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Pressure BioSciences' Proprietary PCT Platform Fills Pivotal Role for Tumor Analyses in Novel Workflow Presented at Leading Global Gynecologic Cancer Meeting

Data from Analysis of Cancer Tissue Proteins Generated from Novel Workflow Could Lead to Improvement in the Clinical Management of Gynecological Cancers

SOUTH EASTON, Mass., Oct. 01, 2019 (GLOBE NEWSWIRE) -- via OTC PR WIRE – Pressure BioSciences, Inc. (OTCQB: PBIO) ("PBI" or the "Company"), a leader in the development and sale of broadly enabling, pressure-based instruments, consumables, and platform technology solutions to the worldwide life sciences industry, today announced the Company's patented pressure cycling technology ("PCT") platform was featured as an integral part of a new, innovative workflow for the analysis of proteins from cancer biopsy samples. This workflow was presented in a plenary session at the Annual Meeting of the International Gynecologic Cancer Society ("IGCS") on September 21, 2019 in Rio de Janeiro, Brazil. The mission of the IGCS is to improve the care and outcomes for women with gynecologic cancer worldwide through education, training and public awareness.

According to Dr. Larry Maxwell, MD, gynecologic oncologist and Chair of OB-GYN at Inova Fairfax Hospital, "the conventional use of chemotherapy in ovarian cancer treatment is being rapidly replaced by biologic therapeutics that target the cancer (the "seed") and also the micro-environment (the "soil") in which it grows. Being able to collect small tissue specimens and characterize them across multiple genomic and proteomic platforms will enable us to markedly enhance our ability to develop companion diagnostics and prognostics as well as identify targets for future therapeutic strategies. Technology provided by Pressure BioSciences has become an essential requirement for our novel workflow in meeting our goals."

Gynecologic malignancies include ovarian, uterine, and cervical cancers. Together they are responsible for approximately 35,000 deaths annually in the United States with ovarian cancer ranking fifth in cancer deaths among women (Aurora Healthcare and the Centers for Disease Control and Prevention). According to Acumen Research and Consulting (2018), the global ovarian cancer diagnostics market alone is forecasted to grow at a CAGR around 5.9% over the forecast time frame and reach around US $1.8 billion by 2026. New, improved methods to detect these cancers are vitally needed to support the design and development of better treatments through enhanced precision medicine. The IGCS is committed to addressing this critical issue.

Dr. Thomas Conrads, a nationally acclaimed protein chemist, is the Senior Director of Women's Health Research at the Inova Women's Hospital. Dr. Conrads' group was invited to present their innovative workflow for analyzing cancer tissue proteins at the IGCS meeting. The presentation titled *Interim Analysis of Ovarian Cancer by the US National Cancer MOONSHOT'S Tri-Federal (DOD/NCI/VA) Applied Proteogenomic Organizational Learning and Outcomes (APOLLO) Research Network*, was made by Dr. Maxwell. Data demonstrated the feasibility of proteogenomic characterization of known-patient tumors for specimen preparation in support of large-scale analyses in the U.S. Cancer Moonshot's APOLLO program. This program focuses on genetic sequencing and proteomic analysis of tumors in order to develop clinically actionable molecular panels for precision medicine and personalized health.

The novel workflow developed by Dr. Conrads and his colleagues integrates the Leica Microsystems' laser microdissection (LMD) platform and PBI's PCT platform, enabling micro-scale quantitative proteomics and phosphoproteomics on a ThermoFisher Scientific mass spectrometry (MS) instrument. LMD is a state-of-the-art method for precise excision of cells from biopsy tissues at microscopic scale by a laser. Excised cells are delivered directly into PBI's MicroTubes for critical sample preparation, including rapid and efficient high-quality cellular protein release. Proteins are then analyzed by mass spectrometry (MS), the global method-of-choice for high throughput and comprehensive protein analysis.

Dr. Conrads commented: "We are very pleased to have been invited to present the results of our work in gynecologic cancer research in a plenary session at this important international meeting. The novel workflow developed by our group integrates and operationalizes state-of-the art techniques: laser microdissection (LMD), pressure cycling technology (PCT), and mass spectrometry (MS) to improve our understanding of the complex tissue microenvironment and, in this case, to enable identification of biomarkers associated with women's cancers. We believe that the insights we gain from applying this novel workflow will result in significant improvements in the clinical management of gynecologic cancer."

Dr. Nate Lawrence, Senior Consultant to PBI, said, "Precision medicine promises a paradigm shift in the diagnosis and treatment of disease. This shift is highly dependent on the generation and evaluation of high-quality data generated during comprehensive analyses of each patient's tumor samples. Although critical to precision medicine the generation of such data from biopsy samples has been difficult to date, as it requires the integration of multiple and varied laboratory processes, including tissue extraction, critical sample processing, and analysis. The innovative workflow developed by Dr. Conrads and his colleagues combines the precision of Leica Microsystems' state-of-the-art LMD system on the frontend with the superior analytical capabilities of Thermo Scientific's mass spectrometer on the backend. In the middle, integral to connecting these two superb instrument systems, is the speed, robustness, reproducibility, and versatility of PBI's PCT Barocycler system."

Mr. Richard T. Schumacher, President and CEO of PBI, concluded: "We were delighted to see PBI's Barocycler system featured in its pivotal position in this important new tumor processing workflow that Dr. Conrads and his colleagues have presented: the critical enabling step after LMD excision and before MS analysis. Based on results to date, we believe that the number of laboratories worldwide performing laser microdissection followed by mass spectrometric analyses will increase at a steady but significant rate, that our

Barocycler system will remain a critical part of this workflow, and that the adoption of this novel new workflow should result in a measurable increase in Barocycler sales over the coming months and years."

About Inova
Inova is Northern Virginia's leading nonprofit healthcare provider, recognized in 2019 by U.S. News & World Report which named the Inova Fairfax Medical Campus the #1 hospital in the Washington, DC, region with four of Inova's five hospitals receiving five-star rankings from the Centers for Medicare and Medicaid Services. Our mission is to provide world-class healthcare – every time, every touch – to each person in every community we have the privilege to serve. Inova's 18,000 team members serve more than 2 million individuals annually through an integrated network of hospitals, primary and specialty care practices, emergency and urgent care centers, outpatient services and destination institutes. Inova is home to Northern Virginia's only Level 1 Trauma Center and Level 4 Neonatal Intensive Care Unit. Its hospitals have a total of 1,800 licensed beds.

Four of Inova's five hospitals have received five-star rankings from the Centers for Medicare and Medicaid Services (CMS) and three are ranked in the top 10 in the region by US News and World Report; they are the only hospitals in the Washington, DC region to have earned the highest rating from CMS and straight "A" grades from Leapfrog Hospital Safety Grades. Inova connects researchers, clinicians and empowered consumers to improve patient care, enhance prevention and encourage wellness. More information and statistics about Inova can be found at inova.org.

About Pressure BioSciences, Inc.
Pressure BioSciences, Inc. (OTCQB: PBIO) is a leader in the development and sale of innovative, broadly enabling, pressure-based solutions for the worldwide life sciences industry. 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 (e.g., cell lysis, biomolecule extraction). Our primary focus is in the development of PCT-based products for biomarker and target discovery, drug design and development, biotherapeutics characterization and quality control, soil & plant biology, forensics, and counter-bioterror applications. Additionally, major new market opportunities have emerged in the use of our pressure-based technologies in the following areas: (1) the use of our recently acquired, patented technology from BaroFold, Inc. (the "BaroFold" technology) to allow entry into the bio-pharma contract services sector, and (2) the use of our recently-patented, scalable, high-efficiency, pressure-based Ultra Shear Technology ("UST") platform to (i) create stable nanoemulsions of otherwise immiscible fluids (e.g., oils and water) and to (ii) prepare higher quality, homogenized, extended shelf-life or room temperature stable low-acid liquid foods that cannot be effectively preserved using existing non-thermal technologies.

Forward Looking Statements
This press release contains forward-looking statements. These statements relate to future events or our future financial performance and involve known and unknown risks, uncertainties and other factors that may cause our or our industry's actual results, levels of activity, performance or achievements to be materially different from any future results, levels

of activity, performance or achievements expressed, implied or inferred by these forward-looking statements. In some cases, you can identify forward-looking statements by terminology such as "may," "will," "should," "could," "would," "expects," "plans," "intends," "anticipates," "believes," estimates," "predicts," "projects," "potential" or "continue" or the negative of such terms and other comparable terminology. These statements are only predictions based on our current expectations and projections about future events. You should not place undue reliance on these statements. In evaluating these statements, you should specifically consider various factors. Actual events or results may differ materially. These and other factors may cause our actual results to differ materially from any forward-looking statement. 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, 2018, 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. Due to rounding, numbers presented throughout this and other documents may not add up precisely to the totals provided and percentages may not precisely reflect the absolute figures.

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For more information about PBI and this press release, please click on the following website link:

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