December 15, 2010

Significant Benefits of Pressure Cycling Technology (PCT) Cited in Recent Cancer and Heart Disease Studies

SOUTH EASTON, Mass., Dec. 15, 2010 (GLOBE NEWSWIRE) -- Pressure BioSciences, Inc. (Nasdaq:PBIO) ("PBI" and the "Company") today announced that significant benefits were reported when the Company's powerful, patented pressure cycling technology (PCT) platform was used in either the fixation or extraction of proteins from formalin-fixed, paraffin-embedded (FFPE) tissue samples in four recent cancer and heart disease studies.

Journal of Cancer, October 2010

A manuscript written by Ms. Ingrid Chesnick (Armed Forces Institute of Pathology or "AFIP"), Dr. Jeffrey Mason (AFIP), Dr. Timothy O'Leary (Department of Veterans Health Affairs or "VHA"), and Dr. Carol Fowler (AFIP,VHA) suggested that the addition of elevated pressure to all steps in FFPE tissue preparation could result in improved quality, reduced processing time, and expedited pathology results.

National Cancer Institute ("NCI") - Innovative Molecular Analysis Technologies, Oct

Dr. Carol Fowler presented data on the use of high pressure plus elevated heat to improve the extraction of proteins from FFPE tissues, compared to samples extracted by heat alone. Results showed significant improvement in the number of total and unique proteins recovered (4-fold and 1.7-fold, respectively).

Association for Molecular Pathology, November 2010

Dr. Timothy O'Leary presented data on the use of high pressure and heat to improve protein extraction from FFPE tissues, supplementing the results presented at the NCI by Dr. Fowler.

NIH Proteomics Interest Group (ProtIG), December 2010

Dr. Jennifer Van Eyk (Johns Hopkins University) presented data on the possible role of mitochondrial proteins in heart disease. Part of Dr. Van Eyk's work included the extraction of proteins from FFPE-aortic tissue with high pressure and elevated heat, for which she reported improved results over her current method of heat alone (no pressure).

Formalin fixation followed by paraffin embedding is the most commonly used technique to preserve tissues for pathology evaluation. It is estimated (Nature 448) that over one billion archival FFPE tissue samples exist worldwide. The Company believes that over 35 million new samples are added each year. Such samples represent an invaluable resource for the

discovery of new biomarkers of disease and drug targets, and for retrospective studies of disease progression and response to therapy. Unfortunately, the analysis of FFPE samples is still highly problematic, due to the adverse effects of formalin. Consequently, scientists continue to look for new methods that can accurately, rapidly, and efficiently fix or extract proteins from these valuable samples.

To address this issue, a prototype PCT-based FFPE Extraction System ("PCT System") was placed in the laboratory of Dr. Jennifer Van Eyk, Professor of Medicine at Johns Hopkins University and director of the Hopkins NHLBI Innovation Proteomic Group on Heart Failure. Their initial evaluation of the PCT System indicted that the combination of cycled pressure and heat were essential for robust and consistent extraction. Dr. Van Eyk's group also found that the PCT System increased protein yield in new FFPE aortic samples by more than six-fold compared to their standard (no pressure) method, and achieved approximately equivalent protein identification in these specimens compared to fresh (non-FFPE) samples.

Dr. Jeffrey T. Mason, Chairman of the Biophysics Department at AFIP, commented: "We are finding that ultra-high pressure has a myriad of applications in histology and the molecular analysis of formalin-fixed, paraffin-embedded tissues. Pressure-enhanced extraction of these FFPE samples may prove to be a paradigm-shifting technology in this field."

Mr. Richard T. Schumacher, President and CEO of PBI, said: "We believe these data indicate that the PCT System can efficiently and reproducibly extract significantly more total and unique proteins from FFPE samples than current non-pressure-based methods. We are particularly impressed with the aorta/myocardium data, since this is one of the most important tissues used in the study of heart disease, yet one of the most difficult tissues from which to extract proteins."

Mr. Schumacher concluded: "We are nearing the completion of the development and validation of our PCT-based FFPE Extraction System. If the data from the one remaining validation site, which we expect to receive soon, confirm the results recently presented, we believe the PCT-based FFPE Extraction System can be made market-ready by mid-2011, and should add to our expected revenue next year."

To view the social media version of this press release, please visit the Pressure BioSciences IR Newsroom by clicking here or paste the following URL in your browser: http://goo.gl/RKaTj About Pressure BioSciences, Inc.

Pressure BioSciences, Inc. (PBI) is a NASDAQ Capital Markets listed company focused on the development and sale of instrumentation and consumables based on a novel, enabling technology platform called Pressure Cycling Technology (PCT). PCT uses cycles of hydrostatic pressure between ambient and ultra-high levels (up to 35,000 psi and greater) to control bio-molecular interactions. PBI currently holds 24 issued patents covering multiple applications of PCT in the life sciences field, including genomic and proteomic sample preparation, pathogen inactivation, the control of chemical reactions, immunodiagnostics, and protein purification. PBI currently focuses its efforts on the development and sale of PCT-enhanced enzymatic digestion products designed specifically for the mass spectrometry marketplace, as well as sample preparation products for biomarker discovery, soil and plant biology, forensics, histology, and counter-bioterror applications.

Forward Looking Statements

Statements contained in this press release regarding PBI'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 forward-looking statements include statements regarding the number of FFPE tissue samples archived worldwide; the value of the FFPE tissue samples; the potential benefits, improvements and results of using the PCT-based FFPE System; that cycled pressure and heat are essential for robust and consistent extraction; that pressure-enhanced extraction of FFPE might prove to be a paradigm shifting technology; that the PCT System can efficiently and consistently extract more proteins from FFPE samples; and that the PCT FFPE Extraction System can be market-ready and generate revenue in 2011. 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 PCT and its PCT-dependent products, including its PCT-based FFPE extraction system; changes in customer's needs and technological innovations; other scientists may not achieve the same results with PCT reported by scientists in the four recent studies; and the Company's sales force 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, including in the various areas discussed in the four recent studies. Further, the Company expects that it will need additional capital to fund its continuing operations beyond the first quarter of 2011. 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 PBI's Annual Report on Form 10-K for the year ended December 31, 2009, and other reports filed by PBI from time to time with the SEC. PBI undertakes no obligation to update any of the information included in this release, except as otherwise required by law.

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