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Pressure BioSciences Launches Program to Evaluate Company's Patented UltraShear Process in Breakthrough Application to Extend Shelf-Life of Fresh Produce

Scientific Publications Demonstrate Effectiveness of CBD and Essential Oil Nanoemulsions in Shelf-Life Extension of Fruits and Vegetables; PBI Initiating Studies with Industrially Scalable UltraShear Nano-CBD

SOUTH EASTON, MA / ACCESSWIRE / July 25, 2023 /Pressure BioSciences, Inc. (OTCQB:PBIO) ("PBIO" or the "Company"), a global leader in the development and sale of broadly enabling, high-pressure-based equipment, consumables, and specialty testing services to the worldwide food and beverage, agrochemicals, nutraceuticals, cosmeceuticals, biotherapeutics, and other industries, announced today the initiation of studies to evaluate and demonstrate its industrially-scalable UltraShear Technology™ ("UltraShear™") platform for producing oil-in-water nanoemulsions in the preparation of edible coatings of Nano-CBD to extend the shelf life and preserve the quality of fruits and vegetables.

Edible coatings are commonly used to enhance the quality and increase the shelf life of fruits and vegetables. However, industrial-scale use of edible coatings has struggled with effectiveness limitations due to poor stability and solubility of the coatings. Recent developments in nanoemulsion-based coating technology offer promise for an effective and efficient strategy but have been challenged by industrial-scaling limitations as well as quality and stability inconsistencies from current nanoemulsion technology platforms. The extremely low and consistent nano-droplet size distributions and stability achieved by PBIO's UltraShear platform, and its easy process scalability, offer exciting promise as a preferred platform for delivering and standardizing these innovative quality and preservation solutions for produce.

Cannabidiol ("CBD"), the primary non-psychotropic ingredient in cannabis or hemp plants, is now approved by the FDA for the treatment of seizure conditions. CBD has enjoyed much wider use for treatment of pain and disorders from ~4000 BCE in China to its rapidly widening modern popularity in treating pain, anxiety, sleep disorders and much more. For over two decades, studies have demonstrated CBD's antimicrobial effectiveness against human pathogens and more recently against plant pathogens (especially fungi associated with rot development in produce). These studies are now generating great interest among consumers increasingly focused on all natural and organic, preservative-free, "green-label" foods, and for investors focused on solutions for the enormous agricultural industry segment.

A recent peer-reviewed article ("Influence of a Transparent and Edible Coating of Encapsulated Cannabidiol Nanoparticles on the Quality and Shelf Life of Strawberries") published on May 4, 2023 in the American Chemical Society (ACS) Journal of Applied Materials and Interfaces focused on the antimicrobial activity of strawberries coated with CBD-infused nanoparticles. The article reported on the results of treated/untreated strawberries, showing that the CBD-treated samples ripened and decayed much more slowly than the untreated ones. Other scientific articles with similar results on nanoemulsified CBD, essential oils, and other natural additives have also been recently published advanced edible coatings.

Mr. John Hollister, Director of Marketing and Sales for PBIO, noted: "We are now awaiting the publication in a scientific peer-reviewed journal of recent research performed by a leading global cannabis academic research team contrasting the vastly superior absorption and bioavailability of PBIO's UltraShear Nano-CBD versus the routinely reported oral-GI absorption of current CBD formulations. In light of these results, we are now embarking on studies of UltraShear Nano-CBD as an optimal effective strategy for a new generation of all-natural, edible food coatings."

Mr. Richard T. Schumacher, PBIO's President and CEO, concluded: "We have been delighted by recent inquiries from investors and food processing groups, who recognize our UltraShear platform as the preferred, best-in-class solution for the development of the highest quality, industrially-scalable, and long-term stable nanoemulsions of CBD and essential oils."

Mr. Schumacher continued: "We are excited about our obvious prospects for a leadership role in this important and growing applications area. Of course, this is only one of a myriad number of major market opportunities for our UltraShear platform, spanning nutraceuticals, cosmeceuticals, agrochemicals, pharmaceuticals, and the food/beverage sectors. Our UltraShear Nano-CBD is already fully formulated, soundly tested, recently launched into human topical and soon oral applications, and is ready for prime time!"

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.

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