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# **New Applications of Pressure BioSciences' PCT Platform Prominently Featured at Scientific Conference on Technologies for Protein Research**

## **Use and Advantages of PCT-based Sample Preparation Methods Highlighted in Studies of Cancer, Stem Cell, and Heart Disease Samples**

SOUTH EASTON, Mass., March 19, 2013 /PRNewswire/ -- Pressure BioSciences, Inc. (OTCQB: PBIO) ("PBI" or the "Company") today announced that scientists from three separate research groups presented data at the recent US HUPO 9<sup>th</sup> Annual Conference indicating that sample preparation methods based on the Company's patented pressure cycling technology ("PCT") platform resulted in improved quality and/or efficiency of test results. The US HUPO conference was held March 10-13, 2013 in Baltimore, MD. The studies were conducted by scientists from ETH Zurich and the University of Zurich; from the Food and Drug Administration ("FDA") and the National Institutes of Health ("NIH"); and from the Johns Hopkins University, Louisiana State University, and Wake Forest University Schools of Medicine.

Professor Ruedi Aebersold, Professor of Molecular Systems Biology at ETH Zurich and the University of Zurich, stated that a key barrier to the development of personalized medicine cancer diagnostics and therapeutics has been the difficulty in identifying specific biomarkers. Data presented by Professor Aebersold indicated that by combining a novel biomarker strategy with a cutting-edge protein analysis method, the targeting of cellular and plasma proteins could be enhanced. This, in turn, could result in an increased chance to discover novel biomarkers. Professor Aebersold called this method "PCT-SWATH", since the use of PCT to prepare samples prior to analysis was essential to the process, offering high throughput with minimal sample loss. A case study on prostate cancer was used to illustrate the concept.

Dr. Natalia Pripuzova, from Dr. Michail Alterman's lab at the Center for Biologics Evaluation and Research of the FDA, presented data on the comparison of embryonic and iPSC stem cell lines. Cell lysis (i.e., breakage), an important part of the study's workflow, was routinely performed by Dr. Pripuzova and her colleagues using PCT in PBI's Barocycler instrument and consumables.

Dr. Zongming Fu, a member of Professor Jennifer Van Eyk's proteomics lab at the Johns Hopkins University School of Medicine, presented data on improved protein extraction and identification from archival formalin-fixed paraffin-embedded ("FFPE") human aorta samples using high heat combined with PCT. Dr. Fu and his colleagues found that high heat combined with PCT increased protein extraction yield over heat alone, resulting in a greater

number of protein identifications. They concluded that this method now makes it feasible to test archives of FFPE arterial and aorta samples, including rare and difficult tissues, for biomarker discovery.

Dr. Nate Lawrence, Vice President of Sales and Marketing for PBI, commented: "We are very pleased that such highly respected protein scientists recognize the advantages of PCT in their work. First, the use of PCT to prepare stem cells for analysis opens up a new field for us, one in which we believe a focused marketing effort will result in increased PCT instrument sales in the short term. Second, we believe the data on enhanced protein recovery from FFPE samples support the continued development of our PCT-based FFPE extraction system, which we expect to release later this year, and that we expect to have a positive impact on sales in 2013 and beyond."

Dr. Lawrence continued: "Mass spectrometry-based protein analytical methods have begun to move into the personalized medicine field. These diagnostic and prognostic tools offer the potential to save many lives and greatly improve therapeutic outcomes. The PCT-SWATH method introduced by Dr. Aebersold appears to offer a superior workflow for preparing very small samples for analysis, such as routinely collected needle biopsy specimens. We believe the market for such a method is very large, fragmented, and underserved. We plan to focus greater effort in this area over the coming months, as we believe it has the potential to add significantly to sales of PCT instruments and consumables in 2013 and beyond."

#### **About Pressure BioSciences, Inc.**

Pressure BioSciences, Inc. ("PBI") (OTCQB: PBIO) is focused on the development, marketing, and sale of proprietary laboratory instrumentation and associated consumables based on Pressure Cycling Technology ("PCT"). PCT is a patented, enabling technology platform with multiple applications in the estimated \$6 billion life sciences sample preparation market. PCT uses cycles of hydrostatic pressure between ambient and ultra-high levels to control bio-molecular interactions. PBI currently focuses its efforts on the development and sale of PCT-enhanced sample preparation systems (instruments and consumables) for mass spectrometry, biomarker discovery, bio-therapeutics characterization, vaccine development, soil and plant biology, forensics, histology, and counter-bioterror applications.

#### **Forward-Looking Statements**

Statements contained in this press release regarding the Company's intentions, hopes, beliefs, expectations, or predictions of the future are "forward-looking" statements within the meaning of the Private Securities Litigation Reform Act of 1995. Such statements include, without limitation, statements regarding the test results reported by the three separate research groups at the US HUPO annual conference using the PCT platform; that a key barrier to the development of personalized medicine cancer diagnostics and therapeutics has been the difficulty in identifying specific biomarkers; that by combining a novel biomarker strategy with a cutting-edge protein analysis method, the targeting of cellular and plasma proteins could be enhanced, and could result in an increased chance to discover novel biomarkers, and the advantages of PCT as an essential part of this process, offering high throughput with minimal sample loss; that high heat combined with PCT increased protein extraction yield over heat alone, resulting in a greater number of protein identifications from FFPE samples, and that this method now makes it feasible to test archives of FFPE arterial

and aorta samples, including rare and difficult tissues, for biomarker discovery; that the use of PCT to prepare stem cells for analysis will open up a new field for PBI, and that a focused marketing effort will increase sales in the short term; that the data on enhanced protein recovery from FFPE samples support the continued development of the Company's PCT-based FFPE extraction system, which is expected to be released before the end of 2013, and which is also expected to have a positive impact on 2013 sales; that mass spectrometry-based protein analytical methods have begun to move into the personalized medicine field, and that they offer the potential to save many lives and greatly improve therapeutic outcomes; that the PCT-SWATH method appears to offer a superior workflow for preparing very small samples for analysis, such as routinely collected needle biopsy specimens, and that the market for such a method is very large and fragmented, and underserved, and that it has the potential to add significantly to the Company's sales of PCT instruments and consumables in 2013 and beyond; and the size of the life sciences sample preparation market. These statements are based upon the Company's current expectations, forecasts, and assumptions that are subject to risks, uncertainties, and other factors that could cause actual outcomes and results to differ materially from those indicated by these forward-looking statements. These risks, uncertainties, and other factors include, but are not limited to: possible difficulties or delays in the implementation of the Company's strategies that may adversely affect the Company's continued commercialization of its PCT-based product line; changes in customer's needs and technological innovations; the Company's and its strategic partners/distributors sales forces may not be successful in selling the Company's PCT product line because scientists may not perceive the advantages of PCT over other sample preparation methods; that other researchers may not be able to replicate the data reported or see the advantages of using the Company's PCT platform in the studies mentioned; and if actual operating costs are higher than anticipated, or revenues from product sales are less than anticipated, the Company may need additional capital beyond April 2013. Further, given the uncertainty in the capital markets and the current status of the Company's product development and commercialization activities, there can be no assurance that the Company will secure the additional capital necessary to fund its operations beyond April 2013 on acceptable terms, if at all. Additional risks and uncertainties that could cause actual results to differ materially from those indicated by these forward-looking statements are discussed under the heading "Risk Factors" in the Company's Annual Report on Form 10-K for the year ended December 31, 2011, and other reports filed by the Company from time to time with the SEC. The Company undertakes no obligation to update any of the information included in this release, except as otherwise required by law.

For more information about PBI and this press release, please click on the following link: <http://www.pressurebiosciences.com>

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