquidity and price of our common stock more than if our common stock quoted or listed on or a national securities exchange.

Our common stock is currently quoted on the OTC Bulletin Board, an inter-dealer automated quotation system for equity securities not listed on a national securities exchange. Quotation of our common stock on the

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OTC Bulletin Board may limit the liquidity and price of our common stock more than if our common stock was quoted or listed on a national securities exchange. Some investors may perceive our common stock to be less attractive because they are traded in the over-the-counter market. In addition, as an OTC Bulletin Board company, we do not attract the extensive analyst coverage that accompanies companies listed on a national securities exchange. Further, institutional and other investors may have investment guidelines that restrict or prohibit investing in securities traded in the over-the-counter market. In addition, holders of our common stock may face restrictions on the resale of our common stock due to state "blue sky" laws. These factors may have an adverse impact on the trading and price of our common stock.

Because we became public by means of a reverse merger, we may not be able to attract the attention of major brokerage firms.

Additional risks may exist since we became public through a "reverse merger." Securities analysts of major brokerage firms may not provide coverage of us since there is little incentive to brokerage firms to recommend the purchase of our common stock. No assurance can be given that brokerage firms will want to conduct any secondary offerings on our behalf in the future.

Compliance with the reporting requirements of federal securities laws can be expensive.

We are a public reporting company in the United States, and accordingly, subject to the information and reporting requirements of the Securities Exchange Act of 1934, as amended (the "Exchange Act") and other federal securities laws, and the compliance obligations of the Sarbanes-Oxley Act. The costs of preparing and filing annual and quarterly reports and other information with the SEC and furnishing audited reports to stockholders are substantial.

We do not currently have a separate Chief Financial Officer.

We do not currently have a separate Chief Financial Officer. Our Chief Executive Officer is also functioning as our Chief Financial Officer. Although we are currently seeking to retain a Chief Financial Officer, there can be no assurance we will be able to retain a suitable candidate on acceptable terms.

Applicable regulatory requirements, including those contained in and issued under the Sarbanes-Oxley Act of 2002, may make it difficult for us to retain or attract qualified officers and directors, which could adversely affect the management of our business and our ability to obtain or retain listing of our common stock.

We may be unable to attract and retain those qualified officers, directors and members of board committees required to provide for effective management because of the rules and regulations that govern publicly held companies, including, but not limited to, certifications by principal executive officers. The enactment of the Sarbanes-Oxley Act has resulted in the issuance of a series of related rules and regulations and the strengthening of existing rules and regulations by the SEC, as well as the adoption of new and more stringent rules by the stock exchanges. The perceived increased personal risk associated with these changes may deter qualified individuals from accepting roles as directors and executive officers.

Further, some of these changes heighten the requirements for board or committee membership, particularly with respect to an individual's independence from the corporation and level of experience in finance and accounting matters. We may have difficulty attracting and retaining directors with the requisite qualifications. If we are unable to attract and retain qualified officers and directors, the management of our business and our ability to obtain or retain listing of our shares of common stock on any stock exchange (assuming we elect to seek and are successful in obtaining such listing) could be adversely affected.

We may have undisclosed liabilities and any such liabilities could harm our revenues, business, prospects, financial condition and results of operations.

Even though the assets and liabilities of our predecessor company, Design Source, Inc. were transferred to the Split-Off Shareholders in the Split-Off and were not assumed by us, there can be no assurance that we will

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not be liable for any or all of such liabilities. Any such liabilities that survive the Split-Off could harm our revenues, business, prospects, financial condition and results of operations upon our acceptance of responsibility for such liabilities.

If we fail to maintain an effective system of internal controls, we may not be able to accurately report our financial results or detect fraud. Consequently, investors could lose confidence in our financial reporting and this may decrease the trading price of our stock.

We must maintain effective internal controls to provide reliable financial reports and detect fraud. We have been assessing our internal controls to identify areas that need improvement. We are in the process of implementing changes to internal controls, but have not yet completed implementing these changes. Failure to implement these changes to our internal controls or any others that we identify as necessary to maintain an effective system of internal controls could harm our operating results and cause investors to lose confidence in our reported financial information. Any such loss of confidence would have a negative effect on the trading price of our common stock.

The price of our common stock may become volatile, which could lead to losses by investors and costly securities litigation.

The trading price of our common stock is likely to be highly volatile and could fluctuate in response to factors such as:

- actual or anticipated variations in our operating results;
- announcements of developments by us or our competitors;
- the timing of IDE approval, the completion and/or results of our clinical trials;
- regulatory actions regarding our products;
- announcements by us or our competitors of significant acquisitions, strategic partnerships, joint ventures or capital commitments;
- adoption of new accounting standards affecting our industry;
- additions or departures of key personnel;
- introduction of new products by us or our competitors;
- sales of our common stock or other securities in the open market; and
- other events or factors, many of which are beyond our control.

The stock market is subject to significant price and volume fluctuations. In the past, following periods of volatility in the market price of a company's securities, securities class action litigation has often been initiated against such company. Litigation initiated against us, whether or not successful, could result in substantial costs and diversion of our management's attention and resources, which could harm our business and financial condition.

Investors may experience dilution of their ownership interests because of the future issuance of additional shares of our common stock.

In the future, we may issue additional authorized but previously unissued equity securities, resulting in the dilution of the ownership interests of our present stockholders. We may also issue additional shares of our common stock or other securities that are convertible into or

exercisable for common stock in connection with hiring or retaining employees, future acquisitions, future sales of our securities for capital raising purposes, or for other business purposes. The future issuance of any such additional shares of common stock may create downward pressure on the trading price of the common stock. There can be no assurance that we will not be required to issue additional shares, warrants or other convertible securities in the future in conjunction with any capital raising efforts, including at a price (or exercise prices) below the price at which shares of our common stock are currently traded on the OTC Bulletin Board.

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Our common stock is controlled by insiders.

Our officers and directors beneficially own approximately 34% of our outstanding shares of common stock. Such concentrated control of us may adversely affect the price of our common stock. Investors who acquire common stock may have no effective voice in the management of the Company. Sales by insiders or affiliates of the Company, along with any other market transactions, could affect the market price of our common stock.

Anti-takeover effects of certain provisions of Nevada state law may discourage or prevent a takeover.

In the future we may become subject to Nevada's control share laws. A corporation is subject to Nevada's control share law if it has more than 200 stockholders, at least 100 of whom are stockholders of record and residents of Nevada, and if the corporation does business in Nevada, including through an affiliated corporation. This control share law may have the effect of discouraging corporate takeovers. The Company currently has less than 100 stockholders of record who are residents of Nevada.

The control share law focuses on the acquisition of a "controlling interest," which means the ownership of outstanding voting shares that would be sufficient, but for the operation of the control share law, to enable the acquiring person to exercise the following proportions of the voting power of the corporation in the election of directors: (1) one-fifth or more but less than one-third; (2) one-third or more but less than a majority; or (3) a majority or more. The ability to exercise this voting power may be direct or indirect, as well as individual or in association with others.

The effect of the control share law is that an acquiring person, and those acting in association with that person, will obtain only such voting rights in the control shares as are conferred by a resolution of the stockholders of the corporation, approved at a special or annual meeting of stockholders. The control share law contemplates that voting rights will be considered only once by the other stockholders. Thus, there is no authority to take away voting rights from the control shares of an acquiring person once those rights have been approved. If the stockholders do not grant voting rights to the control shares acquired by an acquiring person, those shares do not become permanent non-voting shares. The acquiring person is free to sell the shares to others. If the buyer or buyers of those shares themselves do not acquire a controlling interest, the shares are not governed by the control share law.

If control shares are accorded full voting rights and the acquiring person has acquired control shares with a majority or more of the voting power, a stockholder of record, other than the acquiring person, who did not vote in favor of approval of voting rights, is entitled to demand fair value for such stockholder's shares.

In addition to the control share law, Nevada has a business combination law, which prohibits certain business combinations between Nevada corporations and "interested stockholders" for three years after the interested stockholder first becomes an interested stockholder, unless the corporation's board of directors approves the combination in advance. For purposes of Nevada law, an interested stockholder is any person who is: (a) the beneficial owner, directly or indirectly, of 10% or more of the voting power of the outstanding voting shares of the corporation, or (b) an affiliate or associate of the corporation and at any time within the previous three years was the beneficial owner, directly or indirectly, of 10% or more of the voting power of the then-outstanding shares of the corporation. The definition of "business combination" contained in the statute is sufficiently broad to cover virtually any kind of transaction that would allow a potential acquirer to use the corporation's assets to finance the acquisition or otherwise to benefit its own interests rather than the interests of the corporation and its other stockholders.

The effect of Nevada's business combination law is to potentially discourage parties interested in taking control of the Company from doing so if it cannot obtain the approval of our board of directors.

We have never declared any cash dividends and do not expect to declare any in the near future.

We have never paid cash dividends on our common stock. It is currently anticipated that we will retain earnings, if any, for use in the development of our business and we do not anticipate paying any cash dividends in the foreseeable future.

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Certain of our outstanding warrants may be redeemed on short notice, which may have an adverse effect on the price of our common stock.

We may redeem certain of our outstanding warrants on 30 days' notice at any time after the date on which the last reported sale price per share of our common stock as reported by the principal exchange or trading facility on which our common stock trades equals or exceeds $2.80 for twenty consecutive trading days. If we give notice of redemption, holders of these warrants will be forced to sell or exercise the warrants they hold or accept the redemption price. The notice of redemption could come at a time when, under specific circumstances or generally, it is not advisable or possible for holders of these warrants to sell or exercise the warrants they hold.

While the certain of our warrants are outstanding, it may be more difficult to raise additional equity capital.

While certain of our warrants are outstanding, the holders of those warrants are given the opportunity to profit from a rise in the market price of our common stock. In addition, some outstanding warrants are not redeemable by us. We may find it more difficult to raise additional equity capital while these warrants are outstanding. At any time during which these warrants are likely to be exercised, we may be able to obtain additional equity capital on more favorable terms from other sources.

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WHERE YOU CAN FIND MORE INFORMATION

We file annual, quarterly and current reports, proxy statements and other information with the SEC. You may read and copy any document we file at the SEC's public reference room at 100 F Street, N.E., Washington, DC 20549. You should call 1-800-SEC-0330 for more information on the operation of the public reference room. Our SEC filings are also available to you on the SEC's Internet site at *www.sec.gov*.

This prospectus is part of a registration statement that we filed with the SEC. This prospectus does not contain all of the information included in the registration statement, including certain exhibits and schedules. You can obtain a copy of the registration statement and exhibits from the SEC at the address listed above or from the SEC's Internet site.

Our Internet address is *www.invivotherapeutics.com*. The information on our Internet website is not incorporated by reference in this prospectus or any prospectus supplement.

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SPECIAL NOTE REGARDING FORWARD-LOOKING INFORMATION

This prospectus and each prospectus supplement includes and incorporates forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended (the "Securities Act"), and Section 21E of the Securities Exchange Act of 1934, as amended (the "Exchange Act"). All statements, other than statements of historical facts, included or incorporated in this prospectus or any prospectus supplement regarding our strategy, future operations, financial position, future revenues and earnings, projected margins and expenses, prospects, potential acquisitions or strategic alliances, plans and objectives of management are forward-looking statements. The words "anticipates," "believes," "estimates," "expects," "intends," "may," "plans," "projects," "will," "would" and similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words. We cannot guarantee that we actually will achieve the plans, intentions or expectations disclosed in our forward-looking statements and you should not place undue reliance on our forward-looking statements. There are a number of important factors that could cause our actual results to differ materially from those indicated by these forward-looking statements. These important factors include the factors that we identify in the documents we incorporate by reference in this prospectus, as well as other information we include or incorporate by reference in this prospectus and any prospectus supplement. Please see the factors described under the heading "Risk Factors" of this prospectus. You should read these factors and other cautionary statements made in this prospectus and any accompanying prospectus supplement, and in the documents we incorporate by reference as being applicable to all related forward-looking statements wherever they appear in the prospectus and any accompanying prospectus supplement, and in the documents incorporated by reference. We do not assume any obligation to update any forward-looking statements made by us.

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INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

The SEC allows us to "incorporate" into this prospectus information and reports that we file with the SEC. This means that we can disclose important information to you by referring to other documents that contain that information. Any information that we incorporate by reference is considered part of this prospectus. The documents and reports that we list below are incorporated by reference into this prospectus, other than any portion of any such documents that are not deemed "filed" under the Exchange Act in accordance with the Exchange Act and applicable SEC rules. In addition, all documents and reports which we file pursuant to Section 13(a), 13(c), 14 or 15(d) of the Exchange Act after the date of this prospectus and prior to the termination of the offering made hereby are incorporated by reference in this prospectus as of the respective filing dates of these documents and reports. Statements contained in documents that we file with the SEC and that are incorporated by reference in this prospectus will automatically update and supersede information contained in this prospectus, including information in previously filed documents or reports that have been incorporated by reference in this prospectus, to the extent the new information differs from or is inconsistent with the old information.

We have filed the following documents with the SEC. These documents are incorporated herein by reference as of their respective dates of filing:

(1) Our Annual Report on Form 10-K for the fiscal year ended December 31, 2010, filed on March 24, 2011, as amended by Amendment No. 1 filed on April 29, 2011, Amendment No. 2 filed on June 30, 2011, and Amendment No. 3 filed on July 18, 2011;

(2) Our Quarterly Report on Form 10-Q for the quarter ended March 31, 2011, filed on May 16, 2011, as amended by Amendment No. 1 filed on June 30, 2011 and Amendment No. 2 filed on July 18, 2011;

(3) Our Quarterly Report on Form 10-Q for the quarter ended June 30, 2011, filed on August 10, 2011;

(4) Our Quarterly Report on Form 10-Q for the quarter ended September 30, 2011, filed on November 14, 2011;

(5) Our Current Reports on Form 8-K filed on March 15, March 17, April 29, May 31, June 7, June 30, July 8, August 4, October 4, October 14 and December 22, 2011;

(6) All of our filings pursuant to the Exchange Act after the date of filing the initial registration statement and prior to the effectiveness of the registration statement; and

(7) The description of our common stock contained in our Registration Statement on Form 8-A filed on June 30, 2006, including any amendments or reports filed for the purpose of updating such description.

You may request a copy of these documents, which will be provided to you at no cost, by writing or telephoning us at:

InVivo Therapeutics Holdings Corp.
One Broadway, 14th Floor
Cambridge, Massachusetts 02142
Attn: Investor Relations
(617) 475-1520

Any statement contained in a document that is incorporated by reference will be modified or superseded for all purposes to the extent that a statement contained in this prospectus or any prospectus supplement, or in any other document that is subsequently filed with the SEC and incorporated by reference, modifies or is contrary to that previous statement. Any statement so modified or superseded will not be deemed to be a part of this prospectus or any prospectus supplement, except as so modified or superseded. Because information that we later file with the SEC will update and supersede previously incorporated information, you should look at all of the SEC filings that we incorporate by reference to determine if any of the statements in this prospectus or any prospectus supplement or in any documents previously incorporated by reference

have been modified or superseded.

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USE OF PROCEEDS

We currently intend to use the estimated net proceeds from the sale of these securities for general corporate purposes, which may include the following:

- the acquisition of other companies, businesses, products or technologies;
- the research, development and pre-clinical and clinical trials for our product candidates;
- the repayment and refinancing of debt;
- capital expenditures;
- working capital; and
- any other purpose that we may specify in any prospectus supplement.

We have not yet determined the amount of net proceeds to be used specifically for any of the foregoing purposes. Accordingly, our management will have significant discretion and flexibility in applying the net proceeds from the sale of these securities. Pending any use, as described above, we intend to invest the net proceeds in high-quality, short-term, interest-bearing securities. Our plans to use the estimated net proceeds from the sale of these securities may change, and if they do, we will update this information in a prospectus supplement.

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THE SECURITIES WE MAY OFFER

The descriptions of the securities contained in this prospectus, together with the applicable prospectus supplements, summarize the material terms and provisions of the various types of securities that we may offer. We will describe in the applicable prospectus supplement relating to any securities the particular terms of the securities offered by that prospectus supplement. If we so indicate in the applicable prospectus supplement, the terms of the securities may differ from the terms we have summarized below. We will also include in the prospectus supplement information, where applicable, about material United States federal income tax considerations relating to the securities, and the securities exchange, if any, on which the securities will be listed.

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

common stock;

warrants to purchase common stock or units;

units comprised of common stock and warrants; or

any combination of the foregoing securities.

In this prospectus, we refer to the common stock, warrants and units collectively as "securities." The total dollar amount of all securities that we may issue will not exceed $50,000,000.

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

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DESCRIPTION OF COMMON STOCK

The following is a description of the material terms and provisions of our common stock. It may not contain all the information that is important to you. You can access complete information by referring to our articles of incorporation and bylaws.

Under our articles of incorporation, we have authority to issue 200,000,000 shares of common stock, par value $0.0001 per share. As of December 31, 2011, there were 53,760,461 shares of common stock issued and outstanding. All shares of common stock will, when issued, be duly authorized, fully paid and nonassessable. Accordingly, the full price for the outstanding shares of common stock will have been paid at issuance and any holder of our common stock will not be later required to pay us any additional money for such common stock.

In addition, as of December 31, 2011:

- there were outstanding warrants to purchase an aggregate of up to 18,405,975 shares of our common stock at a weighted average exercise price of $1.42 per share;
- there were an aggregate of 6,302,894 shares of our common stock subject to outstanding stock options at a weighted average exercise price of $0.76 per share; and
- 2,536,259 shares of our common stock were reserved for future issuances under our incentive compensation plans and 401(k) plan.

The holders of common stock are entitled to one vote per share on all matters submitted to a vote of the stockholders, including the election of directors. Generally, all matters to be voted on by stockholders must be approved by a majority (or, in the case of election of directors, by a plurality) of the votes entitled to be cast by all shares of common stock that are present in person or represented by proxy. Except as otherwise provided by law, amendments to the articles of incorporation generally must be approved by a majority of the votes entitled to be cast by all outstanding shares of common stock. Our articles of incorporation do not provide for cumulative voting in the election of directors. The holders of common stock will be entitled to such cash dividends as may be declared from time to time by the Board from funds available. The holders of common stock have no preferential or preemptive right and no subscription, redemption or conversion privileges with respect to the issuance of additional shares of our common stock. Upon liquidation, dissolution or winding up of the Company, the holders of common stock will be entitled to receive pro rata all assets available for distribution to such holders after payment of our liabilities.

Registrar and Transfer Agent

The registrar and transfer agent for our common stock is Continental Stock Transfer & Trust Company.

Trading Market

Our common stock is quoted on the OTC Bulletin Board under the symbol "NVIV.OB."

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DESCRIPTION OF WARRANTS

We may issue warrants for the purchase of common stock or units. Warrants may be issued independently or together with common stock or units, and the warrants may be attached to or separate from such securities. We may issue warrants directly or under a warrant agreement to be entered into between us and a warrant agent. We will name any warrant agent in the applicable prospectus supplement. Any warrant agent will act solely as our agent in connection with the warrants of a particular series and will not assume any obligation or relationship of agency or trust for or with any holders or beneficial owners of warrants.

The following is a description of the general terms and provisions of any warrants we may issue and may not contain all the information that is important to you. You can access complete information by referring to the applicable prospectus supplement. In the applicable prospectus supplement, we will describe the terms of the warrants and any applicable warrant agreement, including, where applicable, the following:

- the title of the warrants;
- the offering price and aggregate number of warrants offered;
- the designation and terms of the securities with which the warrants are issued and the number of warrants issued with each such security;
- the date on and after which the warrants and the related securities will be separately transferable;
- any information with respect to book-entry procedures;
- in the case of warrants to purchase common stock or units, the number of shares of common stock or units, as the case may be, purchasable upon the exercise of one warrant and the price at which these securities may be purchased upon such exercise;
- the effect of any merger, consolidation, sale or other disposition of our business on the warrant agreement and the warrants;
- the terms of any rights to redeem or call the warrants;
- any provisions for changes to or adjustments in the exercise price or number of securities issuable upon exercise of the warrants;
- the dates on which the right to exercise the warrants will commence and expire;
- the manner in which the warrant agreement and warrants may be modified;
- a discussion of any material U.S. federal income tax considerations of holding or exercising the warrants;
- the terms of the securities issuable upon exercise of the warrants; and

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

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DESCRIPTION OF UNITS

The following description, together with the additional information we include in any applicable prospectus supplement, summarizes the material terms and provisions of the units that we may offer under this prospectus. Units may be offered independently or together with common stock and warrants offered by any prospectus supplement, and may be attached to or separate from those securities.

While the terms we have summarized below will generally apply to any future units that we may offer under this prospectus, we will describe the particular terms of any series of units that we may offer in more detail in the applicable prospectus supplement. The terms of any units offered under a prospectus supplement may differ from the terms described below.

We will incorporate by reference into the registration statement of which this prospectus is a part the form of unit agreement, including a form of unit certificate, if any, that describes the terms of the series of units we are offering before the issuance of the related series of units. The following summaries of material provisions of the units and the unit agreements are subject to, and qualified in their entirety by reference to, all the provisions of the unit agreement applicable to a particular series of units. We urge you to read the applicable prospectus supplements related to the units that we sell under this prospectus, as well as the complete unit agreements that contain the terms of the units.

General

We may issue units consisting of common stock and warrants. Each unit will be issued so that the holder of the unit is also the holder of each security included in the unit. Thus, the holder of a unit will have the rights and obligations of a holder of each included security. The unit agreement under which a unit is issued may provide that the securities included in the unit may not be held or transferred separately, at any time, or at any time before a specified date.

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

- the designation and terms of the units and of the securities comprising the units, including whether and under what circumstances those securities may be held or transferred separately;
- any provisions of the governing unit agreement that differ from those described below; and
- any provisions for the issuance, payment, settlement, transfer, or exchange of the units or of the securities comprising the units.

The provisions described in this section, as well as those described under "Description of Common Stock," and "Description of Warrants," will apply to each unit and to the common stock and warrants included in each unit, respectively.

Issuance in Series

We may issue units in such amounts and in such numerous distinct series as we determine.

Enforceability of Rights by Holders of Units

Each unit agent will act solely as our agent under the applicable unit agreement and will not assume any obligation or relationship of agency or trust with any holder of any unit. A single bank or trust company may act as unit agent for more than one series of units. A unit agent will have no duty or responsibility in case of any default by us under the applicable unit agreement or unit, including any duty or responsibility to initiate any proceedings at law or otherwise, or to make any demand upon us. Any holder of a unit, without the consent of the related unit agent or the holder of any other unit, may enforce by appropriate legal action its rights as holder under any security included in the unit.

Title

We, the unit agent, and any of their agents may treat the registered holder of any unit certificate as an absolute owner of the units evidenced by that certificate for any purposes and as the person entitled to exercise the rights attaching to the units so requested, despite any notice to the

contrary.

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CERTAIN ANTI-TAKEOVER AND INDEMNIFICATION PROVISIONS OF OUR ARTICLES OF INCORPORATION AND BY-LAWS AND NEVADA LAW

Anti-Takeover Effects of Provisions of Nevada State Law

We may be or in the future we may become subject to Nevada's control share laws. A corporation is subject to Nevada's control share law if it has more than 200 stockholders, at least 100 of whom are stockholders of record and residents of Nevada, and if the corporation does business in Nevada, including through an affiliated corporation. This control share law may have the effect of discouraging corporate takeovers. We currently have less than 100 stockholders of record who are residents of Nevada.

The control share law focuses on the acquisition of a "controlling interest," which means the ownership of outstanding voting shares that would be sufficient, but for the operation of the control share law, to enable the acquiring person to exercise the following proportions of the voting power of the corporation in the election of directors: (1) one-fifth or more but less than one-third; (2) one-third or more but less than a majority; or (3) a majority or more. The ability to exercise this voting power may be direct or indirect, as well as individual or in association with others.

The effect of the control share law is that an acquiring person, and those acting in association with that person, will obtain only such voting rights in the control shares as are conferred by a resolution of the stockholders of the corporation, approved at a special or annual meeting of stockholders. The control share law contemplates that voting rights will be considered only once by the other stockholders. Thus, there is no authority to take away voting rights from the control shares of an acquiring person once those rights have been approved. If the stockholders do not grant voting rights to the control shares acquired by an acquiring person, those shares do not become permanent non-voting shares. The acquiring person is free to sell the shares to others. If the buyer or buyers of those shares themselves do not acquire a controlling interest, the shares are not governed by the control share law.

If control shares are accorded full voting rights and the acquiring person has acquired control shares with a majority or more of the voting power, a stockholder of record, other than the acquiring person, who did not vote in favor of approval of voting rights, is entitled to demand fair value for such stockholder's shares.

In addition to the control share law, Nevada has a business combination law, which prohibits certain business combinations between Nevada corporations and "interested stockholders" for three years after the interested stockholder first becomes an interested stockholder, unless the corporation's board of directors approves the combination in advance. For purposes of Nevada law, an interested stockholder is any person who is: (a) the beneficial owner, directly or indirectly, of 10% or more of the voting power of the outstanding voting shares of the corporation, or (b) an affiliate or associate of the corporation and at any time within the previous three years was the beneficial owner, directly or indirectly, of 10% or more of the voting power of the then-outstanding shares of the corporation. The definition of "business combination" contained in the statute is sufficiently broad to cover virtually any kind of transaction that would allow a potential acquirer to use the corporation's assets to finance the acquisition or otherwise to benefit its own interests rather than the interests of the corporation and its other stockholders.

The effect of Nevada's business combination law is to potentially discourage parties interested in taking control of the Company from doing so if it cannot obtain the approval of our board of directors.

Anti-Takeover Effects of Provisions of Our Articles of Incorporation and Bylaws

Our articles of incorporation provide for a classified board of directors. This provision could prevent a party who acquires control of a majority of our outstanding common stock from obtaining control of the board until our second annual stockholders meeting following the date the acquirer obtains the controlling stock interest. The

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classified board provision could have the effect of discouraging a potential acquirer from making a tender offer or otherwise attempting to obtain control of us and could increase the likelihood that incumbent directors will retain their positions. In addition, under our amended and restated bylaws, directors may be removed only for cause and only by the affirmative vote of the holders of at least 80% of the voting power of our then outstanding shares of capital stock entitled to vote generally in the election of directors, voting together as a single class.

Our amended and restated bylaws also provide that stockholders may only act at meetings of stockholders and not by written consent in lieu of a stockholders' meeting. Our amended and restated bylaws provide that stockholders may not call a special meeting of stockholders. Rather, only the Chairman of our Board, the President or the Board of Directors pursuant to a resolution approved by a majority of the entire Board of Directors are able to call special meetings of stockholders. Our amended and restated bylaws also provide that stockholders may only conduct business at special meetings of stockholders that was specified in the notice of the meeting. These provisions may discourage another person or entity from making a tender offer, even if it acquired a majority of our outstanding voting stock, because the person or entity could only take action at a duly called stockholders' meeting relating to the business specified in the notice of meeting and not by written consent.

Indemnification of Directors and Officers

Nevada Revised Statutes ("NRS") Sections 78.7502 and 78.751 provide us with the power to indemnify any of our directors, officers, employees and agents. The person entitled to indemnification must have conducted himself in good faith, and must reasonably believe that his conduct was in, or not opposed to, our best interests. In a criminal action, the director, officer, employee or agent must not have had reasonable cause to believe that his conduct was unlawful.

Under NRS Section 78.751, advances for expenses may be made by agreement if the director or officer affirms in writing to repay the expenses if it is determined that such officer or director is not entitled to be indemnified.

Our bylaws include an indemnification provision under which we have the power to indemnify our directors, officers, former directors and officers, employees and other agents (including heirs and personal representatives) against all costs, charges and expenses actually and reasonably incurred, including an amount paid to settle an action or satisfy a judgment to which a director or officer is made a party by reason of being or having been a director or officer of the Company. Our bylaws further provide for the advancement of all expenses incurred in connection with a proceeding upon receipt of an undertaking by or on behalf of such person to repay such amounts unless it is determined that the party is entitled to be indemnified under our bylaws. No advance will be made by the Company to a party if it is determined that the party acted in bad faith. These indemnification rights are contractual, and as such will continue as to a person who has ceased to be a director, officer, employee or other agent, and will inure to the benefit of the heirs, executors and administrators of such a person. Our bylaws do not eliminate or limit the liability of a director for: (i) an act or omission which involves intentional misconduct, fraud or a knowing violation of law; or (ii) the payment of dividends in violation of NRS 78.300. These provisions may be sufficiently broad to indemnify such persons for liabilities arising under the Securities Act, in which case such provision is against public policy as expressed in the Securities Act and is therefore unenforceable.

We maintain an insurance policy on behalf of our directors and officers, covering certain liabilities which may arise as a result of the actions of the directors and officers.

We have entered into an indemnification agreement with each of our officers and directors pursuant to which they will be indemnified by us, subject to certain limitations, for any liabilities incurred by them in connection with their role as officers and/or directors of the Company.

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PLAN OF DISTRIBUTION

We may sell the securities being offered hereby in one or more of the following ways from time to time:

directly to investors;

through agents to the public or to investors;

directly to agents

to one or more underwriters or dealers for resale to the public or to investors;

in "at the market offerings," within the meaning of Rule 415(a)(4) of the Securities Act, to or through a market maker or into an existing trading market, or an exchange or otherwise; or

through a combination of any of these methods of sale.

The securities that we distribute by any of these methods may be sold, in one or more transactions, at:

a fixed price or prices, which may be changed;

market prices prevailing at the time of sale;

prices related to prevailing market prices; or

negotiated prices.

We will set forth in a prospectus supplement the terms of the offering of our securities, including:

the name or names of any agents or underwriters;

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

any over-allotment options under which underwriters may purchase additional securities from us;

any agency fees or underwriting discounts and commissions and other items constituting agents' or underwriters' compensation;

any public offering price;

any discounts or concessions allowed or reallowed or paid to dealers; and

any securities exchanges on which such common stock may be listed.

Underwriters

Underwriters, dealers and agents that participate in the distribution of the securities may be underwriters as defined in the Securities Act and any discounts or commissions they receive from us and any profit on their resale of the securities may be treated as underwriting discounts and commissions under the Securities Act. We will identify in the applicable prospectus supplement any underwriters, dealers or agents and will describe their compensation. In no event will the aggregate value of compensation received or to be received by Financial Industry Regulatory Authority members or independent broker-dealers exceed 8% for the sale of the securities registered hereunder. We may have agreements with the underwriters, dealers and agents to indemnify them against specified civil liabilities, including liabilities under the Securities Act. Underwriters, dealers and agents may engage in transactions with or perform services for us or our subsidiaries in the ordinary course of their businesses.

If we use underwriters for a sale of securities, the underwriters will acquire the securities for their own account. The underwriters may resell the securities in one or more transactions, including negotiated transactions, at a fixed public offering price or at varying prices determined at the time of sale. The obligations of the

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underwriters to purchase the securities will be subject to the conditions set forth in the applicable underwriting agreement. The underwriters will be obligated to purchase all the securities offered if they purchase any of the securities offered. We may change from time to time any initial public offering price and any discounts or concessions the underwriters allow or reallow or pay to dealers. We may use underwriters with whom we have a material relationship. We will describe in the prospectus supplement naming the underwriters the nature of any such relationship.

If indicated in the applicable prospectus supplement, we will authorize underwriters or other persons acting as our agents to solicit offers by particular institutions to purchase securities from us at the public offering price set forth in such prospectus supplement pursuant to delayed delivery contracts providing for payment and delivery on the date or dates stated in such prospectus supplement. Each delayed delivery contract will be for an amount no less than, and the aggregate principal amounts of securities sold under delayed delivery contracts shall be not less nor more than, the respective amounts stated in the applicable prospectus supplement. Institutions with which such contracts, when authorized, may be made include commercial and savings banks, insurance companies, pension funds, investment companies, educational and charitable institutions and others, but will in all cases be subject to our approval. The obligations of any purchaser under any such contract will be subject to the conditions that (a) the purchase of the securities shall not at the time of delivery be prohibited under the laws of any jurisdiction in the United States to which the purchaser is subject, and (b) if the securities are being sold to underwriters, we shall have sold to the underwriters the total principal amount of the securities less the principal amount thereof covered by the contracts. The underwriters and such other agents will not have any responsibility in respect of the validity or performance of such contracts.

Agents

We may designate agents who agree to use their reasonable efforts to solicit purchases for the period of their appointment or to sell securities on a continuing basis.

Direct Sales

We may also sell securities directly to one or more purchasers without using underwriters or agents. We may also make direct sales through subscription rights distributed to our shareholders on a pro rata basis, which may or may not be transferable. In any distribution of subscription rights to shareholders, if all of the underlying securities are not subscribed for, we may then sell the unsubscribed securities directly to third parties or may engage the services of one or more underwriters, dealers or agents, including standby underwriters, to sell the unsubscribed securities to third parties.

Trading Markets and Listing of Securities

Unless otherwise specified in the applicable prospectus supplement, each class or series of securities will be a new issue with no established trading market, other than our common stock, which is quoted on the OTC Bulletin Board. We may elect to list any other class or series of securities on any exchange, but we are not obligated to do so. It is possible that one or more underwriters may make a market in a class or series of securities, but the underwriters will not be obligated to do so and may discontinue any market making at any time without notice. We cannot give any assurance as to the liquidity of the trading market for any of the securities.

Stabilization Activities

In connection with an offering, an underwriter may purchase and sell securities in the open market. These transactions may include short sales, stabilizing transactions and purchases to cover positions created by short sales. Shorts sales involve the sale by the underwriters of a greater number of securities than they are required to purchase in the offering. "Covered" short sales are sales made in an amount not greater than the underwriters' option to purchase additional securities from us, if any, in the offering. If the underwriters have an over-allotment

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option to purchase additional securities from us, the underwriters may close out any covered short position by either exercising their over-allotment option or purchasing securities in the open market. In determining the source of securities to close out the covered short position, the underwriters may consider, among other things, the price of securities available for purchase in the open market as compared to the price at which they may purchase securities through the over-allotment option. "Naked" short sales are any sales in excess of such option or where the underwriters do not have an over-allotment option. The underwriters must close out any naked short position by purchasing securities in the open market. A naked short position is more likely to be created if the underwriters are concerned that there may be downward pressure on the price of the securities in the open market after pricing that could adversely affect investors who purchase in the offering.

Accordingly, to cover these short sales positions or to otherwise stabilize or maintain the price of the securities, the underwriters may bid for or purchase securities in the open market and may impose penalty bids. If penalty bids are imposed, selling concessions allowed to syndicate members or other broker-dealers participating in the offering are reclaimed if securities previously distributed in the offering are repurchased, whether in connection with stabilization transactions or otherwise. The effect of these transactions may be to stabilize or maintain the market price of the securities at a level above that which might otherwise prevail in the open market. The impositions of a penalty bid may also effect the price of the securities to the extent that it discourages resale of the securities. The magnitude or effect of any stabilization or other transactions is uncertain. These transactions may be effected on the OTC Bulletin Board or otherwise and, if commenced, may be discontinued at any time.

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EXPERTS

Our balance sheets as of December 31, 2010 and 2009, and the related statements of operations, changes in stockholders' deficit and cash flows for the years then ended and for the period from November 28, 2005 (inception) to December 31, 2010 have been included herein and in the registration statement in reliance upon the report of Wolf & Company, P.C., independent registered public accountants, appearing elsewhere herein, and upon the authority of said firm as experts in accounting and auditing.

LEGAL MATTERS

Certain legal matters, including the legality of the securities offered, will be passed upon for us by our counsel, Greenberg Traurig, LLP, Boston, Massachusetts. If the securities are distributed in an underwritten offering, certain legal matters will be passed upon for the underwriters by counsel identified in the applicable prospectus supplement.

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Shares of Common Stock
Warrants to Purchase Shares of Common Stock

PROSPECTUS SUPPLEMENT

Aegis Capital Corp

, 2014