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Data from Recently Published Studies Provide Strong Support for Current and Future Applications of Pressure BioSciences' PCT Platform

Results of Studies by Three Key Opinion Leader Laboratories Demonstrate Significant Advantages in Drug Discovery, Cancer Detection, and in the Analysis of Microorganism Diversity in Soil

SOUTH EASTON, Mass., May 4, 2015 /PRNewswire/ -- Pressure BioSciences, Inc. (OTCQB: PBIO) ("PBI" or the "Company"), a leader in the development and sale of broadly enabling sample preparation solutions using pressure cycling technology ("PCT")-based instruments and consumables to the worldwide life sciences industry, today announced the publication of three important articles in scientific journals by key opinion leaders in proteomics and genomics. The Company believes the articles highlight the clear advantages its patented PCT platform offers research scientists working in the areas of drug discovery and design, cancer detection, and the analysis of microorganism populations in soil. The Company also believes that the data offer compelling reasons why its PCT-based instruments and consumables may soon become a "need-to-have" tool in these and other areas of the life sciences.

Use of pressure cycling technology for cell lysis and recovery of bacterial and fungal communities from soil; Dr. Emily Bruner, Dr. Patricia Okubara & colleagues, Washington State University and the USDA-ARS in Pullman WA and Pendleton, OR, BioTechniques, April 2015.

- Authors used the Barocycler NEP3229 instrument and PULSE Tubes (PBI)
- The efficacy and bias of three cell lysis methods were compared for direct DNA soil extraction
- PCT extracted DNA from a greater number of unique bacterial and fungal species, including microorganisms not found using traditional mechanical lysis methods (greater diversity)
- The determination of microorganism diversity in soil is critical for successful crop growth and pestilence control; this study shows PCT may be a valuable alternative to current lysis methods

Structure-relaxation mechanism for the response of T4 lysozyme cavity mutants to hydrostatic pressure; Dr. Michael Lerch, Dr. Wayne Hubbell & colleagues, UCLA, PNAS, April 2015.

- Authors used the Barocycler HUB880 and HUB440 instruments and ceramic pressure

cells (PBI)
- High pressure is emerging as a powerful tool for understanding protein structure and function
- Results provide direct evidence of the different ways proteins can respond to pressure
- Protein response to pressure may have profound implications in drug design and development

Rapid mass spectrometric conversion of tissue biopsy samples into permanent quantitative digital proteome maps; Dr. Tiannan Guo, Dr. Ruedi Aebersold, and colleagues, ETH Zurich Switzerland, Turku Finland, Heidelberg Germany, and St. Gallen Switzerland, Nature Medicine, March 2015.

- Authors used a prototype PCT-HD (Barocycler NEP2320 and MicroTubes) system (PBI)
- New method using PCT is described for high-throughput, quantitative, and highly reproducible proteomic analyses of tissue biopsies with unprecedented speed and precision ("PCT-SWATH")
- Authors expect wide applications of PCT-SWATH in personalized medicine
- Authors believe that PCT-SWATH (aka PCT-HD) may ultimately achieve clinical adoption

Dr. Nathan Lawrence, Vice President of Marketing and Sales for PBI, commented: "We are very pleased with the recently published studies from each of these three groups. We consider each a key opinion leading laboratory in their area of focus. We believe their studies show the clear advantages of the PCT platform in testing soil for microbial populations, for expanding our understanding of the complexity of protein structure and function to enable better drug discovery and development, and for developing a new, cutting-edge method to enhance the analysis of tissue biopsies using unprecedented speed and precision."

Dr. Lawrence continued: "We also believe their results will lead to additional applications of the PCT platform. These include the potential to expand the power of PCT from its current focus in biological research laboratories, which we have just begun to enter, to the very large, exciting, and potentially highly profitable clinical laboratory setting."

Dr. Lawrence concluded: "It is important to note that all three laboratories used different PCT instruments and consumables. Not only have the results of their studies helped to support the efficacy of the PCT platform in such varied fields of use as agriculture, drug discovery, and cancer detection, but their work has also showcased the enormous breadth of PCT applications, instruments, and consumable products."

Mr. Richard T. Schumacher, President and CEO of PBI, said: "We believe the commercial implications of these three studies, along with the environmental epidemiology applications of the new high-throughput Barozyme HT48 System reported recently by Dr. William Funk of Northwestern University, are very large and exciting. Our expanding product portfolio has helped us achieve measurable revenue growth over the past three years. As we begin to significantly add to our sales and marketing capabilities for the first time since 2008, we believe our broad PCT products and applications portfolio will manifest itself in even more significant revenue growth in 2015 and beyond."

About PCT-HD

The PCT-HD System combines two of the Company's unique products: the recently released, patent-pending µPestle consumable with an enhanced Barocycler NEP2320 instrument. This combination enables faster, less cumbersome and higher quality homogenization, extraction, and digestion of proteins. PCT-HD was developed by the Company's scientists and engineers in collaboration with Professor Ruedi Aebersold and Dr. Tiannan Guo of the Institute of Molecular Systems Biology, ETH Zurich, and the University of Zurich, both in Zurich, Switzerland. Drs. Aebersold and Guo combined PCT-HD with AB Sciex's SWATH-Mass Spectrometry – calling the resulting method "PCT-SWATH". This protocol can yield analytical results within 12 hours from the start of processing tissue. Although Drs. Aebersold and Guo developed protocols for the combination of PCT-HD with SWATH-MS, the PCT-HD System is not limited to any specific mass spectrometer or method of data analysis. Subsequently, the PCT-HD System can provide most researchers with unprecedented speed and reproducibility for biomarker discovery, regardless of the mass spectrometry method used.

About Pressure BioSciences, Inc.

Pressure BioSciences, Inc. ("PBI") (OTCQB: PBIO) develops, markets, and sells proprietary laboratory instrumentation and associated consumables to the estimated $6 billion life sciences sample preparation market. Our products are based on the unique properties of both constant (i.e., static) and alternating (i.e., pressure cycling technology, or PCT) hydrostatic pressure. PCT is a patented enabling technology platform that uses alternating cycles of hydrostatic pressure between ambient and ultra-high levels to safely and reproducibly control bio-molecular interactions. To date, we have installed over 250 PCT systems in approximately 160 sites worldwide. There are over 100 publications citing the advantages of the PCT platform over competitive methods, many from key opinion leaders. Our primary application development and sales efforts are in the biomarker discovery and forensics areas. Customers also use our products in other areas, such as drug discovery & design, bio-therapeutics characterization, soil & plant biology, vaccine development, 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. 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, the risks and uncertainties discussed under the heading "Risk Factors" in the Company's Annual Report on Form 10-K for the year ended December 31, 2014, 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 website link: http://www.pressurebiosciences.com

Please visit us on Facebook, LinkedIn, and Twitter

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