

March 19, 2010



Clear Advantages of PCT Highlighted in Five Presentations at the US HUPO Meeting by Scientists from Industry, Government, and Academia

SOUTH EASTON, Mass., March 19, 2010 (GLOBE NEWSWIRE) -- Pressure BioSciences, Inc. (Nasdaq:PBIO) ("PBI" and the "Company") today announced that five presentations on the advantages of pressure cycling technology (PCT) in the preparation, processing, identification, and quantification of proteins were made at last week's annual meeting of US HUPO (Human Proteomics Organization) in Denver, Colorado. Presentations on PCT were made by scientists from industry (Thermo Fisher Scientific, Target Discovery, Inc., and PBI), government (FDA), and academia (Université de Montréal and Harvard School of Public Health). Data were presented on the use of PCT in the areas of protein analysis and biomarker discovery in influenza (including swine flu), ovarian cancer, membrane proteins, and isolation of intact mitochondria. The presenting scientists concluded that PCT was a powerful, innovative tool that offered clear advantages to the researcher doing proteomic research, including quality, speed, reproducibility, ease-of-use, and cost savings.

Dr. Alexander Lazarev, Vice President of R&D for PBI, said: "We are excited to see the growing adoption of PCT by academic, government, and industry scientists working in the field of proteomics. We believe that innovative, cutting-edge techniques such as PCT promise to re-invigorate the power of proteomics in the discovery of important biomarkers of disease. We further believe that our patented PCT-dependent instruments and consumables will play an increasingly vital role in helping to identify new molecular markers of cancer and other diseases, which in turn, should result in the development of important new diagnostics, protocols, treatments, and cures for infectious and chronic diseases."

Highlights of each of the five presentations are summarized below.

Dr. Thibault and Dr. Bonneil of the Institute for Research in Immunology and Cancer, Université de Montréal, Montréal, Canada, and their colleagues Dr. Biringer, Dr. Saba, and Dr. Huhmer of Thermo Fisher Scientific, studied the effects of PCT on the enhancement of three key areas of proteomic analysis by mass spectrometry: proteolysis cleavage, reaction time, and protein sequence coverage. Mass spectrometry is considered by many as the most powerful analytical tool available today for the identification of proteins, and is the instrument of choice by most scientists focused on the study of proteomics. The authors concluded that the digestion of proteins by PCT resulted in clear advantages compared to conventional proteolytic digestions in terms of reproducibility and sequence coverage for membrane proteins and total cell extracts. Also, PCT digestion of complex or simple protein mixtures yielded a controllable number of missed cleavage sites, a potential benefit for ETD ion activation.

Dr. Alterman and his team at the Tumor Vaccines and Biotechnology Branch, Division of Cellular and Gene Therapies, CBER, FDA, are working on the development of improved methods for influenza virus research and vaccine manufacturing, including H1N1 ("swine flu"), H5N1, and H3N2. Their results demonstrated that mass spectrometry-based analysis of an influenza vaccine allowed rapid and accurate identification of each virus strain and suggested a potential new approach for vaccine preparation and subsequent quality analysis. The authors used PCT in a critical processing step of their suggested influenza vaccine manufacturing protocol, and indicated that PCT was chosen because of its speed, ease-of-use, and excellent reproducibility.

Dr. Ivanov and his team from the Harvard School of Public Health (HSPH) are working on the development of optimized methods for the lysis ("breakage") of cells and the digestion of proteins, two important steps in the preparation of samples for scientific evaluation. PCT was chosen as the primary method to be evaluated. The researchers reported that PCT improved protein identification and quantitative analysis, and demonstrated that such improvements could be crucial to the discovery of new important biomarkers, particularly from the membranes of cells.

Dr. Schneider and his colleagues at Target Discovery, Inc., are working on the development of a new treatment guidance diagnostic for ovarian cancer patients. To that end, TDI scientists reported on their success in using PCT with specialized chemical reagents to optimize the extraction of intact functional proteins from cell membranes, a difficult yet vital step in their work. The TDI scientists concluded that PCT was an extremely powerful and versatile technology that could offer advantages in a wide variety of important research applications, including general sample preparation, the facilitation and acceleration of key chemical reactions, and access to specific types of proteins that have simply not been routinely available to scientists in the past.

Dr. Gross and her colleagues at PBI and the HSPH are working on the development of a new, automated method for the extraction of intact mitochondria from a variety of tissues. Defects in mitochondrial function have been linked to many diseases, including cancer, Type II diabetes, Parkinson's disease, heart disease, stroke, and Alzheimer's dementia. To help develop therapies and cures for these diseases, studies need to be performed on intact mitochondria extracted from various tissues, a difficult problem at the present time. The researchers reported on a new application of PCT for gentle tissue lysis and subsequent extraction of intact mitochondria. The resulting automated method was reported to offer clear advantages over manual homogenization methods, including better reproducibility and the ability to process multiple samples simultaneously in an unattended fashion.

About Pressure BioSciences, Inc.

Pressure BioSciences, Inc. (PBI) is a publicly traded company focused on the development of a novel, enabling technology 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 14 US and 10 foreign patents covering multiple applications of PCT in the life sciences field, including genomic and proteomic sample preparation, pathogen inactivation, the control of chemical and enzymatic reactions, immunodiagnostics, and protein purification. PBI currently focuses its efforts in 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 advantages of PCT as a powerful, innovative tool that offers clear advantages, including speed, reproducibility, ease-of-use, quality, and cost savings in a wide variety of research applications, including proteomic research; that mass spectrometry may be the most powerful analytical tool available today for the identification of proteins, and is the instrument of choice by many scientists focused on the study of proteomics; that digestion of proteins by PCT results in advantages compared to conventional proteolytic digestions, including potential benefits for ETD ion activation; the advantages of mass spectrometry-based analysis of an influenza vaccine, and the use of PCT in an influenza vaccine manufacturing protocol; the advantages of PCT as a method for the lysis of cells and the digestion of proteins; that the improvement of protein identification and quantitative analysis could be crucial to the discovery of new biomarkers; the success in using PCT with specialized chemical reagents to optimize the extraction of intact functional proteins from cell membranes; the advantages of PCT over manual homogenization methods for gentle tissue lysis and subsequent extraction of intact mitochondria; the adoption of PCT technology by academic, government, and industry scientists working in the field of proteomics and the discovery of disease biomarkers; and the expected role of the Company's PCT-dependent instruments and consumables in helping to identify new molecular markers of cancer and other diseases. These statements are based upon PBI'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, delays and additional costs in the implementation of PBI's strategies that may adversely affect the commercialization of PCT and PCT-dependent products; changes in customer needs and technological innovations; other scientists may not achieve the same PCT results reported in the five presentations at the US HUPO; PBI's sales force may not successfully sell the PCT product line because scientists may not perceive the advantages of PCT reported in the five presentations at US HUPO; and due to unforeseen costs or delays, the Company may require additional working capital to fund its operations before 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, 2008, 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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