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Key Academic Publication Further Validates Pressure BioSciences UltraShear Platform's Impact in Clean-Label Functional Foods & Beverages

Critical Enabling Role for UltraShear Processing in the Burgeoning Alternative Plant-Based and Ready-to-Drink Beverage Markets Highlighted in Published Study by The Ohio State University

SOUTH EASTON, MA / ACCESSWIRE / July 6, 2023 /Pressure BioSciences, Inc. (OTCQB:PBIO) ("PBIO" or the "Company"), a global leader in the development and sale of broadly enabling, high-pressure-based products and services to the life sciences, nutraceutical, food and beverage, and other industries reported the publication in a high impact, peer-reviewed scientific journal of powerful confirmation that the Company's UltraShear™ Technology platform delivers uniquely transformational capabilities for addressing leading industry and consumer trends in food & beverage markets.

According to a recent market study by Grand View Research, the global plant-based beverages market was valued at $24.4 billion in 2021 and is projected to continue strong expansion at a 12.7% compound annual growth rate (CAGR) from 2022 to 2030 (global plant-based beverage market). The growing demand for plant-based beverages, such as non-dairy milk and smoothies, is driven by their health benefits, nutritional properties, and minimization of carbon footprint and environmental impact, making them popular among health-conscious individuals, the large and growing lactose-intolerant population, and the exploding growth in the vegan consumer segment driven by animal welfare and environmental stewardship concerns.

To address these challenges amid growing drought crises impacting global agriculture, the beverage industry is seeking sustainable solutions that harness the potential of drought-resistant crops as a source of plant protein. Peas, in particular, have gained significant attention within the functional beverage industry due to their robust sustainability and numerous health benefits. These gluten-free legume crops provide a sustainable source of plant protein, and aid in improving cholesterol levels, regulating blood glucose levels, and offering high dietary fiber content.

The development of new plant-based milk substitutes faces inherent challenges. Plant proteins are generally far less soluble than dairy milk proteins. Additionally, many current plant-based milk substitutes are often perceived as less appealing to consumers due to their proclivity for separation of fats from proteins - as often observed in protein-based beverages with separation and sedimentation of pea protein particles, rendering the beverage less visually appealing, less nutritious, and less enjoyable to consume.

Revolutionary reversal and control over these undesirable behaviors was demonstrated for the UltraShear platform in the recent publication by an internationally recognized team of Ohio State University researchers (Current Research in Food). Their study investigated the impact of UltraShear processing on the stability, texture, and taste of plant protein dispersions. The results were momentous regarding the impact of UltraShear, delivering pea protein dispersions that remained stable and free from phase separation or sedimentation. In addition, certain combinations of protein and lipid additives processed using UltraShear directly optimized product viscosity, eliminating the need for additional thickeners. Furthermore, the UltraShear platform capably created stable low droplet size nanoemulsions of fats, for further enhancement of the nutritional and sensory characteristics of these beverages. Overall, the publication recognized UltraShear's immense potential for development of new hybrid dairy-plant protein beverages or purely plant-based categories that are organic, non-GMO, high in protein content, easy to digest, and free of chemical additives and preservatives.

Dr. Edmund Y. Ting, PBIO's Senior VP of Engineering and a recognized world expert in high pressure food processing, commented: "We are delighted by this recognition and additional validation of UltraShear's potential to revolutionize the production of stable and appealing plant-based beverages. By leveraging this cutting-edge technology, PBIO is poised to help beverage companies with equipment and processing offerings that enable a new generation of innovative and sustainable beverages that meet the increasing global demand for healthy and environmentally-responsible, natural, organic, and clean label products."

Mr. Richard T. Schumacher, President and CEO of PBIO, concluded: "The global plant protein beverage market is expected to grow to an impressive $41 Billion by 2027 (MDC Market Report), with the pea protein market alone growing to about $2.9 Billion Pea Protein Market). Armed with these newly published research results on UltraShear's enabling capabilities, our internationally-renowned colleague Professor V.M. "Bala" Balasubramanian and colleagues at The Ohio State University are leading the way in contacting select U.S. and global food and beverage companies, to introduce them to the UltraShear platform, the Ohio State-PBI food industry consortium, and to PBIO for business partnering discussions that could develop into new leadership opportunities in the burgeoning alternative plant-based and ready-to-drink markets."

About Pressure BioSciences, Inc.

Pressure BioSciences, Inc. (OTCQB:PBIO) is a global leader in providing innovative, broadly enabling, high pressure-based solutions for a range of industries, including biotechnology, pharmaceutical, nutraceutical, cosmeceutical, and agrochemical, as well as food and beverage manufacturing. Our products utilize both constant and alternating pressure. Our patented enabling technology platform, Pressure Cycling Technology (PCT), utilizes alternating cycles of pressure to control bio-molecular interactions (such as cell lysis and biomolecule extraction) safely and reproducibly. PCT-based products are beginning to be widely used for biomarker and target discovery, drug design and development, biotherapeutics characterization and quality control, soil & plant biology, forensics, and counter-bioterrorism applications. We have recently expanded our market opportunities with the acquisition of the BaroFold™ patented technology platform, allowing us to enter the bio-pharma contract services and GMP manufacturing equipment sector. We have also developed the scalable and high-efficiency pressure-based UltraShear Technology™

(UltraShear™) platform, which allows for the creation of stable nanoemulsions of otherwise immiscible fluids. It also allows for the preparation of higher quality, homogenized, extended shelf-life or room temperature-stable low-acid liquid foods that cannot be effectively preserved using existing non-thermal technologies. Our commitment to innovation and cutting-edge technology has established PBIO as a leader in the high-pressure industry, providing unique and effective solutions to our customers.

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, 2022, 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 PBIO 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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