

PRESSURE BIOSCIENCES INC  
Form 424B5  
April 09, 2012

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Registration No. 333-176828

PROSPECTUS SUPPLEMENT

(To Prospectus Dated September 13, 2011)

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500 Shares of Series E Convertible Preferred Stock  
1,113,033 Shares of Common Stock

Pursuant to this prospectus supplement and the accompanying prospectus, we are offering to Ironridge BioPharma Co., a division of Ironridge Global IV, Ltd., or Ironridge, 500 shares of our Series E Convertible Preferred Stock (the "Series E Preferred Stock") at a purchase price of \$1,000 per share of Series E Preferred Stock. We are also offering up to 1,113,033 shares of our common stock issuable upon conversion of, and payable as dividends on, the Series E Preferred Stock. The securities are being offered pursuant to a stock purchase agreement, or Stock Purchase Agreement, dated April 5, 2012, with Ironridge. The aggregate purchase price for the shares of common stock and Series E Preferred Stock is \$500,000. We will receive net proceeds from the sale of these shares of approximately \$395,000 after deducting our estimated offering expenses.

Each share of Series E Preferred Stock is convertible at any time by the holder into approximately 980 shares of our common stock, which is determined by dividing the stated value of the Series E Preferred Stock of \$1,000 by the conversion price of \$1.02 per share of common stock. Upon conversion, the holder will also receive a make-whole adjustment equal to all accrued but unpaid dividends and dividends that otherwise would be due through the fifth anniversary of the original issue date of the Series E Preferred Stock. We may convert the Series E Preferred Stock into common stock if the average volume weighted average price of our common stock exceeds \$2.00 per share for 20 of 25 consecutive trading days, and certain other conditions are met. The holder will be prohibited, however, from converting the Series E Preferred Stock into shares of our common stock if, as a result of such conversion, the holder together with its affiliates, would own more than 9.99% of the total number of shares of our common stock then issued and outstanding. The Series E Preferred Stock will accrue dividends at a rate of 10.5% per year of the stated value of the Series E Preferred Stock, subject to increase if the closing bid price of our common stock falls below \$0.65 per share, up to a maximum rate of 18% per year, and subject to decrease if the closing bid price of our common stock rises above \$1.20 per share, down to a minimum rate of 2% per year, as described in this prospectus supplement. The dividends are payable annually, at our option, in cash or shares of our common stock. We may redeem the Series E Preferred Stock at any time for cash at a redemption price of \$1,000 per share, plus any accrued but unpaid dividends, and if such redemption occurs prior to the fifth anniversary of the original issue date, plus the make-whole adjustment. If the trading price of our common stock is at least \$2.00 per share at any time on any date prior to the fifth anniversary of the original issue date of the Series E Preferred Stock, the make-whole adjustment will be equal to all accrued but unpaid dividends that would otherwise be due through the fourth anniversary of the original issue date of the Series E Preferred Stock. For a more detailed description of our Series E Preferred Stock and our common stock, see the section entitled "Description of Securities" beginning on page S-23.

There is no established public trading market for the Series E Preferred Stock and we do not expect a market to develop. In addition, we do not intend to apply for listing of the Series E Preferred Stock on any national securities exchange. As of April 5, 2012, our common stock was listed and commenced trading on the OTCQB Marketplace,

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operated by the OTC Markets Group, under the ticker symbol "PBIO". On April 5, 2012, the last reported sale price of our common stock on the OTCQB Marketplace was \$0.60 per share.

As of April 5, 2012, there were 8,732,774 shares of our common stock held by non-affiliates. Based on the \$0.85 per share closing price of our common stock on February 23, 2012, the aggregate market value of our outstanding common equity pursuant to General Instruction I.B.6 of Form S-3 was \$7,424,719. As of the date of this prospectus supplement, we have sold \$1,430,467 of securities pursuant to that instruction in the last 12 calendar months.

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Investing in our Series E Preferred Stock involves a high degree of risk. See “Risk Factors” beginning on page S-8 of this prospectus supplement and “Risk Factors” beginning on page 5 of the accompanying prospectus.

We have retained Ladenburg Thalmann & Co. Inc. to act as our exclusive placement agent in connection with this offering. The placement agent has no obligation to buy any of the securities from us or to arrange for the purchase or sale of any specific number or dollar amount of securities but will use its best efforts to arrange for the sale of all of the shares of Series E Preferred Stock. We have agreed to pay the placement agent a cash fee of 8% of gross offering proceeds. See “Plan of Distribution” for more information regarding these arrangements.

	Per Unit	Total
Public offering price	\$1,000	\$500,000
Placement agency fees <sup>1</sup>	80	40,000
Proceeds, before expenses, to us	920	460,000

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

The placement agent expects to deliver the shares of Series E Preferred Stock against payment on or about April 11, 2012.

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Ladenburg Thalmann & Co. Inc.

APRIL 9, 2012

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<sup>1</sup>See “Plan of Distribution” for a description of the compensation payable to the placement agent.

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Prospectus

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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 the offering of our securities pursuant to this prospectus supplement and also adds to and updates information contained in the accompanying prospectus and the documents incorporated by reference in this prospectus supplement and the accompanying prospectus. The second part, the accompanying prospectus, provides more general information. Generally, when we refer to this prospectus, we are referring to both parts of this document combined together with all documents incorporated by reference. To the extent there is a conflict between the information contained in this prospectus supplement or any “free writing prospectus” we may authorize to be delivered to you, on the one hand, and the information contained in the accompanying prospectus or any document incorporated by reference therein, on the other hand, you should rely on the information in this prospectus supplement or such free writing prospectus, as the case may be, provided that, 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.

We further note that the representations, warranties and covenants made by us in any agreement that is filed as an exhibit to any document that is incorporated by reference in this prospectus supplement or the accompanying prospectus were made solely for the benefit of the parties to such agreement, including, in some cases, for the purpose of allocating risk among the parties to such agreements, and should not be deemed to be a representation, warranty or covenant to you. Moreover, such representations, warranties or covenants were accurate only as of the date when made. Accordingly, such representations, warranties and covenants should not be relied on as accurately representing the current state of our affairs.

You should rely only on the information contained in or incorporated by reference in this prospectus supplement, the accompanying prospectus and any related “free writing prospectus” required to be filed with the SEC. We have not authorized any other person to provide you with additional or different information. If anyone provides you with additional or different information, you should not rely on it. We are not making an offer to sell the securities offered pursuant to this prospectus supplement 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, any such “free writing prospectus” and the documents incorporated by reference herein and therein is accurate only as of their respective dates. Our business, financial condition, results of operations and prospects may have changed since those dates.

It is important for you to read and consider all information contained in this prospectus supplement and the accompanying prospectus, including the documents we have referred you to in the section entitled “Where You Can Find More Information” below, in the accompanying prospectus and any “free writing prospectus” we may authorize to be delivered to you.

Unless the context otherwise requires, in this prospectus, “Pressure BioSciences,” the “Company,” “we,” “us,” “our” and similar names refer to Pressure BioSciences, Inc. and its wholly owned subsidiary PBI BioSeq, Inc.

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## CAUTIONARY STATEMENT REGARDING FORWARD-LOOKING STATEMENTS

The statements in this prospectus supplement, the accompanying prospectus, the documents incorporated by reference and in any “free writing prospectus” that we have authorized for use in connection with this offering, contain or incorporate by reference certain forward-looking statements within the meaning of Section 27A of the Securities Act, as amended, or the Securities Act, Section 21E of the Securities Exchange Act of 1934, as amended, or the Exchange Act, and the Private Securities Litigation Reform Act of 1995, that are subject to risks and uncertainties. All statements other than statements of historical facts contained herein, including statements regarding our financial condition, operations, plans, objectives, goals, business strategies, future events, capital expenditures, future results, our competitive strengths, and the trends in our industry are forward-looking statements. The words “believe,” “may,” “could,” “estimate,” “continue,” “anticipate,” “intend,” “should,” “plan,” “expect,” “appear,” “future,” “likely,” “probably,” “s,” “potential” and similar expressions, as they relate to us, are intended to identify forward-looking statements.

Forward-looking statements reflect only our current expectations. In any forward-looking statement, where we express an expectation or belief as to future results or events, such expectation or belief is expressed in good faith as of the date of such statement and believed to have a reasonable basis, but there can be no assurance that the statement of expectation or belief will be achieved or accomplished. Our actual results, performance or achievements could differ materially from those expressed in, or implied by, the forward-looking statements due to a number of uncertainties, many of which are unforeseen. Such forward-looking statements include statements relating to:

- our need for, and our ability to raise, additional equity or debt financing on acceptable terms, if at all;
- our need to take additional cost reduction measures, cease operations or sell our assets, if we are unable to obtain sufficient additional financing;
- our belief that we have sufficient liquidity to finance normal operations until May, 2012 after completion of this offering;
  - the options we may pursue in light of our financial condition;
    - the amount of cash necessary to operate our business;
  - the anticipated uses of grant revenue and the potential for increased grant revenue in future periods;
    - our plans and expectations with respect to our pressure cycling technology (“PCT”) operations;
    - our belief that PCT has achieved initial market acceptance in the sample preparation market;
- the expected increase in number of PCT units installed and the increase in revenues from the sale of consumable products and extended service contracts;
  - the expected development and success of new product offerings;
    - the potential applications for PCT;
  - the expected expenses of, and benefits and results from, our research and development efforts;
- the expected benefits and results from our collaboration programs, strategic alliances and joint ventures;

- our expectation of obtaining additional research grants from the government in the future;

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- our expectations of the results of our development activities funded by government research grants;
  - the potential size of the market for biological sample preparation;
    - general economic conditions;
  - the anticipated future financial performance and business operations of our company;
- our reasons for focusing our resources in the market for genomic, proteomic, lipidomic, and small molecule sample preparation;
  - the importance of mass spectrometry as a laboratory tool;
- the advantages of PCT over other current technologies as a method of sample extraction and for other applications;
  - the capabilities and benefits of our PCT sample preparation system and consumable products;
- our belief that laboratory scientists will achieve results comparable to those reported to date by certain research scientists who have published or presented publicly on PCT;
  - our ability to retain our core group of scientific, administrative, and sales personnel; and
  - our ability to expand our customer base in sample preparation and for other applications of PCT.

You should read this prospectus supplement, the accompanying prospectus and the documents that we reference herein and therein, as well as the exhibits filed with, or incorporated by reference in the registration statement of which this prospectus supplement and the accompanying prospectus form a part, or the Registration Statement, completely and with the understanding that our actual future results may be materially different from what we expect. In addition, you should refer to the “Risk Factors” section beginning on page S-8 of this prospectus supplement and the risks set forth under “Item 1A. Risk Factors” included in our most recent Annual Report on Form 10-K, which is incorporated by reference in the accompanying prospectus. Because of these factors or others, the forward-looking statements in this prospectus supplement, the accompanying prospectus and the Registration Statement may not prove to be accurate. Furthermore, if our forward-looking statements prove to be inaccurate, the inaccuracy may be material. In light of the significant uncertainties in these forward-looking statements, you should not regard these statements as a representation or warranty by us or any other person that we will achieve our objectives and plans in any specified time frame, if at all. Accordingly, you should not place undue reliance on these forward-looking statements.

You should assume that the information appearing in this prospectus supplement and the accompanying prospectus is accurate as of the date on the front cover of this prospectus supplement or the accompanying prospectus, as the case may be. All subsequent written and oral forward looking statements attributable to us or the persons acting on our behalf are expressly qualified in their entirety by the applicable cautionary statements. We undertake no obligation to update any forward looking statements, whether as a result of new information, future events or otherwise, except as may be required by applicable law or regulation. We qualify all of the information presented in this prospectus supplement and the accompanying prospectus, and particularly our forward-looking statements, by these cautionary statements.



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## PROSPECTUS SUPPLEMENT SUMMARY

This summary highlights selected information about us and this offering. This information is not complete and does not contain all the information you should consider before investing in the securities offered by this prospectus supplement. You should carefully read this entire prospectus supplement and the entire accompanying prospectus, including the “Risk Factors” section beginning on page S-8 of this prospectus supplement and the financial statements and the other information incorporated by reference in this prospectus supplement and the accompanying prospectus, before making an investment decision.

### About Pressure BioSciences, Inc.

#### Overview

We are focused on solving the challenging problems inherent in biological sample preparation, a crucial laboratory step performed by scientists worldwide working in biological life sciences research. Sample preparation is a term that refers to a wide range of activities that precede most forms of scientific analysis. Sample preparation is often complex, time-consuming, and in our belief, one of the most error-prone steps of scientific research. It is a widely-used laboratory undertaking, the requirements of which drive what we believe is a large and growing worldwide market. We have developed and patented a novel, enabling technology platform that can control the sample preparation process. It is based on harnessing the unique properties of hydrostatic pressure. This process, called pressure cycling technology, or PCT, uses alternating cycles of hydrostatic pressure between ambient and ultra-high levels (35,000 psi or greater) to safely, conveniently and reproducibly control the actions of molecules in biological samples, such as cells and tissues from human, animal, plant, and microbial sources.

Our pressure cycling technology uses internally developed instrumentation that is capable of cycling pressure between ambient and ultra-high levels - at controlled temperatures and specific time intervals - to rapidly and repeatedly control the interactions of bio-molecules, such as DNA, RNA, proteins, lipids, and small molecules. Our laboratory instrument, the Barocycler®, and our internally developed consumables product line, including PULSE (“Pressure Used to Lyse Samples for Extraction”) Tubes, other processing tubes, and application specific kits (which include consumable products and reagents) together make up our PCT Sample Preparation System, or PCT SPS.

#### Corporate Information

We were incorporated in the Commonwealth of Massachusetts in August 1978 as Boston Biomedica, Inc. In September 2004, we completed the asset sale of the Boston Biomedica core business units and began to focus exclusively on the development and commercialization of the PCT platform. Following this change in business strategy, we changed our legal name from Boston Biomedica, Inc. to Pressure BioSciences, Inc., or PBI, and our NASDAQ symbol from BBII to PBIO, and commenced operations as Pressure BioSciences in February 2005. As of April 5, 2012 our common stock commenced trading on the OTCQB Marketplace under the ticker symbol PBIO.

Our principal executive offices are located at 14 Norfolk Avenue, South Easton, Massachusetts 02375. Our telephone number is (508) 230-1828 and our website address is [www.pressurebiosciences.com](http://www.pressurebiosciences.com). Information included or referred to on our website is not a part of this prospectus.

#### The Offering

For a more complete description of the terms of the Series E Preferred Stock offered by this prospectus supplement and the accompanying prospectus, see “Description of Securities” on page S-23 of this prospectus supplement.

Series E Preferred Stock offered by us 500 shares of Series E Preferred Stock.

Offering price: \$1,000 per share

Manner of offering: The Series E Preferred Stock will be offered directly to Ironridge pursuant to the Stock Purchase Agreement.

Use of proceeds: We intend to use the net proceeds for general working capital needs, for the repayment of up to \$50,000 in principal amount outstanding under a promissory note, and potentially to fund dividends paid in cash on our Series E Preferred Stock. See "Use of Proceeds." See "Use of Proceeds" on page S-21.

Market for Series E Preferred Stock: Our Series E Preferred Stock will have no public market.

Risk factors: See "Risk Factors" on page S-8 for a discussion of factors you should consider carefully before deciding to invest in our Series E Preferred Stock or our common stock.

Conversion: Each share of our Series E Preferred Stock is convertible at any time at the option of the holder into approximately 980 shares of our common stock, which is determined by dividing the stated value of the Series E Preferred Stock of \$1,000 by the conversion price of \$1.02 per share of common stock. Upon conversion, the holder will also receive a make-whole adjustment equal to all accrued but unpaid dividends and dividends that otherwise would be due through either the fourth or fifth anniversary of the original issue date of the Series E Preferred Stock (as described below under the heading "—Make-Whole Payment). We may convert up to 250 shares of the Series E Preferred Stock if the average volume weighted average price of our common stock exceeds \$2.00 per share for 20 of 25 consecutive trading days, and certain other conditions are met during a specified period. The holder will be prohibited, however, from converting the Series E Preferred Stock into shares of our common stock if, as a result of such conversion, the holder together with its affiliates, would own more than 9.99% of the total number of shares of our common stock then issued and outstanding.

Liquidation Preference: In the event of our liquidation, dissolution, or winding up, for so long as the holders of our Series E Preferred Stock continue to hold at least 50% of the number of shares of Series E Preferred Stock originally issued, such holders will receive a payment equal to \$1,000 per share of Series E Preferred Stock plus accrued and unpaid dividends before any proceeds are distributed to the holders of our common stock. After the holders of our Series E Preferred Stock no longer holds at least 50% of the number of shares of Series E Preferred Stock originally issued, the holders will receive the liquidation amount of \$1,000 per share of Series E Preferred Stock plus accrued and unpaid dividends on a proportionate and pari passu basis with the holders of our common stock.

Voting Rights: Shares of Series E Preferred Stock will generally have no voting rights, except with respect to the issuance of any preferred stock that is not junior to the Series E Preferred Stock, changes in the Series E Preferred Stock and except as required by law. Ironridge has agreed not to vote or exercise dissenter's rights with respect to any shares of common stock it receives upon conversion of, in payment of dividends on, or as a Make-Whole Payment on (as described below), its shares of Series E Preferred Stock.

Dividends:

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Each holder of the Series E Preferred Stock will initially be entitled to receive dividends at the rate of 10.5% per year of the stated value of \$1,000 for each share of Series E Preferred Stock held by such holder payable annually, beginning on the first anniversary of the original issue date, and on each conversion date and redemption date. The dividend rate is subject to adjustment, such that the rate will be adjusted downward by 98.731 basis points for each \$0.05, if any, that the closing bid price of our common stock rises above \$1.20 per share, subject to a minimum dividend rate of 2.00% per year, and will be adjusted upward by 98.731 basis points for each \$0.05, if any, that the closing bid price of our common stock falls below \$0.65 per share, subject to a maximum dividend rate of 18.00% per year. The cash dividend rate will be based on the closing bid price of our shares of common stock on the trading day immediately prior to the dividend payment date, conversion date or redemption date. We can elect to pay the dividends in cash or in shares of common stock, or a combination thereof. If we choose to pay dividends in shares of common stock, the shares of common stock used to pay the dividends will be valued at 85% of the volume weighted average price of our shares of common stock on the trading day immediately prior to the day on which the dividend shares are electronically issued to the holders of the Series E Preferred Stock.

### Make-Whole Payment:

In the event a holder converts his, her or its Series E Preferred Stock, or we redeem or elect a forced conversion of the Series E Preferred Stock, in each case prior to the fifth anniversary of the original issue date, we must pay to the holder in cash, or at our option, in shares of common stock valued as described below, or a combination of cash and shares of common stock, with respect to the Series E Preferred Stock so converted or redeemed, an amount equal to the amount of dividends that otherwise would have been due through the fifth anniversary of the original issuance date, less the amount of any dividends paid in cash or in shares of common stock on such Series E Preferred Stock on or before the date of conversion or redemption (the "Make-Whole Payment"). Shares of common stock used to pay all or a portion of the Make-Whole Payment will be valued at 85% of the volume weighted average price of our shares of common stock on the trading day immediately prior to the day on which the Make-Whole Payment is electronically issued to the holders of the Series E Preferred Stock. If the trading price of our common stock is at least \$2.00 per share at any time on any date prior to the fifth anniversary of the original issue date of the Series E Preferred Stock, the Make-Whole Payment will be equal to all accrued but unpaid dividends that would otherwise be due through the fourth anniversary of the original issue date of the Series E Preferred Stock.

### Redemption:

Prior to the fifth anniversary of the original issue date of the Series E Preferred Stock, we may, at our option, redeem any or all of the shares of Series E Preferred Stock at any time at a redemption price of \$1,000 per share of Series E Preferred Stock, plus any accrued but unpaid dividends, plus the Make-Whole Payment. After the fifth anniversary of the original issue date, we may redeem any or all of the Series E Preferred Stock at any time at a redemption price of \$1,000 per share of Series E Preferred Stock, plus any accrued but unpaid dividends.

In addition, if we determine to liquidate, dissolve or wind-up our business, or engage in any liquidation event, subject to the liquidation preference described above, we must redeem the Series E Preferred Stock at the applicable redemption price.

### Limitations on Conversion:

Notwithstanding anything herein to the contrary, the Series E Preferred Stock may not be converted by any holder, if after such conversion or exercise such holder would beneficially own more 9.99% of the shares of common stock then outstanding.

500 shares of Series E Preferred Stock

Shares of Series E Preferred Stock to be issued and outstanding after this offering:

Shares of common 9,978,954 shares of common stock. stock issued and outstanding before this offering:

Shares of common 10,469,150 shares of common stock. stock to be outstanding after this offering including shares of common stock underlying Series E Preferred Stock

The number of shares of common stock outstanding before and after the offering is based on 9,978,954 shares issued and outstanding as of April 5, 2012 and excludes:

- 1,555,500 shares of common stock issuable upon exercise of options outstanding with a weighted average exercise price of \$2.17 per share;
  - 267,500 shares of common stock reserved for future grants and awards under our equity incentive plans;
- 5,115,532 shares of common stock issuable upon exercise of outstanding warrants issued prior to this offering;
- 622,837 shares of common stock issuable in lieu of cash payment of dividends (including the Make-Whole Payment) on the Series E Preferred Stock; and
- 461,539 shares of common stock issuable upon conversion of our outstanding Series D Convertible Preferred Stock.

Unless otherwise specifically stated, information throughout this prospectus supplement assumes (i) no exercise of outstanding options or warrants to purchase shares of our common stock and (ii) no conversion of our outstanding preferred stock.

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## RISK FACTORS

An investment in our securities involves risks. In consultation with your own financial and legal advisers, you should carefully consider, among other matters, the factors set forth below, as well as the risk factors in our Annual Report on Form 10-K for the year ended December 31, 2011 and any subsequently filed periodic reports which are incorporated by reference in the accompanying prospectus, before deciding whether an investment in our securities is suitable for you. The risks and uncertainties described below and in our Annual Report on Form 10-K and our subsequently filed periodic reports are not the only risks and uncertainties we face. Additional risks and uncertainties not currently known to us or that we currently deem immaterial also may impair our business operations. If any of the following risks actually occur, our business, results of operations and financial condition could suffer. The risks discussed below also include forward-looking statements and our actual results may differ substantially from those discussed in these forward-looking statements.

### Risks Related to Our Business

As of April 2, 2012, we had available cash of approximately \$100,000. We require additional capital to fund our operations and cannot ensure that additional capital will be available on acceptable terms or at all.

We have experienced negative cash flows from operations from our pressure cycling technology business since we commenced our pressure cycling technology operations. As of April 2, 2012, we had available cash of approximately \$100,000, which based on current projections, will be sufficient to fund operations until April 2012. We need substantial additional capital to fund our operations in periods beyond April 2012. If we are unable to raise sufficient funds from this offering or other sources of financing, we may need to cease our business operations.

We have received an opinion from our independent registered public accounting firm expressing doubt regarding our ability to continue as a going concern.

The audit report issued by our independent registered public accounting firm on our audited consolidated financial statements for the fiscal year ended December 31, 2011 contains an explanatory paragraph regarding our ability to continue as a going concern. The audit report states that our auditing firm has substantial doubt in our ability to continue as a going concern due to the risk that we may not have sufficient cash and liquid assets at December 31, 2011 to cover our operating and capital requirements for the next twelve-month period; and if sufficient cash cannot be obtained, we would have to substantially alter, or possibly even discontinue, operations. The accompanying consolidated financial statements do not include any adjustments that might result from the outcome of this uncertainty.

Management has developed a plan to continue operations. This plan includes further reductions in expenses and obtaining equity or debt financing including our most recently completed financing in February 2012, in which we sold units consisting of shares of restricted common stock and warrants to purchase shares of common stock for net proceeds of approximately \$765,000, which included the conversion of \$387,547 in principal and accrued interest from convertible promissory notes. Although we have successfully completed equity financings and reduced expenses in the past, we cannot assure you that our plans to address these matters in the future will be successful.

Such an opinion from our independent registered accounting firm could adversely affect our ability to obtain additional financing on favorable terms, if at all, as such an opinion may cause investors to have reservations about our long-term prospects, and may adversely affect our relationships with customers. There can be no assurance that our auditing firm will not qualify its opinion in the future. If we cannot successfully continue as a going concern, our stockholders may lose their entire investment in us.

We will need a greater amount of additional capital than we currently expect to need if we experience unforeseen costs or expenses, unanticipated liabilities or delays in implementing our business plan, developing our products and achieving commercial sales.

We need substantial capital to implement our sales distribution strategy for our current products and to develop and commercialize future products using our pressure cycling technology products and services in the

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sample preparation area, as well as for applications in other areas of life sciences. Our capital requirements will depend on many factors, including but not limited to:

- the problems, delays, expenses, and complications frequently encountered by early-stage companies;
- market acceptance of our pressure cycling technology products and services for sample preparation;
- the success of our sales and marketing programs; and
- changes in economic, regulatory or competitive conditions in the markets we intend to serve.

To satisfy our potential capital requirements to cover the cost of implementing our sales distribution strategy for our current products and services and to develop and commercialize future products and services using our pressure cycling technology relating to sample preparation and other life science applications, we need to raise additional funds in the public or private capital markets. We may seek to raise any necessary additional funds through the issuance of warrants, equity or debt financings or executing collaborative arrangements with corporate partners or other sources, which may be dilutive to existing stockholders or otherwise have a material effect on our current or future business prospects. Additional financing may not be available to us on a timely basis, if at all, or on terms acceptable to us. If adequate funds are not available or if we fail to obtain acceptable additional financing, we may be required to:

- severely limit or cease our operations or otherwise reduce planned expenditures and forego other business opportunities, which could harm our business;
- obtain financing with terms that may have the effect of substantially diluting or adversely affecting the holdings or the rights of the holders of our capital stock; or
- obtain funds through arrangements with future collaboration partners or others that may require us to relinquish rights to some or all of our technologies or products.

Our actual results and performance, including our ability to raise additional capital, may be adversely affected by current economic conditions.

Our actual results and performance could be adversely affected by the current economic conditions in the global economy, which continue to pose a risk to the overall demand for our products from our customers who may elect to defer or cancel purchases of, or decide not to purchase, our products in response to continuing tightness in the credit markets, negative financial news and general uncertainty in the economy. In addition, our ability to obtain additional financing, on acceptable terms, if at all, may be adversely affected by the uncertainty in the current economic climate.

We have a history of operating losses, anticipate future losses and may never be profitable.

We have experienced significant operating losses in the area of PCT in each period since we began investing resources in PCT. These losses have resulted principally from research and development, sales and marketing, and general and administrative expenses associated with the development of our PCT business. During the year ended December 31, 2011, we recorded a net loss to common shareholders of (\$5,107,661) or (\$0.77) per share, as compared to (\$3,630,826) or (\$1.35) per share in 2010. We expect to continue to incur operating losses until sales of our PCT products increase substantially. We cannot be certain when, if ever, we will become profitable. Even if we were to become profitable, we might not be able to sustain such profitability on a quarterly or annual basis.



Our financial results depend on revenues from our pressure cycling technology products and services, and from government grants.

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We currently rely on revenues from our pressure cycling technology products and services in the sample preparation area and from revenues derived from grants awarded to us by governmental agencies, such as the National Institutes of Health. We have been unable to achieve market acceptance of our product offerings to the extent necessary to achieve significant revenue. Competition for government grants is very intense, and we can provide no assurance that we will continue to be awarded grants in the future. If we are unable to increase revenues from sales of our pressure cycling technology products and services and government grants, our business will fail.

We may be unable to obtain market acceptance of our pressure cycling technology products and services.

Some of our initial sales of our pressure cycling technology products and services have been to our collaborators, following their use of our products in studies undertaken in sample preparation for genomics, proteomics and small molecules studies. Our technology requires scientists and researchers to adopt a method of sample extraction that is different than existing techniques. Our PCT sample preparation system is also more costly than most existing techniques. Our ability to obtain market acceptance will depend, in part, on our ability to demonstrate to our potential customers that the benefits and advantages of our technology outweigh the increased cost of our technology compared to existing methods of sample extraction. If we are unable to demonstrate the benefits and advantages of our products and technology as compared to existing technologies, we will not gain market acceptance and our business will fail.

Our business may be harmed if we encounter problems, delays, expenses, and complications that often affect companies that have not achieved market acceptance.

Our pressure cycling technology business continues to face challenges in achieving market acceptance. If we encounter problems, delays, expenses and complications, many of which may be beyond our control or may harm our business or prospects. These include:

- unanticipated problems and costs relating to the development, testing, production, marketing, and sale of our products;
  - delays and costs associated with our ability to attract and retain key personnel;
  - availability of adequate financing; and
  - competition.

The sales cycle of our pressure cycling technology products can be lengthy. We have incurred and may continue to incur significant expenses and we may not generate any significant revenue related to those products.

Many of our current and potential customers have required between three and six months or more to test and evaluate our pressure cycling technology products. This increases the possibility that a customer may decide to cancel its order or otherwise change its plans, which could reduce or eliminate our sales to that potential customer. As a result of this lengthy sales cycle, we have incurred and may continue to incur significant research and development, selling and marketing, and general and administrative expense related to customers from whom we have not yet generated any revenue from our products, and from whom we may never generate the anticipated revenue if a customer is not satisfied with the results of the evaluation of our products or if a customer cancels or changes its plans.

Our business could be harmed if our products contain undetected errors or defects.

We are continuously developing new, and improving our existing, pressure cycling technology products in sample preparation and we expect to do so in other areas of life sciences depending upon the availability of our resources. Newly introduced products can contain undetected errors or defects. In addition, these products may not meet their performance specifications under all conditions or for all applications. If, despite internal testing and

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testing by our collaborators, any of our products contain errors or defects or fail to meet customer specifications, then we may be required to enhance or improve those products or technologies. We may not be able to do so on a timely basis, if at all, and may only be able to do so at considerable expense. In addition, any significant reliability problems could result in adverse customer reaction, negative publicity or legal claims and could harm our business and prospects.

Our success may depend on our ability to manage growth effectively.

Our failure to manage growth effectively could harm our business and prospects. Given our limited resources and personnel, growth of our business could place significant strain on our management, information technology systems, sources of manufacturing capacity and other resources. To properly manage our growth, we may need to hire additional employees and identify new sources of manufacturing capabilities. Failure to effectively manage our growth could make it difficult to manufacture our products and fill orders, as well as lead to declines in product quality or increased costs, any of which would adversely impact our business and results of operations.

Our success is substantially dependent on the continued service of our senior management.

Our success is substantially dependent on the continued service of our senior management. We do not have long-term employment agreements with our key employees. The loss of the services of any of these individuals could make it more difficult to successfully operate our business and achieve our business goals. In addition, our failure to retain existing engineering, research and development and sales personnel could harm our product development capabilities and customer and employee relationships, delay the growth of sales of our products and could result in the loss of key information, expertise or know-how.

We may not be able to hire or retain the number of qualified personnel, particularly engineering and sales personnel, required for our business, which would harm the development and sales of our products and limit our ability to grow.

Competition in our industry for senior management, technical, sales, marketing, finance and other key personnel is intense. If we are unable to retain our existing personnel, or attract and train additional qualified personnel, either because of competition in our industry for such personnel or because of insufficient financial resources, our growth may be limited. Our success also depends in particular on our ability to identify, hire, train and retain qualified engineering and sales personnel with experience in design, development and sales of laboratory equipment.

Our reliance on a single third party for all of our manufacturing, and certain of our engineering and other related services, could harm our business.

We currently rely on Source Scientific, LLC (“Source Scientific”), a third party contract manufacturer, to manufacture our PCT instrumentation, provide engineering expertise, and manage the majority of our sub-contractor supplier relationships. Because of our dependence on one manufacturer, our success will depend, in part, on the ability of Source Scientific to manufacture our products cost effectively, in sufficient quantities to meet our customer demand, if and when such demand occurs, and meeting our quality requirements. If Source Scientific experiences manufacturing problems or delays, or if Source Scientific decides not to continue to provide us with these services, our business may be harmed. While we believe other contract manufacturers are available to address our manufacturing and engineering needs, if we find it necessary to replace Source Scientific, there will be a disruption in our business and we would incur additional costs and delays that would harm our business.

Our failure to manage current or future alliances or joint ventures effectively may harm our business.

We have entered into business relationships with three distribution partners and one co-marketing partner, and we may enter into additional alliances, joint ventures or other business relationships to further develop, market and sell our pressure cycling technology product line. We may not be able to:

- identify appropriate candidates for alliances, joint ventures or other business relationships;

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- assure that any candidate for an alliance, joint venture or business relationship will provide us with the support anticipated;
- successfully negotiate an alliance, joint venture or business relationship on terms that are advantageous to us; or
  - successfully manage any alliance or joint venture.

Furthermore, any alliance, joint venture or other business relationship may divert management time and resources. Entering into a disadvantageous alliance, joint venture or business relationship, failing to manage an alliance, joint venture or business relationship effectively, or failing to comply with any obligations in connection therewith, could harm our business and prospects.

We may not be successful in growing our international sales.

We cannot guarantee that we will successfully develop our international sales channels to enable us to generate significant revenue from international sales. We currently have four international distribution agreements that cover Japan, Austria, Germany, Switzerland, Holland, Belgium and Luxembourg. We have generated limited sales to date from international sales and cannot guarantee that we will be able to increase our sales. As we expand, our international operations may be subject to numerous risks and challenges, including:

- multiple, conflicting and changing governmental laws and regulations, including those that regulate high pressure equipment;
  - reduced protection for intellectual property rights in some countries;
  - protectionist laws and business practices that favor local companies;
    - political and economic changes and disruptions;
      - export and import controls;
        - tariff regulations; and
        - currency fluctuations.

Our operating results are subject to quarterly variation. Our operating results may fluctuate significantly from period to period depending on a variety of factors, including the following:

- our ability to increase our sales of our pressure cycling technology products for sample preparation on a consistent quarterly or annual basis;
  - the lengthy sales cycle for our products;
- the product mix of the Barocycler instruments we install in a given period, and whether the installations are completed pursuant to sales, rental or lease arrangements, and the average selling prices that we are able to command for our products;
  - our ability to manage our costs and expenses;

- our ability to continue our research and development activities without unexpected costs and expenses; and

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- our ability to comply with state and federal regulations without incurring unexpected costs and expenses.

Our instrumentation operates at high pressures and may therefore become subject to certain regulations in the European Community. Regulation of high pressure equipment may limit or hinder our development and sale of future instrumentation.

Our Barocycler instruments operate at high pressures. If our Barocycler instruments exceed certain pressure levels, our products may become subject to the European Pressure Equipment Directive, which requires certain pressure equipment to meet certain quality and safety standards. We do not believe that we are subject to this directive because our Barocycler instruments are currently below the threshold documented in the text of the directive. If our interpretation were to be challenged, we could incur significant costs defending the challenge, and we could face production and selling delays, all of which could harm our business.

We expect that we will be subject to regulation in the United States, such as the Food and Drug Administration (“FDA”), and overseas, if and when we begin to invest more resources in the development and commercialization of PCT in applications outside of sample preparation for research use only purposes.

Our current pressure cycling technology products in the area of sample preparation for research use only indications are not regulated by the FDA. Applications in which we intend to develop and commercialize pressure cycling technology, such as protein purification, pathogen inactivation and immunodiagnosics, are expected to require regulatory approvals or clearances from regulatory agencies, such as the FDA, prior to commercialization. We expect that obtaining these approvals or clearances will require a significant investment of time and capital resources and there can be no assurance that such investments will receive approvals or clearances that would allow us to commercialize the technology for these applications.

If we are unable to protect our patents and other proprietary technology relating to our pressure cycling technology products, our business will be harmed.

Our ability to further develop and successfully commercialize our products will depend, in part, on our ability to enforce our patents, preserve our trade secrets, and operate without infringing the proprietary rights of third parties. We currently have 14 United States patents issued and several pending patent applications for our pressure cycling technology. Several of these have been followed up with foreign applications, for which three patents have been issued in Europe and three patents have been issued in Australia, two in Japan, and two in Canada. We expect to file additional foreign applications in the future relating to our pressure cycling technology, and we will file additional United States applications as we develop new patentable intellectual property. The patents which have been issued expire between 2015 and 2027.

There can be no assurance that:

- any patent applications filed by us will result in issued patents;
- patent protection will be secured for any particular technology;
- any patents that have been or may be issued to us will be valid or enforceable;
  - any patents will provide meaningful protection to us;
  - others will not be able to design around our patents; or



- our patents will provide a competitive advantage or have commercial value.

The failure to obtain adequate patent protection would have a material adverse effect on us and may adversely affect our ability to enter into, or affect the terms of, any arrangement for the marketing or sale of any product.

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Our patents may be challenged by others.

We could incur substantial costs in patent proceedings, including interference proceedings before the United States Patent and Trademark Office, and comparable proceedings before similar agencies in other countries, in connection with any claims that may arise in the future. These proceedings could result in adverse decisions about the patentability of our inventions and products, as well as about the enforceability, validity, or scope of protection afforded by the patents.

If we are unable to maintain the confidentiality of our trade secrets and proprietary knowledge, others may develop technology and products that could prevent the successful commercialization of our products.

We rely on trade secrets and other unpatented proprietary information in our product development activities. To the extent we rely on trade secrets and unpatented know-how to maintain our competitive technological position, there can be no assurance that others may not independently develop the same or similar technologies. We seek to protect our trade secrets and proprietary knowledge, in part, through confidentiality agreements with our employees, consultants, advisors and contractors. These agreements may not be sufficient to effectively prevent disclosure of our confidential information and may not provide us with an adequate remedy in the event of unauthorized disclosure of such information. If our employees, consultants, advisors, or contractors develop inventions or processes independently that may be applicable to our products, disputes may arise about ownership of proprietary rights to those inventions and processes. Such inventions and processes will not necessarily become our property, but may remain the property of those persons or their employers. Protracted and costly litigation could be necessary to enforce and determine the scope of our proprietary rights. Failure to obtain or maintain trade secret protection, for any reason, could harm our business.

If we infringe on the intellectual property rights of others, our business will be harmed.

It is possible that the manufacture, use or sale of our pressure cycling technology products or services may infringe patent or other intellectual property rights of others. We may be unable to avoid infringement of the patent or other intellectual property rights of others and may be required to seek a license, defend an infringement action, or challenge the validity of the patents or other intellectual property rights in court. We may be unable to secure a license on terms and conditions acceptable to us, if at all. Also, we may not prevail in any patent or other intellectual property rights litigation. Patent or other intellectual property rights litigation is costly and time-consuming, and there can be no assurance that we will have sufficient resources to bring any possible litigation related to such infringement to a successful conclusion. If we do not obtain a license under such patents or other intellectual property rights, or if we are found liable for infringement, or if we are unsuccessful in having such patents declared invalid, we may be liable for significant monetary damages, may encounter significant delays in successfully commercializing and developing our pressure cycling technology products, or may be precluded from participating in the manufacture, use, or sale of our pressure cycling technology products or services requiring such licenses.

We may be unable to adequately respond to rapid changes in technology and the development of new industry standards.

The introduction of products and services embodying new technology and the emergence of new industry standards may render our existing pressure cycling technology products and related services obsolete and unmarketable if we are unable to adapt to change. We may be unable to allocate the funds necessary to improve our current products or introduce new products to address our customers' needs and respond to technological change. In the event that other companies develop more technologically advanced products, our competitive position relative to such companies would be harmed.

We may not be able to compete successfully with others that are developing or have developed competitive technologies and products.

A number of companies have developed, or are expected to develop, products that compete or will compete with our products. We compete with companies that have existing technologies for the extraction of nucleic acids, proteins, lipids, and small molecules from cells and tissues, including methods such as mortar and pestle, sonication,

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rotor-stator homogenization, French press, bead beating, freezer milling, enzymatic digestion, and chemical dissolution.

We are aware that there are additional companies pursuing new technologies with similar goals to the products developed or being developed by us. Some of the companies with which we now compete, or may compete in the future, have or may have more extensive research, marketing, and manufacturing capabilities, more experience in genomics and proteomics sample preparation, protein purification, pathogen inactivation, immunodiagnostics, and DNA sequencing and significantly greater technical, personnel and financial resources than we do, and may be better positioned to continue to improve their technology to compete in an evolving industry. To compete, we must be able to demonstrate to potential customers that our products provide improved performance and capabilities. Our failure to compete successfully could harm our business and prospects.

Provisions in our articles of organization and bylaws and our shareholder rights agreement may discourage or frustrate shareholders' attempts to remove or replace our current management.

Our articles of organization and bylaws contain provisions that may make it more difficult or discourage changes in our management that our stockholders may consider to be favorable. These provisions include:

- a classified board of directors;
- advance notice for stockholder nominations to the board of directors;
- limitations on the ability of stockholders to remove directors; and
- a provision that allows a majority of the directors to fill vacancies on the board of directors.

Our shareholders rights agreement, or "poison pill", may also have the effect of discouraging or preventing a change in control.

These provisions could prevent or frustrate attempts to make changes in our management that our stockholders consider to be beneficial and could limit the price that our stockholders might receive in the future for shares of our common stock.

The costs of compliance with the reporting obligations of the Exchange Act, and with the requirements of the Sarbanes-Oxley Act of 2002 and the Dodd-Frank Wall Street Reform and Consumer Protection Act, may place a strain on our limited resources and our management's attention may be diverted from other business concerns.

As a result of the regulatory requirements applicable to public companies, we incur legal, accounting, and other expenses that are significant in relation to the size of our company. In addition, the Sarbanes-Oxley Act of 2002 and the Dodd-Frank Wall Street Reform and Consumer Protection Act, as well as rules subsequently implemented by the SEC, have required changes in corporate governance and financial disclosure practices of public companies, some of which are currently applicable to us and others will or may become applicable to us in the future. These rules and regulations will increase our legal and financial compliance costs and may make some activities more time-consuming. These requirements may place a strain on our systems and on our management and financial resources.

Certain of our net deferred tax assets could be substantially limited if we experience an ownership change as defined in the Internal Revenue Code.

Certain of our net operating losses (“NOLs”) give rise to net deferred tax assets. Our ability to utilize NOLs and to offset our future taxable income and/or to recover previously paid taxes would be limited if we were to undergo an “ownership change” within the meaning of Section 382 of the Internal Revenue Code, which we refer to as the Code. In general, an “ownership change” occurs whenever the percentage of the stock of a corporation owned by “5-percent shareholders” (within the meaning of Section 382 of the Code) increases by more than 50 percentage

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points over the lowest percentage of the stock of such corporation owned by such “5-percent shareholders” at any time over the preceding three years.

An ownership change under Section 382 of the Code would establish an annual limitation on the amount of NOLs we could utilize to offset our taxable income in any single taxable year to an amount equal to (i) the product of a specified rate, which is published by the U.S. Treasury, and the aggregate value of our outstanding stock plus (ii) the amount of unutilized limitation from prior years. The application of these limitations might prevent full utilization of the deferred tax assets attributable to our NOLs. We may have or will have experienced an ownership change as defined by Section 382 through the sale of equity and, therefore, we will consider whether the sale of equity units will result in limitations of our net operating losses under Section 382 when we start to generate taxable income. However, whether a change in ownership occurs in the future is largely outside of our control, and there can be no assurance that such a change will not occur.

### Risks Related to Share Ownership

The holders of our common stock could suffer substantial dilution.

In connection with the private placements and registered direct offering we completed during the past few years, we have issued shares of Series A Convertible Preferred Stock, Series B Convertible Preferred Stock, Series C Convertible Preferred Stock, and Series D Convertible Preferred Stock. In connection with those private placements and registered direct offering, we also issued warrants to purchase shares of Series A Convertible Preferred Stock, warrants to purchase shares of Series B Convertible Preferred Stock, and warrants to purchase shares of common stock. Each share of Series A Convertible Preferred Stock, Series B Convertible Preferred Stock and Series C Convertible Preferred Stock was convertible into 10 shares of common stock. Each share of Series D Convertible Preferred Stock is convertible into 1,538.46 shares of common stock. As of April 5, 2012, there were no shares of Series A Convertible Preferred Stock, Series B Convertible Preferred Stock, or Series C Convertible Preferred Stock issued and outstanding. If all of the outstanding shares of Series D Convertible Preferred Stock, together with our outstanding warrants issued in connection with our private placements and registered direct offering, were converted or exercised into shares of our common stock, an additional 5,528,121 shares of common stock would be issued and outstanding. The additional issuance of common stock would cause immediate and substantial dilution to our existing stockholders, and could cause a significant reduction in the market price of our common stock.

There is no public market for the Series E Preferred Stock to be sold in this offering.

There is no established public trading market for the Series E Preferred Stock being sold in this offering, and we do not expect a market to develop. In addition, we do not intend to apply for listing the Series E Preferred Stock on any securities exchange. Without an active market, the liquidity of these securities will be limited.

As a new investor, you will incur substantial dilution in this offering and from future equity issuances, and as result, our share price could decline.

The per share common stock equivalent conversion price of the Series E Preferred Stock is substantially higher than the net tangible book value (deficit) per share of our outstanding shares of common stock. Our pro forma net tangible book value (deficit) as of December 31, 2011 was (\$542,098) or (\$0.06) per share of common stock (assuming the conversion of all of our issued and outstanding shares of Series C Convertible Preferred Stock and Series D Convertible Preferred Stock issued in November 2011) (and excluding shares of common stock issuable upon exercise of all outstanding options and warrants). Net tangible book value (deficit) per share represents total tangible assets less total liabilities, divided by the number of shares of common stock issued and outstanding. After giving effect to the sale of 500 shares of Series E Preferred Stock in this offering and assuming the conversion of all the Series E

Preferred Stock sold in the offering at a conversion price of \$1.02 (and including shares of common stock issuable upon conversion of all of our issued and outstanding shares of Series C Convertible Preferred Stock and Series D Convertible Preferred Stock, and excluding shares of common stock issuable upon exercise of all outstanding options and warrants), our as adjusted pro forma net tangible book value (deficit) as of December 31, 2011 would have been (\$42,098), or (\$0.00) per share. This represents an immediate increase in net tangible book value of \$0.05 per share to existing common stockholders and an immediate dilution in

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net tangible book value of \$1.03 per share to investors in this offering (on an as-if-converted, per share common stock equivalent basis).

In addition to this offering, subject to market conditions and other factors, it is likely that we will pursue additional capital to finance our operations and the development, manufacture and marketing of other products under development and new product opportunities. Accordingly, we may conduct future offerings of equity or debt securities. The exercise of outstanding options and warrants and future equity issuances, including future public offerings or future private placements of equity securities and any additional shares issued in connection with acquisitions, may result in dilution to investors. In addition, the market price of our shares of common stock could fall as a result of resales of any of these shares of common stock due to an increased number of shares available for sale in the market.

Sales of a significant number of shares of our common stock in the public market, or the perception of such possible sales, could depress the market price of our common stock.

Sales of a substantial number of shares of our common stock or other equity-related securities in the public markets, including in an offering of our common stock or preferred stock, could depress the market price of our common stock and impair our ability to raise capital through the sale of additional equity or equity-related securities. We cannot predict the effect that future sales of our common stock or other equity-related securities would have on the market price of our common stock.

Our share price could be volatile and our trading volume may fluctuate substantially.

The price of our shares of common stock has been and may in the future continue to be extremely volatile, with the sale price fluctuating from a low of \$0.50 to a high of \$2.29 since December 31, 2009. Many factors could have a significant impact on the future price of our shares of common stock, including:

- our inability to raise additional capital to fund our operations, whether through the issuance of equity securities or debt;
  - our failure to successfully implement our business objectives;
    - compliance with ongoing regulatory requirements;
      - market acceptance of our products;
  - technological innovations and new commercial products by our competitors;
    - changes in government regulations;
  - general economic conditions and other external factors;
- actual or anticipated fluctuations in our quarterly financial and operating results;
  - the degree of trading liquidity in our shares of common stock; and
- our ability to meet any minimum standards required for our common stock to continue to be listed and quoted on one of the OTC Markets.



A decline in the price of our shares of common stock could affect our ability to raise further working capital and adversely impact our ability to continue operations.

A decline in the price of our shares of common stock could result in a reduction in the liquidity of our common stock and a reduction in our ability to raise capital. Because a significant portion of our operations has been and will continue to be financed through the sale of equity securities, a decline in the price of our shares of

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common stock could be especially detrimental to our liquidity and our operations. Such reductions and declines may force us to reallocate funds from other planned uses and may have a significant negative effect on our business plans and operations, including our ability to continue our current operations. If the price for our shares of common stock declines, it may be more difficult to raise additional capital. If we are unable to raise sufficient capital, and we are unable to generate funds from operations sufficient to meet our obligations, we will not have the resources to continue our operations. Further, if the price for our shares of common stock declines, the dividend rate on the Series E Preferred Stock will increase, which would result in us paying holders of Series E Preferred Stock a greater amount of dividends in cash or in additional shares of common stock. If the amount of the cash dividends we pay increases, we will have less cash available for operations. Similarly, if we pay the increased dividends in additional shares of our common stock, our stockholders will suffer additional dilution.

The market price for our shares of common stock may also be affected by our ability to meet or exceed expectations of analysts or investors. Any failure to meet these expectations, even if minor, may have a material adverse effect on the market price of our shares of common stock.

If we issue additional securities in the future, it will likely result in the dilution of our shares of existing stockholders.

Our restated articles of organization, as amended, authorize the issuance of up to 20,000,000 shares of common stock and 1,000,000 shares of preferred stock. As of April 5, 2012, we had 9,978,954 shares of common stock issued and outstanding and 300 shares of Series D Convertible Preferred Stock issued and outstanding, which shares of Series D Convertible Preferred Stock are convertible into 461,539, shares of common stock. As of April 5, 2012, we had options and warrants to purchase an aggregate of approximately 6,671,032 shares of our common stock outstanding, and had an additional 267,500 shares of common stock reserved for future awards that we may grant under our equity compensation plans. In December 2011, our stockholders approved an amendment to our restated articles of organization, as amended, to increase the number of our authorized shares of common stock from 20,000,000 to 50,000,000. We plan to file articles of amendment to increase our authorized common stock prior to the completion of any additional equity financing for which we will need additional authorized shares of common stock. From time to time we also may increase the number of shares available for issuance in connection with our equity compensation plans and we may issue awards to our employees and others who provide services to us outside the terms of our equity compensation plans. Our board of directors may fix and determine the designations, rights, preferences or other variations of each class or series of preferred stock and may choose to issue some or all of such shares to provide additional financing in the future.

The issuance of any securities for acquisition, licensing or financing efforts, upon conversion of any preferred stock or exercise of warrants, in lieu of payment of cash dividends or to make the make-whole payment to holders of Series E Preferred Stock, pursuant to our equity compensation plans, or otherwise may result in a reduction of the book value and market price of the outstanding shares of our common stock. If we issue any such additional securities, such issuance will cause a reduction in the proportionate ownership and voting power of all current stockholders. Further, such issuance may result in a change in control of our Company.

Financial Industry Regulatory Authority ("FINRA") sales practice requirements may also limit a stockholder's ability to buy and sell our common stock.

FINRA has adopted rules that require that in recommending an investment to a customer, a broker-dealer must have reasonable grounds for believing that the investment is suitable for that customer. Prior to recommending speculative low-priced securities to their non-institutional customers, broker-dealers must make reasonable efforts to obtain information about the customer's financial status, tax status, investment objectives and other information. Under interpretations of these rules, FINRA believes that there is a high probability that speculative low-priced securities will not be suitable for at least some customers. FINRA requirements make it more difficult for broker-dealers to

recommend that their customers buy our common stock, which may limit your ability to buy and sell our common stock and have an adverse effect on the market for our shares.

We have never paid dividends on our common stock and do not anticipate paying any in the foreseeable future.

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We have never declared or paid a cash dividend on our common stock and we do not expect to pay cash dividends on our common stock in the foreseeable future.

The Series E Preferred Stock being offered pursuant to this prospectus supplement, as well as our shares of Series D Convertible Preferred Stock, are entitled to certain rights, privileges and preferences over our common stock.

Each holder of Series E Preferred Stock will initially be entitled to receive dividends at the rate of 10.5% per year of the stated value for each Series E preferred share held by such holder payable annually beginning on the first anniversary after the original issue date, and on each conversion date and redemption date. The dividend rate on the Series E Preferred Stock is subject to adjustment depending on the closing bid price of our common stock as described in this prospectus supplement. The dividends will be paid annually in cash or, at our election, in shares of our common stock. If we elect to pay the dividends in cash, we will have less cash available for operations, and less cash available to the holders of common stock upon a liquidation of our company. A payment of dividends in common stock will have a dilutive effect on our common stockholders. Further, the shares of Series D Convertible Preferred Stock are entitled to payment prior to payment to the holders of common stock in the event of liquidation of the Company. In the event of our liquidation, dissolution, or winding up, for so long as a holder of our Series E Preferred Stock continues to hold at least 50% of the number of shares of Series E Preferred Stock originally purchased by such holder, such holder will receive a payment equal to \$1,000 per share of Series E Preferred Stock plus accrued and unpaid dividends before any proceeds are distributed to the holders of our common stock. After such holder of our Series E Preferred Stock no longer holds at least 50% of the number of shares of Series E Preferred Stock originally purchased by such holder, such holder will receive the liquidation amount \$1,000 per share of Series E Preferred Stock plus accrued and unpaid dividends on a pari passu basis with the holders of our common stock.

We failed to meet applicable Nasdaq Stock Market requirements and as a result we delisted our stock from The NASDAQ Capital Market, which could adversely affect the market liquidity of our common stock and harm our businesses.

Until April 5, 2012, our common stock was traded on The NASDAQ Capital Market. As a result of our stockholders' equity falling below the minimum \$2.5 million requirement and the bid price of our common stock remaining below the minimum \$1.00 per share requirement for continued inclusion on The NASDAQ Capital Market, on April 5, 2012, our common stock was delisted from The Nasdaq Capital Market and on April 5, 2012 our common stock began trading on the OTCQB Marketplace under the ticker symbol PBIO. We continue to file periodic reports with the Securities and Exchange Commission in accordance with the requirements of Section 12(g) of the Securities Exchange Act of 1934, as amended.

Our delisting from The NASDAQ Capital Market and commencement of trading on the OTCQB Marketplace may result in a reduction in some or all of the following, each of which could have a material adverse effect on our shareholders:

- the liquidity of our shares of common stock;
- the market price of our shares of common stock;
- our ability to obtain financing for the continuation of our operations;
- the number of institutional and other investors that will consider investing in our shares of common stock;
  - the number of market makers in our shares of common stock;
- the availability of information concerning the trading prices and volume of our shares of common stock; and
  - the number of broker-dealers willing to execute trades in our shares of common stock.

Furthermore, as a result of our delisting, our shares of common stock are subject to the so-called “penny stock” rules. The SEC has adopted regulations that define a penny stock to be any equity security that has a market price per share of less than \$5.00, subject to certain exceptions, such as any securities listed on a national securities

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exchange. For any transaction involving a penny stock, unless exempt, the rules impose additional sales practice requirements on broker-dealers, subject to certain exceptions. As a result of being a penny stock, a broker-dealer may find it more difficult to trade our shares of common stock and an investor may find it more difficult to acquire or dispose of our shares of common stock on the secondary market. Investors in penny stocks should be prepared for the possibility that they may lose their whole investment.

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#### USE OF PROCEEDS

We estimate that our net proceeds from this offering will be approximately \$395,000, based upon the public offering price of \$1,000.00 per share of Series E Preferred Stock and after deducting the placement agent fees and estimated offering expenses that are payable by us. We anticipate that the net proceeds will fund our operations until May 2012.

We intend to use the net proceeds from this offering for general working capital needs, for the repayment of up to \$50,000 of the aggregate principal amount outstanding under promissory notes, and potentially to fund dividends paid in cash on our Series E Preferred Stock.

As of April 4, 2012, our outstanding indebtedness in the aggregate principal amount of \$200,000, consisted of a convertible promissory note in the aggregate principal amount of \$50,000 together with an interest rate of 20% per year due on March 29, 2012 and a promissory note in the aggregate principal amount of \$150,000 due on May 4, 2012. This promissory note in the aggregate principal amount of \$150,000 is interest free unless we fail to repay the principal amount by May 4, 2012, in which event it will accrue interest at 18% per year. We intend to pay the principal and accrued interest on the \$50,000 promissory note promptly after the closing of this offering.

We cannot estimate precisely the allocation of the net proceeds from this offering among these uses. The amounts and timing of the expenditures may vary significantly, depending on numerous factors, including the amount of cash used in our operations. Accordingly, our management will have broad discretion in the application of the net proceeds of this offering. We reserve the right to change the use of proceeds as a result of certain contingencies such as competitive developments and other factors. Pending the uses described above, we may temporarily invest the net proceeds of this offering in short-term interest-bearing obligations, investment-grade instruments, bank certificates of deposit and government securities until we use them for their stated purpose.

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## MARKET FOR COMMON EQUITY AND RELATED STOCKHOLDER MATTERS

## Market Information

On April 5, 2012, our common stock commenced quotation on the OTCQB Marketplace under the ticker symbol "PBIO". Our common stock was quoted on The NASDAQ Capital Market under the symbol "PBIO" until April 5, 2012 and for all other periods presented below. On April 5, 2012, the last reported sale price of our common stock on the OTCQB Marketplace, was \$0.60 per share. The market for our common stock is limited and volatile. The following table sets forth the range of high and low bid quotations or high and low closing prices, as applicable, for our common stock for each of the periods indicated as reported by The NASDAQ Capital Market through April 4, 2012. The prices quoted on The NASDAQ Capital Market reflect inter-dealer prices, without retail mark-up, mark-down or commissions. The NASDAQ Capital Market prices listed below may not represent actual transaction prices. There is no established public trading market for the Series E Preferred Stock and we do not expect a market to develop.

	Period Ended March 31, 2012	
	High	Low
First Quarter	\$0.94	\$0.50

	Year Ended December 31, 2011	
	High	Low
First Quarter	\$1.53	\$1.11
Second Quarter	\$1.25	\$0.91
Third Quarter	\$1.15	\$0.62
Fourth Quarter	\$0.96	\$0.51

	Year Ended December 31, 2010	
	High	Low
First Quarter	\$1.97	\$1.36
Second Quarter	\$1.84	\$1.02
Third Quarter	\$1.77	\$1.09
Fourth Quarter	\$2.29	\$1.24

The table above shows only historical comparisons. The comparisons may not provide meaningful information to you in determining whether to purchase our Series E Preferred Stock our shares of Series E Preferred Stock are not traded on any exchange. You are urged to obtain current market quotations for our common stock and to review carefully the other information contained in this prospectus and the registration statement of which this prospectus is a part.

## Holders of Record

As of March 31, 2012, there were approximately 226 registered holders and 1,400 beneficial holders of shares of our common stock.



## Dividend Policy

Since our incorporation in Massachusetts in August 1978, we have not paid or declared any cash dividends on our common stock. We currently intend to retain any earnings for future growth and, therefore, do not expect to pay cash dividends on our common stock in the foreseeable future. The Series E Preferred Stock included in this offering will initially be entitled to a dividend, payable annually, at a rate of 10.5% per year of the stated value of the Series E Preferred Stock as described in the section, "Description of Securities." So long as any shares of Series E Preferred Stock are outstanding, we may not declare or pay any dividends on our common stock.

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## DILUTION

Our pro forma net tangible book value (deficit) as of December 31, 2011 was (\$542,098) or (\$0.06) per share of common stock (assuming the conversion of all of our issued and outstanding shares of Series C Convertible Preferred Stock and Series D Convertible Preferred Stock issued in November 2011) (and excluding shares of common stock issuable upon exercise of all outstanding options and warrants). Net tangible book value (deficit) per share represents total tangible assets less total liabilities, divided by the number of shares of common stock issued and outstanding. After giving effect to the sale of 500 shares of Series E Preferred Stock in this offering and assuming the conversion of all the shares of Series E Preferred Stock sold in the offering at a conversion price of \$1.02 (and including shares of common stock issuable upon conversion of all of our issued and outstanding shares of Series C Convertible Preferred Stock and Series D Convertible Preferred Stock, and excluding shares of common stock issuable upon exercise of all outstanding options and warrants), our as adjusted pro forma net tangible book value (deficit) as of December 31, 2011 would have been (\$42,098), or (\$0.00) per share. This represents an immediate increase in net tangible book value of \$0.08 per share to existing common stockholders and an immediate dilution in net tangible book value of \$1.00 per share to investors in this offering (on an as-if-converted, per share common stock equivalent basis). The following table illustrates this calculation.

Series E Preferred Stock conversion price (on a per share common stock equivalent basis)			\$1.02
Pro forma net tangible book value per share as of December 31, 2011	\$	(0.06)	\$
Increase per share attributable to this offering	\$	0.05	\$
As adjusted pro forma tangible book value per share after this offering			\$(0.01)
Dilution per share to new investors in this offering (on a per share common stock equivalent basis)			\$1.03

The number of shares of common stock outstanding used in the table and calculations above is based on 8,499,898 shares outstanding as of December 31, 2011 and includes 880,980 shares of common stock reserved for issuance upon conversion of outstanding shares of Series C Convertible Preferred Stock and 1,143,077 shares of common stock reserved for issuance upon conversion of outstanding shares of Series D Convertible Preferred Stock, and excludes: 1,508,500 shares of common stock reserved for issuance upon exercise of outstanding stock options, at a weighted average exercise price of \$2.33 per share; 4,775,501 shares of common stock reserved for issuance upon exercise of outstanding warrants to purchase our common stock, at a weighted average exercise price of \$1.35 per share; and 622,837 shares of common stock issuable in lieu of cash payment of dividends (including the Make-Whole Payment) on the Series E Preferred Stock.

## DESCRIPTION OF SECURITIES

This prospectus supplement relates to the sale of Series E Preferred Stock. The terms of the Series E Preferred Stock are described below under the caption "Description of Series E Preferred Stock."

## Authorized Capital

As of April 5, 2012, our restated articles of organization, as amended, provides that we are authorized to issue 20,000,000 shares of common stock, \$.01 par value, and 1,000,000 shares of preferred stock, \$.01 par value. Of the 1,000,000 shares of preferred stock, 20,000 shares have been designated as Series A Junior Participating Preferred Stock, 313,960 shares have been designated as Series A Convertible Preferred Stock, 279,256 shares have been designated as Series B Convertible Preferred Stock, 88,098 shares have been designated as Series C Convertible Preferred Stock and 850 shares have been designated as Series D Convertible Preferred Stock. As of April 5, 2012,

there were 9,978,954 shares of common stock issued and outstanding and 300 shares of Series D Convertible Preferred Stock issued and outstanding. As of April 5, 2012, there were no shares of Series A Junior Participating Preferred Stock, Series A Convertible Preferred Stock, Series B Convertible Preferred Stock or Series C Convertible Preferred Stock issued and outstanding.

In December 2011, our stockholders approved an amendment to our restated articles of organization, as amended, to increase the number of our authorized shares of common stock from 20,000,000 to 50,000,000. We

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plan to file articles of amendment to our restated articles of organization, as amended, to increase the number of our authorized shares of common stock prior to completion of any additional equity financing for which we need additional authorized shares of common stock.

In connection with our sale of units consisting of Series C Preferred Stock and warrants to purchase shares of our common stock in April and June of 2011 (the "Series C Units"), we agreed that, if we completed an equity financing within 12 months after the initial closing of the Series C Units (the "Next Financing"), then each purchaser of Series C Units would be entitled to exchange all, but not less than all, of his, her or its Series C Units for the equity securities issued in such equity financing (the "Next Financing Securities"); provided that the exchange of the purchaser's Series C Units for the equity securities is permitted under NASDAQ rules and regulations then in effect. The number of Next Financing Securities into which a purchaser's Series C Units may be exchanged is determined by dividing (a) the aggregate per unit purchase price at which the Series C Units being exchanged were issued, by (b) the price per Next Financing Security at which such securities were issued in the Next Financing. On April 5, 2012 the holders of the Series C Units exchanged all of their Series C Units for the units we offered in our February 2012 private placement consisting of shares of common stock and warrants to purchase shares of common stock (with a warrant to purchase 0.5 shares of common stock for each share of common stock purchased in the February 2012 private placement), resulting in an aggregate of 1,372,247 shares of common stock and warrants to purchase an aggregate of 686,124 shares of common stock being issued to the holders of Series C Units.

#### Description of Shares of Capital Stock

##### Common Stock

The holders of our common stock are entitled to one vote per share on all matters to be voted on by shareholders and are entitled to receive such dividends, if any, as may be declared from time to time by our board of directors from funds legally available therefor. The holders of our common stock do not have cumulative voting rights in the election of directors. Upon our liquidation or dissolution, subject to the liquidation preferences of the holders of our Series D Convertible Preferred Stock, and in the case of the Series E Preferred Stock to be sold in this offering, until such time as described below, if any are issued and outstanding at the time of our liquidation or dissolution, the holders of our common stock are entitled to receive all assets available for distribution to the shareholders. Shares of our common stock have no preemptive or other subscription rights, and there are no conversion rights or redemption or sinking fund provisions with respect to such shares.

##### Preferred Stock

A total of 297,336 shares of preferred stock have not yet been designated to any class or series. Our board of directors may, without future action of our shareholders, issue any undesignated shares of preferred stock in one or more classes or series and fix the rights and preferences thereof, including the dividend rights, dividend rates, conversion rights, voting rights, terms of redemption (including sinking fund provisions), redemption price or prices, liquidation preferences and the number of shares constituting any class or series, or the designations of such class or series. The voting and other rights of the holders of our common stock may be subject to and adversely affected by, the rights of holders of any preferred stock that are currently issued or that may be issued in the future.

##### Description of Series E Preferred Stock

Our restated articles of organization, as amended, authorize 1,000,000 shares of preferred stock. Our board of directors is authorized, without further stockholder action, to establish various classes or series of shares of preferred stock from time to time and to determine the rights, preferences and privileges of any unissued class or series including, among other matters, any dividend rights, dividend rates, conversion rights, voting rights, terms of

redemption (including sinking fund provisions), redemption price or prices, liquidation preferences, the number of shares constituting any such class or series, and the designation of such class or series, and to issue any such shares. Our board of directors may, without shareholder approval, issue additional classes or series of shares of preferred stock with voting and conversion rights which could adversely affect the voting power of the holders of the shares of common stock or the Series E Preferred Stock, except as prohibited by the certificate of designation of preferences, rights and limitations of Series E Preferred Stock, or certificate of designation.

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In connection with the completion of this offering, our board of directors has adopted resolutions which authorize 500 shares of a new class of shares designated Series E Convertible Preferred Stock (the "Series E Preferred Stock"). The material terms and provisions of the Series E Preferred Stock are summarized below. For the complete terms of the Series E Preferred Stock, you should refer to the form of certificate of designation of preferences, rights and limitations of Series E convertible preferred stock which is incorporated by reference into the registration statement of which this prospectus supplement is a part.

#### Voting Rights

Except as required by Massachusetts law, and except with respect to the issuance of any preferred stock that is not junior to the Series E Preferred Stock, holders of the Series E Preferred Stock will not have rights to vote on any matters, questions or proceedings, including the election of directors. Ironridge has agreed not to vote or exercise dissenter's rights on any shares of common stock it receives upon conversion of, in payment of dividends on, or as a Make-Whole Payment on, its shares of Series E Preferred Stock. We will not, without the affirmative approval of the holders of a majority of the shares of the Series E Preferred Stock then outstanding, voting as a class, (i) alter or change adversely the powers, preferences or rights given to the Series E Preferred Stock, (ii) amend our restated articles of organization, as amended in breach of any of provision of the certificate of designation relating to the Series E Preferred Stock, (iii) increase the authorized number of shares of Series E Preferred Stock, or (iv) enter into any agreement with respect to the foregoing. For so long as at least 100 shares of Series E Preferred Stock remain outstanding, we will not, without the affirmative approval of the holders of a majority of the shares of the Series E Preferred Stock then outstanding, voting as a class, (i) authorize or create any class of stock ranking as to distribution of dividends senior to the Series E Preferred Stock or (ii) liquidate, dissolve or wind-up our business and affairs,

#### Conversion

Subject to certain ownership limitations as described below, each share of Series E Preferred Stock is convertible at any time at the option of the holder into shares of our common stock at a conversion ratio determined by dividing the stated value of the Series E Preferred Stock (or \$1,000) by a conversion price of \$1.02 per share. Accordingly, each Series E preferred share is convertible into approximately 980 shares of common stock. The conversion price is subject to adjustment in the case of stock splits, stock dividends, combinations of shares and similar recapitalization transactions. There are no anti-dilution provisions, including resets or ratchets that adjust the conversion price or conversion ratio, other than the customary adjustments for stock splits, combinations of shares and similar recapitalization transactions.

If the average volume weighted average price of our common stock for 20 trading days during any consecutive 25 trading day period beginning after the original issue date (a "Threshold Period"), exceeds \$2.00 per share, at our election, upon 20 days advance written notice (a "forced conversion notice") to all holders of Series E Preferred Stock, we may require each holder to convert all or part of such holder's Series E Preferred Stock plus all accrued but unpaid dividends thereon and other amounts due in respect of the Series E Preferred Stock, including the Make-Whole Payment, into shares of common stock at the then current conversion ratio. We may not deliver a forced conversion notice, and such notice shall not be effective if delivered, unless all of the Equity Conditions (as defined below) have been met on each day during the Equity Conditions Measuring Period (as described below). We may not require conversion of more than 100 shares of Series E Preferred Stock in any Equity Conditions Measuring Period. The "Equity Conditions" are as follows:

- on each day during the period beginning 30 trading days before the date we give the holder notice of conversion and ending 20 trading days after the date of the conversion notice, which we refer to as the Equity Conditions Measuring Period, our common stock is designated for quotation on a trading market and has not been suspended from trading on such exchange or market nor shall delisting or suspension by such exchange or market been threatened or pending either (A) in writing by such exchange or market or (B) by falling below the then effective

minimum listing maintenance requirements of such exchange or market;

- during the Equity Conditions Measuring Period, we have delivered shares issuable upon all conversions or redemptions of the Series E Preferred Stock in accordance with their terms to the holder on a timely basis;

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we have no knowledge of any fact that would cause both the registration statement not to be effective and available for the issuance of the shares of common stock upon such conversion, Section 3(a)(9) of the Securities Act not to be available for the issuance of the shares of common stock upon such conversion and Rule 144 under the Securities Act not to be available for the resale of all the shares of common stock issuable upon conversion of the Series E Preferred Stock;

- a minimum of \$600,000 in aggregate trading volume has traded on the trading market during 20 out of 25 trading days prior to the date of determination; and
- we are otherwise in compliance with and shall not have breached any provision, covenant, representation or warranty of any transaction document.

Subject to limited exceptions, a holder of Series E Preferred Stock will not have the right to convert, and we will not have the right to force such holder to convert, any portion of his, her, or its Series E Preferred Stock if the holder, together with its affiliates, would beneficially own in excess of 9.99% of the number of our shares of common stock outstanding immediately after giving effect to his, her, or its conversion.

#### Dividends and Make-Whole Payments

Each holder of the Series E Preferred Stock will initially be entitled to receive dividends at the rate of 10.5% per year of the stated value of \$1,000 for each share of Series E Preferred Stock, payable annually, beginning on the first anniversary after the original issue date, and on each conversion date and redemption date. The dividend rate is subject to adjustment, such that the rate will be adjusted downward by 98.731 basis points for each \$0.05, if any, that the closing bid price of our common stock rises above \$1.20 per share, subject to a minimum dividend rate of 2.00% per year, and will be adjusted upward by 98.731 basis points for each \$0.05, if any, that the closing bid price of our common stock falls below \$0.65 per share, subject to a maximum dividend rate of 18.00% per year. The dividend rate will be based on the closing bid price of our common stock on the trading day immediately prior to the dividend payment date, conversion date or redemption date. We can elect to pay the dividends in cash or in shares of common stock, or a combination thereof. If we choose to pay dividends in shares of common stock, the shares of common stock used to pay the dividends will be valued at 85% of the volume weighted average price of our shares of common stock on the trading day immediately prior to the day on which the dividend shares are delivered electronically to the holders of Series E Preferred Stock..

In the event a holder converts his, her or its shares of Series E Preferred Stock, or we redeem or elect a forced conversion of the Series E Preferred Stock, in each case prior to the fifth anniversary date of the original issue date, we must pay to the holder in cash, or at our option, in shares of common stock valued as described below, or a combination of cash and shares of common stock, with respect to the Series E Preferred Stock so converted or redeemed, an amount equal to the amount of dividends that otherwise would have been due through the fifth anniversary date of the original issue date less the amount of any dividends paid in cash or in shares of common stock on such Series E Preferred Stock on or before the date of conversion or redemption (the "Make-Whole Payment"). Shares of common stock used to pay all or a portion of the Make-Whole Payment will be valued at 85% of the volume weighted average price of our shares of common stock on the trading day immediately prior to the day on which the Make-Whole Payment is delivered electronically to the holders of the Series E Preferred Stock. If the trading price of our common stock is at least \$2.00 per share at any time on any date prior to the fifth anniversary of the original issue date of the Series E Preferred Stock, the Make-Whole Payment will be equal to all accrued but unpaid dividends that would otherwise be due through the fourth anniversary of the original issue date of the Series E



Preferred Stock.

The Series E Preferred Stock ranks with respect to dividend rights (1) senior to our common stock, (2) junior to our Series A Preferred Stock, Series B Preferred Stock and Series C Preferred Stock, and (3) senior to our Series D Preferred Stock. So long as any shares of Series E Preferred Stock are outstanding, no dividends or other distributions may be paid, declared or set apart with respect to our common stock. Our common stock may not be redeemed while any shares of Series E Preferred Stock are outstanding.

Redemption

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We may redeem for cash any or all of the shares of Series E Preferred Stock at any time after the fifth anniversary of the original issue date of the Series E Preferred Stock at the redemption price per share, which we refer to as the Series E Redemption Price, equal to \$1,000 per share of Series E Preferred Stock, plus any accrued but unpaid dividends with respect to such shares of Series E Preferred Stock, which we refer to as the Series E Liquidation Value. Prior to the fifth anniversary of the original issue date of the Series E Preferred Stock, we may, at our option, redeem the shares at any time at a price per share equal to the Series E Liquidation Value plus the Make-Whole Payment, less any dividends that have been paid, which we refer to as the Early Redemption Price.

#### Liquidation

The Series E Preferred Stock ranks, with respect to rights upon liquidation, winding-up or dissolution, (1) senior to our common stock until such time as any such holder no longer holds at least 50% of the number of shares of Series E Preferred Stock originally purchased by such holder, and thereafter on a pari passu basis with our common stock, (2) junior with respect to all of our currently outstanding preferred stock and (3) junior to our existing and future indebtedness.

In the event of our liquidation, dissolution, or winding up, for so long as the holders of our Series E Preferred Stock continue to hold at least 50% of the number of shares of Series E Preferred Stock originally issued, such holders will receive a payment equal to \$1,000 per share of Series E Preferred Stock plus accrued and unpaid dividends before any proceeds are distributed to the holders of our common stock. After the holders of our Series E Preferred Stock no longer holds at least 50% of the number of shares of Series E Preferred Stock originally issued, the holders will receive the liquidation amount of \$1,000 per share of Series E Preferred Stock plus accrued and unpaid dividends on a proportionate and pari passu basis with the holders of our common stock.

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## PLAN OF DISTRIBUTION

Ladenburg Thalmann & Co. Inc., which we refer to herein as the placement agent, has agreed to act as our exclusive placement agent in connection with this offering subject to the terms and conditions of the Placement Agency Agreement dated April 5, 2012. The placement agent is not purchasing or selling any shares of Series E Preferred Stock offered by this prospectus supplement nor is it required to arrange the purchase or sale of any specific number or dollar amount of shares of Series E Preferred Stock, but has agreed to use its best efforts to arrange for the sale of all of the shares of Series E Preferred Stock offered hereby. Therefore, we will enter into a securities purchase agreement directly with investors in connection with this offering. There can be no assurance that we will sell all of the shares of Series E Preferred Stock offered pursuant to this prospectus supplement.

Confirmations and definitive prospectuses will be delivered, or otherwise made available, to all purchasers who agree to purchase shares of Series E Preferred Stock, informing the purchasers of the closing date as to such shares of Series E Preferred Stock. Purchasers will also be informed of the date and manner in which they must transmit the purchase price for their shares of Series E Preferred Stock.

On such closing date, the following will occur:

- we will receive funds in the amount of the aggregate purchase price of the shares of Series E Preferred Stock sold by us on such closing date;
- we will deliver to the purchasers the shares of Series E Preferred Stock being sold on such closing date; and
- we will pay the placement agent a placement agent fee in accordance with the terms of our Placement Agency Agreement.

We have agreed to pay the placement agent a placement agent's cash fee equal to 8% of the gross proceeds of the offering. The maximum aggregate gross proceeds of the offering is \$500,000.

The following table shows the per share of Series E Preferred Stock and total placement agent's fees we will pay to the placement agent in connection with the sale of the shares of Series E Preferred Stock offered pursuant to this prospectus supplement, assuming the purchase of all of the shares of Series E Preferred Stock offered hereby.

Per Unit placement agent's fees	\$ 80
Maximum offering total placement agent's fees	\$ 40,000

Because there is no minimum offering amount required as a condition to the closing in this offering, the actual total offering placement agent's fees, if any, are not presently determinable and may be substantially less than the maximum amount set forth above.

Our obligations to issue and sell shares of Series E Preferred Stock to the purchasers is subject to the conditions set forth in the securities purchase agreement, which may be waived by us at our discretion. A purchaser's obligation to purchase shares of Series E Preferred Stock is subject to the conditions set forth in the securities purchase agreement as well, which may be waived by the purchaser.

We have agreed to indemnify the placement agent against certain liabilities, including liabilities under the Securities Act. We may also be required to contribute to payments the placement agent may be required to make in respect of such liabilities.

We estimate the total offering expenses of this offering that will be payable by us, excluding the placement agent's fees and expenses, will be approximately \$65,000, which includes our registration, legal, accounting, printing costs and various other fees.

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The foregoing does not purport to be a complete statement of the terms and conditions of the Placement Agency Agreement with the placement agent and the securities purchase agreement. A copy of the form of securities purchase agreement with the investors is incorporated by reference into the registration statement of which this prospectus supplement forms a part. See “Where You Can Find More Information” on of this prospectus supplement.

The placement agent may be deemed to be an underwriter within the meaning of Section 2(a)(11) of the Securities Act, and any commissions received by it and any profit realized on the resale of the shares of Series E Preferred Stock sold by it while acting as principal might be deemed to be underwriting discounts or commissions under the Securities Act. As an underwriter, the placement agent would be required to comply with the Securities Act and the Exchange Act, including, without limitation, Rule 415(a)(4) under the Securities Act and Rule 10b-5 and Regulation M under the Exchange Act. These rules and regulations may limit the timing of purchases and sales of shares of common stock and shares of Series E Preferred Stock by the placement agent acting as principal. Under these rules and regulations, the placement agent:

- may not engage in any stabilization activity in connection with our securities; and
- may not bid for or purchase any of our securities or attempt to induce any person to purchase any of our securities, other than as permitted under the Exchange Act, until it has completed its participation in the distribution.

#### WHERE YOU CAN FIND MORE INFORMATION

We are subject to the reporting requirements of the Exchange Act, and we file annual, quarterly and current reports, proxy statements and other information with the SEC. You may read and copy the reports, proxy statements and other information that we file at the SEC’s Public Reference Room at 100 F Street NE, Washington, D.C. 20549 at prescribed rates. Information on the operation of the Public Reference Room may be obtained by calling the SEC at 1-800-SEC-0330. Our filings are also available free of charge at the SEC’s website at <http://www.sec.gov>.

We have filed with the SEC a registration statement on Form S-3 (Registration File No. 333-176828) covering the securities offered by this prospectus supplement. This prospectus supplement does not contain all of the information contained or incorporated by reference in the registration statement. For more information about us and our securities, you should read the registration statement and its exhibits. Copies of the registration statement, including its exhibits, may be inspected without charge at the offices of the SEC or obtained at prescribed rates from the Public Reference Room of the SEC at 100 F Street NE, Washington, D.C. 20549. Copies of the registration statement may be obtained without charge at the SEC’s website.

#### INCORPORATION OF CERTAIN DOCUMENTS BY REFERENCE

The SEC allows us to “incorporate by reference” the information we file with the SEC, 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 information that we file with the SEC after the date of this prospectus supplement will automatically update and may supersede this information. We are incorporating by reference into this prospectus supplement the documents listed below:

- our annual report on Form 10-K for the fiscal year ended December 31, 2011 filed on February 27, 2012;
- our current reports on Form 8-K filed on March 8, 2012, and April 5, 2012;

- the description of our common stock contained in our Registration Statement on Form 8-A (File No. 0-21615) filed with the SEC under Section 12 of the Exchange Act), including any amendments or

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- reports filed for the purpose of updating such description in which there is described the terms, rights and provisions applicable to our common stock; and
- all documents that we file under Section 13(a), 13(c), 14 or 15(d) of the Exchange Act after the date of this prospectus supplement until we terminate this offering.

We do not incorporate by reference any information furnished pursuant to Items 2.02 or 7.01 of a current report on Form 8-K, unless specifically stated otherwise in such current reports or in our future filings under the Exchange Act. Any statement contained in a document incorporated by reference in this prospectus supplement shall be modified or superseded for purposes of this prospectus supplement to the extent that a statement contained in this prospectus supplement, or in any other subsequently filed document which is incorporated by reference modifies or supersedes such statement.

You can obtain copies of any of the documents incorporated by reference in this prospectus supplement from us or, as described above, through the SEC or the SEC's web site at <http://www.sec.gov>. Documents incorporated by reference are available from us, without charge, excluding all exhibits unless specifically incorporated by reference in the documents. You may obtain documents incorporated by reference in this prospectus supplement by writing to us at the following address or by calling us at the telephone number listed below:

Pressure BioSciences, Inc.  
14 Norfolk Avenue  
South Easton, MA 02375  
Attention: Chief Financial Officer  
(508) 230-1828

We also maintain a web site at <http://www.pressurebiosciences.com> (which is not intended to be an active hyperlink in this prospectus supplement) through which you can obtain copies of documents that we have filed with the SEC. The contents of that site are not incorporated by reference into or otherwise a part of this prospectus supplement.

#### LEGAL MATTERS

Unless otherwise indicated in the applicable prospectus supplement, legal matters related to the securities offered under this prospectus and any offerings made pursuant to this prospectus will be passed upon by Pepper Hamilton LLP.

#### EXPERTS

The consolidated financial statements as of and for the fiscal year ended December 31, 2011 and December 31, 2010, incorporated in this prospectus supplement by reference from the Company's annual report on Form 10-K, have been audited by Marcum LLP, an independent registered public accounting firm, as stated in their report, which is incorporated herein by reference. Such consolidated financial statements have been so incorporated in reliance upon the report of such firm given upon their authority as experts in accounting and auditing.

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PROSPECTUS

PRESSURE BIOSCIENCES, INC.  
\$15,000,000  
COMMON STOCK  
SERIES A JUNIOR PARTICIPATING PREFERRED STOCK PURCHASE RIGHTS  
PREFERRED STOCK  
WARRANTS  
UNITS

This prospectus relates to common stock, Series A Junior Participating Preferred Stock Purchase Rights, preferred stock, warrants and units that we may sell from time to time in one or more offerings up to a total public offering price of an aggregate of \$15,000,000 (or its equivalent in foreign or composite currencies) 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 NASDAQ Capital Market under the symbol "PPIO." Each prospectus supplement to this prospectus will contain information, where applicable, as to any other quotation on the NASDAQ Capital Market or any listing on a national securities exchange of the securities covered by such prospectus supplement.

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 risks. See "Risk Factors" on page 4 of this prospectus. We may include specific risk factors in an applicable prospectus supplement under the heading "Risk Factors." You should review that section of the prospectus supplement for a discussion of matters that investors in our securities should consider.

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



The date of this prospectus is September 13, 2011.

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You should rely only on the information contained or incorporated by reference in this prospectus and any prospectus supplement. We have not authorized any dealer, salesman or other person to provide you with additional or different information. This prospectus and any prospectus supplement are not an offer to sell or the solicitation of an offer to buy any securities other than the securities to which they relate and are not an offer to sell or the solicitation of an offer to buy securities in any jurisdiction to any person to whom it is unlawful to make an offer or solicitation in that jurisdiction. You should not assume that the information in this prospectus or any prospectus supplement or in any document incorporated by reference in this prospectus or any prospectus supplement is accurate as of any date other than the date of the document containing the information.

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## ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement on Form S-3, or Registration Statement, that we filed with the Securities and Exchange Commission, or SEC, using a “shelf” registration process. Under this shelf process, we may sell any combination of the securities described in this prospectus in one or more offerings up to an aggregate public offering price of \$15,000,000 (or its equivalent in foreign or composite currencies). This prospectus provides you with a general description of the securities that we may offer. Each time we use this prospectus to 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, update or change information contained in this prospectus. You should read both this prospectus and any prospectus supplement and the documents incorporated by reference into this prospectus, together with the additional information described below under “Where You Can Find More Information,” carefully before making an investment decision.

Any statement made in this prospectus or in a document incorporated or deemed to be incorporated by reference in this prospectus will be deemed to be modified or superseded for purposes of this prospectus to the extent that a statement contained in any prospectus supplement or in any other subsequently filed document that is also incorporated or deemed to be incorporated by reference in this prospectus modifies or supersedes that statement. Any statement so modified or superseded will not be deemed, except as so modified or superseded, to constitute a part of this prospectus. See “Incorporation of Certain Documents by Reference” in this prospectus.

Unless the context otherwise requires, in this prospectus, “Pressure BioSciences”, the “Company”, “we”, “us”, “our” and similar names refer to Pressure BioSciences, Inc. and its subsidiary.

## WHERE YOU CAN FIND MORE INFORMATION

We are subject to the reporting requirements of the Securities Exchange Act of 1934, as amended, or the Exchange Act, and we file annual, quarterly and current reports, proxy statements and other information with the SEC. You may read and copy the reports, proxy statements and other information that we file at the SEC’s Public Reference Room at 100 F Street NE, Washington, D.C. 20549 at prescribed rates. Information on the operation of the Public Reference Room may be obtained by calling the SEC at 1-800-SEC-0330. Our filings are also available free of charge at the SEC’s website at <http://www.sec.gov>.

This prospectus is part of the Registration Statement that we filed with the SEC under the Securities Act of 1933, as amended, or the Securities Act. This prospectus does not contain all of the information set forth in the Registration Statement. For more information about us and our securities, you should read the Registration Statement and its exhibits and schedules. Copies of the Registration Statement, including its exhibits, may be inspected without charge at the offices of the SEC or obtained at prescribed rates from the Public Reference Room of the SEC at 100 F Street NE, Washington, D.C. 20549. Copies of the Registration Statement may be obtained without charge at the SEC’s website.

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## INCORPORATION OF CERTAIN DOCUMENTS BY REFERENCE

The SEC allows us to “incorporate by reference” the information we file with the SEC, 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, and information that we file with the SEC after the date of this prospectus will automatically update and may supersede this information. We are incorporating by reference into this prospectus the documents listed below:

- our Annual Report on Form 10-K for the fiscal year ended December 31, 2010 filed on March 31, 2011, as amended by an amendment on Form 10-K/A to the Annual Report on Form 10-K for the fiscal year ended December 31, 2010 filed on May 2, 2011;
- our Quarterly Report on Form 10-Q for the fiscal quarter ended June 30, 2011 filed on August 15, 2011;
- our Quarterly Report on Form 10-Q for the fiscal quarter ended March 31, 2011 filed on May 15, 2011;
  - our Current Report on Form 8-K filed on September 9, 2011;
  - our Current Report on Form 8-K filed on August 19, 2011;
  - our Current Report on Form 8-K filed on August 11, 2011;
  - our Current Report on Form 8-K filed on August 9, 2011;
  - our Current Report on Form 8-K filed on June 21, 2011;
  - our Current Report on Form 8-K filed on June 15, 2011;
  - our Current Report on Form 8-K filed on April 29, 2011;
  - our Current Report on Form 8-K filed on April 12, 2011;
- the description of our common stock contained in our Registration Statement on Form 8-A (File No. 0-21615) filed with the SEC under Section 12 of the Exchange Act), including any amendments or reports filed for the purpose of updating such description in which there is described the terms, rights and provisions applicable to our common stock;
- the description of our preferred share purchase rights in our registration statement on Form 8-A (File No. 0-21615) filed with the SEC under Section 12 of the Securities Exchange Act of 1934, including any amendment or report filed for the purpose of updating such description;
- all documents that we file under Section 13(a), 13(c), 14 or 15(d) of the Exchange Act after the date of the initial filing of the Registration Statement and prior to the effectiveness of the Registration Statement; and
- all documents that we file under Section 13(a), 13(c), 14 or 15(d) of the Exchange Act after the date of this prospectus and before the termination of the final offering of securities under this prospectus.

We do not incorporate by reference any information furnished pursuant to Items 2.02 or 7.01 of Form 8-K in any future filings, unless specifically stated otherwise in such filings. Any statement contained in a document

incorporated by reference in this prospectus shall be modified or superseded for purposes of this prospectus to the extent that a statement contained in this

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prospectus, any prospectus supplement or in any other subsequently filed document which is incorporated by reference modifies or supersedes such statement.

You can obtain copies of any of the documents incorporated by reference in this prospectus from us or, as described above, through the SEC or the SEC's web site at <http://www.sec.gov>. Documents incorporated by reference are available from us, without charge, excluding all exhibits unless specifically incorporated by reference in the documents. You may obtain documents incorporated by reference in this prospectus by writing to us at the following address or by calling us at the telephone number listed below:

Pressure BioSciences, Inc.  
14 Norfolk Avenue  
South Easton, MA 02375  
Attention: Chief Financial Officer  
(508) 230-1828

We also maintain a web site at <http://www.pressurebiosciences.com> (which is not intended to be an active hyperlink in this prospectus) through which you can obtain copies of documents that we have filed with the SEC. The contents of that site are not incorporated by reference into or otherwise a part of this prospectus.

#### FORWARD-LOOKING STATEMENTS

Some of the statements included in this prospectus and any prospectus supplement contain forward-looking statements made pursuant to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. All statements other than statements of historical facts contained in this prospectus and any prospectus supplement, including statements regarding our plans, objectives, goals, strategies, future events, financial position, capital expenditures, future results, our competitive strengths, our business strategy and the trends in our industry are forward-looking statements. The words "believe," "may," "could," "estimate," "continue," "anticipate," "intend," "should," "plan," "expect," "likely," "probably," "suggest," "goal," "potential" and similar expressions, as they relate to us, are intended to identify forward-looking statements.

Forward-looking statements reflect only our current expectations. In any forward-looking statement, where we express an expectation or belief as to future results or events, such expectation or belief is expressed in good faith as of the date of such statement and believed to have a reasonable basis, but there can be no assurance that the statement of expectation or belief will be achieved or accomplished. Our actual results, performance or achievements could differ materially from those expressed in, or implied by, the forward-looking statements due to a number of uncertainties, many of which are unforeseen, including:

- our need for, and our ability to raise, additional equity or debt financing on acceptable terms, if at all;
- our need to take additional cost reduction measures, cease operations or sell our operating assets, if we are unable to obtain sufficient additional financing in the future;

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- the alternatives we may seek in light of our financial condition;
  - the amount of cash necessary to operate our business;
- the anticipated uses of grant revenue and increased grant revenue in future periods;
- our plans and expectations with respect to our pressure cycling technology (PCT) operations;
- our belief that PCT has achieved significant market acceptance in the mass spectrometry market;
- the expected increase in number of PCT units installed and the increase in revenues from sale of consumable products and extended service contracts;
  - the expected development and success of new product offerings;
- the potential applications for PCT in, and the demonstration of proof-of-concept of PCT for, pathogen inactivation, protein purification, control of chemical reactions, immunodiagnostics and formalin fixed paraffin embedded tissue preparation, among others;
  - the expected expenses of, and benefits and results from, our research and development efforts;
- the expected benefits and results from our collaboration program, strategic alliances and joint ventures;
  - our expectation of obtaining additional research grants from the government in the future;
  - our expectations of the results of our development activities funded by government research grants;
- the potential size of the market for biological sample preparation;
  - general economic conditions;
- the anticipated future financial performance and business operations of our company;
- our reasons for focusing our resources in the market for genomic, proteomic and small molecule sample preparation;
  - the importance of mass spectrometry as a laboratory tool;
- the advantages of PCT over other current technologies as a method of sample extraction and for other applications, including pathogen inactivation, protein purification, control of chemical reactions and immunodiagnostics;
  - sample preparation may be an impediment to research and discovery;
- the capabilities and benefits of our PCT sample preparation system and consumable products;
- that other laboratory scientists will achieve results comparable to those reported to date by certain research scientists who have published or presented publicly on PCT; and
  - our ability to expand our customer base in sample preparation and for other applications of PCT.

In addition, you should refer to the “Risk Factors” section of this prospectus beginning on page 4 for a discussion of other factors that may cause our actual results to differ materially from

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those implied by our forward-looking statements. As a result of these factors, we cannot assure you that the forward-looking statements in this prospectus and any prospectus supplement will prove to be accurate. Furthermore, if our forward-looking statements prove to be inaccurate, the inaccuracy may be material. In light of the significant uncertainties in these forward-looking statements, you should not regard these statements as a representation or warranty by us or any other person that we will achieve our objectives and plans in any specified time frame, if at all. Accordingly, you should not place undue reliance on these forward-looking statements. All subsequent written and oral forward looking statements attributable to us or the persons acting on our behalf are expressly qualified in their entirety by the applicable cautionary statements. We undertake no obligation to update any of these forward looking statements, whether as a result of new information, future events or otherwise, except as required by applicable law or regulation.

## RISK FACTORS

Investing in our securities involves risk. Please see the risk factors under the heading “Risk Factors” in our most recent annual report on Form 10-K, as revised or supplemented by our quarterly reports on Form 10-Q and current reports filed on Form 8-K filed with the SEC since the filing of our most recent annual report on Form 10-K, each of which are on file with the SEC and are incorporated herein by reference. 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 to be immaterial may also affect our business operations.

## ABOUT PRESSURE BIOSCIENCES, INC.

We are focused on solving the challenging problems inherent in biological sample preparation, a crucial laboratory step performed by scientists worldwide working in biological life sciences research. Sample preparation is a term that refers to a wide range of activities that precede most forms of scientific analysis. Sample preparation is often complex, time-consuming, and we believe one of the most error prone steps of scientific research. It is, none-the-less, a ubiquitous laboratory undertaking the requirements of which drive what we believe is a large and growing worldwide market. We have developed and patented a novel, enabling technology platform that can control the sample preparation process. It is based on harnessing the unique properties of high hydrostatic pressure. This process, called pressure cycling technology (“PCT”), uses alternating cycles of hydrostatic pressure between ambient and ultra-high levels (35,000 psi or greater) to safely, conveniently and reproducibly control the actions of molecules in biological samples (e.g., cells and tissues from human, animal, plant, and microbial sources).

Our pressure cycling technology uses internally developed instrumentation that is capable of cycling pressure between ambient and ultra-high levels at controlled temperatures to rapidly and repeatedly control the interactions of bio-molecules. Our instrument, the Barocycler®, and our internally developed consumables product line, which includes Pressure Used to Lyse Samples for Extraction (“PULSE”) Tubes as well as application specific kits (which include consumable products and reagents) together make up the PCT Sample Preparation System (“PCT SPS”).

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We were incorporated in the Commonwealth of Massachusetts in August 1978 as Boston Biomedica, Inc. In September 2004, we completed the sale of the Boston Biomedica core business units and began to focus exclusively on the development and commercialization of the PCT platform. Following this change in business strategy, we changed our legal name from Boston Biomedica, Inc. to Pressure BioSciences, Inc., or PBI, and commenced operations as Pressure BioSciences in February 2005.

#### USE OF PROCEEDS

Unless we indicate otherwise in the prospectus supplement for a particular offering, we intend to use the net proceeds of the securities offered by this prospectus to support the commercialization of our current and future products to fund our research and development activities, for general working capital needs, or for other purposes that our board of directors, in its good faith, deems to be in our best interest. We will set forth in the prospectus supplement for a particular offering our intended use for the net proceeds received from the sale of securities in such offering. We may also invest the net proceeds temporarily until we use them for their stated purpose.

#### GENERAL DESCRIPTION OF SECURITIES WE MAY OFFER

We may offer shares of our common stock and preferred stock, warrants to purchase shares of common stock and preferred stock or units to purchase any of the foregoing securities, with a total public offering price of up to \$15,000,000, from time to time in one or more offerings under this prospectus at prices and on terms to be determined by market conditions at the time of the offering. This prospectus provides you with a general description of the securities that we may offer. In connection with each offering, we will provide a prospectus supplement that will describe the specific amounts, prices and terms of the securities being offered, including, to the extent applicable:

- designation or classification;
- aggregate offering price;
- rates and times of payment of dividends;
- redemption, conversion or exchange terms;
- conversion or exchange prices or rates and any provisions for changes to or adjustments in the conversion or exchange prices or rates and in the securities or other property receivable upon conversion or exchange;
  - ranking;
  - restrictive covenants;
  - voting or other rights; and
- important federal income tax considerations.
- The prospectus supplement also may add, update or change information contained in this prospectus or in documents we have incorporated by reference. However, no prospectus supplement will offer a security



- that is not included in the Registration Statement at the time of its effectiveness or offer a security of a type that is not described in this prospectus.

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

## DESCRIPTION OF CAPITAL STOCK

As of September 13, 2011, we were authorized to issue 20,000,000 shares of common stock, \$.01 par value, and 1,000,000 shares of preferred stock, \$.01 par value. Of the 1,000,000 shares of preferred stock, 20,000 shares have been designated as Series A Junior Participating Preferred Stock, 313,960 shares have been designated as Series A Convertible Preferred Stock, 279,256 shares have been designated as Series B Convertible Preferred Stock, and 386,458 shares have been designated as Series C Convertible Preferred Stock. As of September 13, 2011, there were 3,064,066 shares of common stock outstanding, 261,135 shares of Series A Convertible Preferred Stock outstanding, 84,179 shares of Series B Convertible Preferred Stock outstanding and 88,098 shares of Series C Convertible Preferred Stock outstanding. As of September 13, 2011, there were no shares of Series A Junior Participating Preferred Stock outstanding.

The following is qualified in its entirety by reference to our restated articles of organization, as amended, and our amended and restated bylaws, as amended, and by the provisions of applicable law. A copy of our restated articles of organization, as amended, and amended and restated bylaws, as amended, are incorporated by reference as exhibits to our most recent annual report on Form 10-K.

### Common Stock

The holders of our common stock are entitled to one vote per share on all matters to be voted on by shareholders and are entitled to receive such dividends, if any, as may be declared from time to time by our board of directors from funds legally available therefor. The holders of our common stock do not have cumulative voting rights in the election of directors. Upon our liquidation or dissolution, subject to the liquidation preferences of the holders of our Series A Convertible Preferred Stock, Series B Convertible Preferred Stock and Series C Convertible Preferred Stock, the holders of our common stock are entitled to receive all assets available for distribution to the shareholders. Shares of our common stock have no preemptive or other subscription rights, and there are no conversion rights or redemption or sinking fund provisions with respect to such shares. Pursuant to that certain Rights Agreement (as defined below under "Shareholder Rights Plan"), a Right (also as defined below) will be issued with each share of our common stock that we issue. See "Shareholder Rights Plan" below.

### Preferred Stock

A total of 326 shares of preferred stock have not yet been designated to any class or series. Our board of directors may, without future action of our shareholders, issue any undesignated shares of preferred stock in one or more classes or series and fix the rights and preferences thereof, including the dividend rights, dividend rates, conversion rights, voting rights, terms of redemption (including sinking fund provisions), redemption price or prices,

liquidation preferences and the number of shares constituting any class or series, or the designations of such class or series. The voting and other rights of the holders of our common stock may be subject to and adversely affected by, the rights of holders of any preferred stock that are currently issued or that may be issued in the future.

#### Shareholder Rights Plan

On February 27, 2003, our board of directors declared a dividend of one preferred share purchase right (a “Right”) for each outstanding share of common stock on March 21, 2003 (the “Record Date”) to the stockholders of record on that date. Each Right gives the holder the right to purchase from us one one-thousandth of a share of our Series A Junior Participating Preferred Stock, par value \$0.01 per share (the “Preferred Shares”), at a price of \$45.00 per one one-thousandth of a Preferred Share (the “Purchase Price”), subject to adjustment. The description and terms of the Rights are included in a Rights Agreement, dated as of February 27, 2003, between the Company and Computershare Trust Company, Inc., as amended by Amendment No. 1 to Rights Agreement dated April 16, 2004 (the “Rights Agreement”).

Until the earlier to occur of (i) 10 days following a public announcement that a person or group of affiliated or associated persons has acquired beneficial ownership of 15% or more of the outstanding shares of common stock or any person or group who as of February 27, 2003 beneficially owned 15% or more of the outstanding shares of common stock acquired beneficial ownership of any additional shares of common stock (with certain exceptions, an “Acquiring Person”) or (ii) 10 business days (or such later date as may be determined by action of our board of directors prior to such time as any person becomes an Acquiring Person) following the beginning of, or announcement of an intention to make, a tender offer or exchange offer the completion of which would result in the beneficial ownership by a person or group of 15% or more of such outstanding shares of common stock (the earlier of such dates being called the “Distribution Date”), the Rights will be evidenced by a summary of rights attachment to the common stock certificates that gave rise to the Rights.

The Rights Agreement provides that, until the Distribution Date, the Rights will be transferred with and only with the shares of common stock. Until the Distribution Date (or earlier redemption or expiration of the Rights), new common stock certificates issued after the Record Date or upon transfer or new issuance of shares of common stock will contain a note incorporating the Rights Agreement by reference. Until the Distribution Date (or earlier redemption or expiration of the Rights), the surrender or transfer of any certificates for shares of common stock outstanding as of the Record Date, even without such a note or a copy of the summary of rights being attached to the certificate, will also constitute the transfer of the Rights associated with the shares of common stock represented by such certificate. As soon as practicable following the Distribution Date, separate certificates evidencing the Rights (“Right Certificates”) will be mailed to holders of record of the shares of common stock as of the close of business on the Distribution Date and such separate Right Certificates alone will evidence the Rights.

The Rights are not exercisable until the Distribution Date. The Rights will expire on February 27, 2013 (the “Final Expiration Date”), unless the Final Expiration Date is advanced or

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extended or unless we redeem or exchange the Rights at an earlier time, in each case, as described below.

The Rights Agreement was amended on April 16, 2004 to include a provision specifically excepting a certain asset purchase, and all related actions and agreements, from constituting a triggering event for the Rights.

The purchase price payable, and the number of Preferred Shares or other securities or property issuable, upon exercise of the Rights are subject to adjustment from time to time to prevent dilution (i) in the event of a stock dividend on, or a subdivision, combination or reclassification of, the Preferred Shares, (ii) upon the grant to holders of the Preferred Shares of certain rights or warrants to subscribe for or purchase Preferred Shares at a price, or securities convertible into Preferred Shares with a conversion price, less than the then current market price of the Preferred Shares or (iii) upon the distribution to holders of the Preferred Shares of evidences of indebtedness or assets (excluding regular periodic cash dividends paid out of earnings or retained earnings or dividends payable in Preferred Shares) or of subscription rights or warrants (other than those referred to above).

The number of outstanding Rights and the number of one one-thousandths of a Preferred Share issuable upon exercise of each Right are also subject to adjustment in the event of a stock split of the common stock or a stock dividend on the common stock payable in shares of common stock or subdivisions, consolidations or combinations of the common stock occurring, in any such case, prior to the Distribution Date.

Preferred Shares purchasable upon exercise of the Rights will not be redeemable. Each holder of Preferred Shares will receive a quarterly dividend payment of 1,000 times the dividend declared per share of common stock. If we liquidate, the holders of the Preferred Shares will be entitled to an aggregate payment of 1,000 times the aggregate payment made per share of common stock. Each Preferred Share will have 1,000 votes, voting together with the common stock. If we merge, consolidate or are a party to another transaction where shares of common stock are exchanged, each holder of Preferred Shares will have the right to receive 1,000 times the amount received per share of common stock. These rights are protected by customary antidilution provisions.

Because of the Preferred Shares' dividend, liquidation and voting rights, the value of the one one-thousandth of a Preferred Share purchasable upon exercise of each Right should be similar in value to one share of our common stock.

If any person becomes an Acquiring Person, each holder of a Right, other than Rights beneficially owned by the Acquiring Person and its affiliates and associates (which will thereafter be void), will thereafter have the right to receive upon exercise that number of shares of common stock having a market value of two times the exercise price of the Right. If, at any time after a Person becomes an Acquiring Person, we are acquired in a merger or other business combination transaction or 50% or more of our consolidated assets or earning power are sold, proper provision will be made so that each holder of a Right will thereafter have the right to receive, upon the exercise thereof at the then current exercise price of the Right, that number of shares of common stock of the person with whom we have engaged in the transaction described

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above (or its parent) which at the time of such transaction will have a market value of two times the exercise price of the Right.

If we do not have sufficient shares of authorized common stock to issue the number of shares of common stock required, or if our board of directors chooses, we will deliver upon payment of the exercise price of a Right an amount of cash or securities or other assets equivalent in value to the shares of common stock issuable upon exercise of a Right; provided that, if we fail to meet this obligation within 30 days following the first occurrence of an event triggering the right to purchase shares of common stock, we must deliver, upon exercise of a Right but without requiring payment of the exercise price then in effect, shares of common stock (to the extent available) and then, if necessary, Preferred Shares (to the extent available) and then, if necessary, cash equal in value to the difference between the value of the shares of common stock otherwise issuable upon the exercise of a Right and the exercise price then in effect. Our board of directors may extend the 30-day period described above for up to an additional 60 days to permit the taking of action that may be necessary to authorize sufficient additional shares of common stock to permit the issuance of shares of common stock upon the exercise in full of the Rights.

At any time after any person becomes an Acquiring Person and before the acquisition by any person or group of a majority of the outstanding shares of common stock, our board of directors may exchange the Rights (other than Rights owned by such person or group which have become void), in whole or in part, for shares of common stock or Preferred Shares at an exchange ratio of one share of common stock, or a fractional Preferred Share (or other preferred stock) of the same value as a share of common stock, per Right (subject to adjustment).

With some exceptions, no adjustment in the Purchase Price will be required until cumulative adjustments require an adjustment of at least 1% in such Purchase Price. No fractional Preferred Shares or shares of common stock will be issued (other than fractions that are integral multiples of one one-thousandth of a Preferred Share, which may, at our election, be evidenced by depositary receipts) and instead, an adjustment in cash will be made based on the current market price of the Preferred Shares or the shares of common stock.

At any time before any person becomes an Acquiring Person, our board of directors may redeem the Rights in whole, but not in part, at a price of \$0.001 per Right (the "Redemption Price") payable, at our option, in cash, shares of common stock or such other form of consideration as our board of directors may choose. The redemption of the Rights may be made effective at the time and in the manner that our board of directors in its sole discretion may choose. Immediately upon any redemption of the Rights, the right to exercise the Rights will terminate and the only right of the holders of Rights will be to receive the Redemption Price.

For so long as the Rights are then redeemable, we may amend the Rights Agreement in any manner except that we may not change the Redemption Price. After the Rights are no longer redeemable, we may, amend the Rights Agreement in any manner that does not negatively affect the interests of Rights holders, except that we may not change the Redemption Price.

Until a Right is exercised, the Right holder will have no rights as our stockholder, including, without limitation, the right to vote at our meetings or to receive dividends from us.

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#### Massachusetts Anti-Takeover and Related Statutes

**Control Share Acquisition Law.** Under Chapter 110D of the Massachusetts General Laws governing "control share acquisitions," any shareholder of certain publicly-held Massachusetts corporations who acquires certain ranges of voting power — one-fifth or more but less than one-third of all voting power, one-third or more but less than a majority of all voting power, or a majority or more of all voting power — may not (except in certain transactions) vote such stock unless the shareholders (excluding the shares held by the interested shareholders) of the corporation so authorize. As permitted by Chapter 110D, our restated bylaws, as amended, include a provision which excludes us from the applicability of that statute.

**Business Combination Statute.** Chapter 110F of the Massachusetts General Laws, entitled "Business Combinations with Interested Shareholders," applies to publicly-held Massachusetts corporations with 200 or more shareholders of record. Generally, this statute prohibits such Massachusetts corporations from engaging in a "business combination" with an "interested shareholder" for a period of three years following the date of the transaction in which the person becomes an interested shareholder unless (a) the interested shareholder obtains the approval of the corporation's board of directors prior to becoming an interested shareholder; (b) the interested shareholder acquires at least 90% of the voting stock of the corporation (excluding shares held by certain affiliates of the corporation) outstanding at the time he becomes an interested shareholder; or (c) the business combination is both approved by the board of directors and authorized at an annual or special meeting of shareholders by the holders of at least two-thirds of the outstanding voting stock of the corporation (excluding shares held by the interested shareholder). An "interested shareholder" is a person who, together with affiliates and associates, owns (or at any time within the prior three years did own) 5% or more of the outstanding voting stock of the corporation. A "business combination" includes, among other transactions, a merger, stock or asset sale and other transactions resulting in a financial benefit to the shareholder. Our restated articles of organization, as amended, and amended and restated bylaws, as amended, do not expressly provide for opting out of the provisions of Chapter 110F. As a result, the application of this statute to us could discourage or make it more difficult for any person or group of persons to attempt to obtain control over us. We may at any time amend our restated articles of organization, as amended, or amended and restated bylaws, as amended, to elect not to be governed by Chapter 110F, by a vote of the holders of a majority of our outstanding common stock, but such an amendment would not be effective for 12 months and would not apply to a business combination with any person who became an interested shareholder prior to the date of the amendment.

#### Certain Provisions of Our Restated Articles of Organization, as amended, Amended and Restated By-Laws, as amended, and Shareholder Rights Plan

Our restated articles of organization, as amended, include several provisions which may render more difficult an unfriendly tender offer, proxy contest, merger or other change in control of our ownership.

**Preferred Stock.** Our restated articles of organization, as amended, permit our board of directors to issue preferred stock in one or more series and to fix the rights, preferences,

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privileges and restrictions thereof, without further vote or action by the shareholders. The issuance of preferred stock may have the effect of delaying, deferring or preventing our change in control and may adversely affect the voting and other rights of the holders of our common stock. See "Preferred Stock" and "Shareholders Rights Plan" above.

**Classification of Board of Directors.** Our restated articles of organization, as amended, provide for the classification of our board of directors into three classes, with the classes being elected for staggered three-year terms. At each annual meeting of shareholders, directors will be elected to succeed those in the class whose term then expires, and each elected director shall serve for a term expiring at the third succeeding annual meeting of shareholders after such director's election, and until the director's successor is elected and qualified. Thus, directors stand for election only once in three years. This provision also restricts the ability of shareholders to enlarge the board of directors. Changes in the number of directors may be effected by a vote of a majority of the Continuing Directors (as defined in our restated articles of organization, as amended) or by the shareholders by vote of at least 80% of our outstanding common stock, voting as a single class. Under this provision, directors may only be removed with or without cause by the affirmative vote of the holders at least 80% of the combined voting power of the outstanding shares of our common stock, voting together as a single class, or upon the vote of a majority of the Continuing Directors.

**Fair Price Provision.** Our restated articles of organization, as amended, contain a "Fair Price Provision" that is intended to protect shareholders who do not tender their shares in a takeover bid by guaranteeing them a minimum price for their shares in any subsequent attempt to purchase such remaining shares at a price lower than the acquirer's original acquisition price. The Fair Price Provision requires the affirmative vote of the holders of at least 80% of our outstanding common stock for certain business combinations with a Related Person (as defined in our restated articles of organization, as amended), unless specified price criteria and procedural requirements are met or the business combination is approved by a majority of the Continuing Directors. Continuing Director is defined in our restated articles of organization, as amended, to include any director (i) who is not an affiliate of any beneficial owner of 5% of the voting power of our outstanding voting stock, and (ii) who served as a director before such beneficial owner acquired his 5% beneficial ownership interest. Any successor of a Continuing Director who is unaffiliated with a 5% beneficial owner and who is recommended to succeed a Continued Director by a majority of the Continuing Directors is also a Continuing Director. A Related Person includes a person who, together with affiliates and associates, beneficially owns more than 5% our outstanding common stock.

**Shareholder Rights Plan.** Under the Rights Agreement described above, each outstanding share of common stock has attached to it one purchase right which entitles the holder to purchase from us one one-thousandth of a share of Series A Junior Participating Preferred Stock at a price of \$45.00, subject to adjustment. This could prevent or delay a change in control of our ownership.

**Indemnification Provision.** Our restated articles of organization, as amended, provide that we may, either in our bylaws or by contract, provide for the indemnification of our directors,

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officers, employees and agents, by whomever elected or appointed, to the fullest extent permitted by applicable law, as it may be amended from time to time.

#### Listing

Our common stock is listed on the NASDAQ Capital Market under the symbol "PBIO."

#### Transfer Agent and Registrar

The transfer agent and registrar for our common stock is Computershare Limited. Its address is 350 Indiana Street, Suite 800, Golden, Colorado, 80401, and its telephone number is (303) 262-0703.

### DESCRIPTION OF WARRANTS

We may issue warrants to purchase common stock, preferred stock or other securities or any combination of the foregoing. We may issue warrants independently. Warrants sold with other securities may be attached to or separate from the other securities. We may issue warrants under one or more warrant agreements between us and the warrant holder or under one or more warrant agreements between us and a warrant agent that we will name in the prospectus supplement.

The prospectus supplement relating to any warrants that we may offer will include specific terms relating to the offering. We will file the form of any warrant agreement with the SEC, and you should read the warrant agreement for provisions that may be important to you. The prospectus supplement will include some or all of the following terms:

- the title of the warrants;
- the aggregate number of warrants offered;
- the designation, number and terms of the common stock, preferred stock or other securities purchasable upon exercise of the warrants, and procedures by which those numbers may be adjusted;
- the purchase price, if any, of the warrants;
- the exercise price of the warrants;
- the dates or periods during which the warrants are exercisable;
- the designation and terms of any securities with which the warrants are issued;
- if the warrants are issued as a unit with another security, the date, if any, on and after which the warrants and the other security will be separately transferable;
- if the exercise price is not payable in U.S. dollars, the foreign currency, currency unit or composite currency in which the exercise price is denominated;
- any minimum or maximum amount of warrants that may be exercised at any one time;

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- any terms, procedures and limitations relating to the transferability, exchange, exercise, amendment or termination of the warrants;
- any adjustments to the terms of the warrants resulting from the occurrence of certain events or from the entry into or consummation by us of certain transactions; and
- any material or special United States federal income tax consequences of holding or exercising the warrants.

Unless otherwise specified in the applicable prospectus supplement, holders of warrants may exercise the warrants by delivering the warrant agreement to be exercised, together with specified information, and paying the required amount as provided in the applicable prospectus supplement. We will set forth in the warrant agreement and in the applicable prospectus supplement the exercise procedure and the information that the holder of the warrants will be required to deliver in connection with the exercise of the warrant.

Upon compliance with the warrant exercise procedure, and upon receipt of the required payment, the warrant agreement, and the requisite information for exercise, we will issue and deliver the securities purchasable upon such exercise. If the warrant is exercised for fewer than all of the securities for which the warrant is exercisable, then we will issue a new warrant for the remaining number of securities. If we so indicate in the applicable prospectus supplement, holders of the warrants may surrender securities as all or part of the exercise price for the warrants.

#### 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 consist of shares of common stock and/or preferred stock and/or 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 the form of unit agreement, if any, including a form of unit certificate, if any, that describes the terms of the series of units we are offering before the issuance of such series of units. The following summary of material provisions of the units and the unit agreements, if any, 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.

We may issue units comprised of one or more shares of common stock or preferred stock and warrants in any combination. 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, if any, under which a

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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 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;
  - the rights and obligations of the unit agent, if any;
- any provisions of the governing unit agreement that differ from those described in this section, “Description of Units”; 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 Capital Stock” and “Description of Warrants,” will apply to any common stock, preferred stock or warrants included in each unit.

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

#### PLAN OF DISTRIBUTION

We may sell the securities being offered pursuant to this prospectus directly to purchasers, to or through underwriters, through dealers or agents, or through a combination of such methods. The prospectus supplement with respect to the securities being offered will set forth the terms of the offering of those securities, including the names of the underwriters, dealers or agents, if any, the purchase price, the net proceeds to us, any underwriting discounts and other items constituting underwriters’ compensation, the public offering price, any discounts or concessions allowed or reallocated or paid to dealers and any securities exchanges on which such securities may be listed.

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

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If dealers are used in an offering, we will sell the securities to the dealers as principals. The dealers then may resell the securities to the public at varying prices which they determine at the time of resale. The names of the dealers and the terms of the transaction will be specified in a prospectus supplement.

The securities may be sold directly by us or through agents we designate from time to time at a fixed price or prices, which may be changed, at varying prices determined at the time of sale, at market prices prevailing at the time of sale or at negotiated prices. If agents are used in an offering, the names of the agents and the terms of the agency will be specified in a prospectus supplement. Unless otherwise indicated in a prospectus supplement, the agents will act on a best-efforts basis for the period of their appointment. Dealers and agents named in a prospectus supplement may be deemed to be underwriters (within the meaning of the Securities Act) of the securities described therein. In addition, we may sell the securities directly to institutional investors or others who may be deemed to be underwriters within the meaning of the Securities Act with respect to any resales thereof.

Underwriters, dealers and agents may be entitled to indemnification by us against specific civil liabilities, including liabilities under the Securities Act, or to contribution with respect to payments which the underwriters, dealers or agents may be required to make in respect thereof, under underwriting or other agreements. The terms of any indemnification provisions will be set forth in a prospectus supplement. Certain underwriters, dealers or agents and their associates may engage in transactions with and perform services for us in the ordinary course of business.

If so indicated in a prospectus supplement, we will authorize underwriters or other persons acting as our agents to solicit offers by institutional investors to purchase securities pursuant to contracts providing for payment and delivery on a future date. We may enter into contracts with commercial and savings banks, insurance companies, pension funds, investment companies, educational and charitable institutions and other institutional investors. The obligations of any institutional investor will be subject to the condition that its purchase of the offered securities will not be illegal at the time of delivery. The underwriters and other agents will not be responsible for the validity or performance of such contracts.

Each series of securities will be a new issue of securities and will have no established trading market (other than our common stock). Any common stock sold pursuant to a prospectus supplement may be eligible for quotation on the NASDAQ Capital Market or such other trading market, if any, as specified in a prospectus supplement. Any securities sold pursuant to a prospectus supplement may or may not be listed on a national securities exchange or approved for trading on any other trading market.

Any underwriters, dealers or agents to or through whom such securities are sold for public offering and sale may make a market in such securities, but such underwriters, dealers or agents will not be obligated to do so and may discontinue any market making at any time without notice. No assurance can be given as to the liquidity of the trading market for any such securities. The amount of expenses expected to be incurred by us in connection with any issuance of securities will be set forth in the applicable prospectus supplement. Certain of the underwriters, dealers or agents and their associates may engage in transactions with, and perform services for, us and certain of our affiliates in the ordinary course of business.

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To facilitate the offering of securities, certain persons participating in the offering may engage in transactions that stabilize, maintain, or otherwise affect the price of the securities. These may include over-allotment, stabilization, syndicate short covering transactions and penalty bids. Over-allotment involves sales in excess of the offering size, which creates a short position. Stabilizing transactions involve bids to purchase the underlying security so long as the stabilizing bids do not exceed a specified maximum. Syndicate short covering transactions involve purchase of securities in the open market after the distribution has been completed in order to cover syndicate short positions. Penalty bids permit the underwriters to reclaim selling concessions from dealers when the securities originally sold by the dealers are purchased in covering transactions to cover syndicate short positions. These transactions may cause the price of the securities sold in an offering to be higher than it would otherwise be. These transactions, if commenced, may be discontinued by the underwriters at any time.

During such time as we may be engaged in a distribution of the securities covered by this prospectus, we are required to comply with Regulation M promulgated under the Securities Exchange Act of 1934, as amended. With certain exceptions, Regulation M precludes us, any affiliated purchasers, and any broker-dealer or other person who participates in such distribution from bidding for or purchasing, or attempting to induce any person to bid for or purchase, any security which is the subject of the distribution until the entire distribution is complete. Regulation M also restricts bids or purchases made in order to stabilize the price of a security in connection with the distribution of that security. All of the foregoing may affect the marketability of our shares of common stock.

#### LEGAL MATTERS

Unless otherwise indicated in the applicable prospectus supplement, legal matters related to the securities offered under this prospectus and any offerings made pursuant to this prospectus will be passed upon by Pepper Hamilton LLP. If legal matters in connection with any offerings made pursuant to this prospectus are passed upon by counsel other than Pepper Hamilton LLP, such counsel will be named in the prospectus supplement relating to such offering.

#### EXPERTS

The consolidated financial statements as of and for the fiscal year ended December 31, 2010, incorporated in this Prospectus by reference from the Company's Annual Report on Form 10-K, have been audited by Marcum LLP, an independent registered public accounting firm, as stated in their report, which is incorporated herein by reference. Such consolidated financial statements have been so incorporated in reliance upon the report of such firm given upon their authority as experts in accounting and auditing.

The consolidated financial statements as of and for the fiscal year ended December 31, 2009, incorporated in this Prospectus by reference from the Company's Annual Report on Form 10-K, have been audited by UHY LLP, an independent registered public accounting firm, as stated in their report, which is incorporated herein by reference. Such consolidated financial statements have been so incorporated in reliance upon the report of such firm given upon their authority as experts in accounting and auditing.

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500 shares of Series E Convertible Preferred Stock and  
1,113,033 Shares of Common Stock

PROSPECTUS SUPPLEMENT

Ladenburg Thalmann & Co. Inc.

April 9, 2012