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Scientific Analyses Confirm Important Benefits from Processing CBD Oil with Pressure BioSciences' Proprietary Ultra Shear Technology Platform

Laboratory Testing Shows UST-Prepared CBD Oil Solutions Meet Challenging Nanoemulsion Specifications and Exhibit Minimal CBD Loss During Processing

SOUTH EASTON, MA / ACCESSWIRE / February 21, 2019 /Pressure BioSciences, Inc. (OTCQB: PBIO) ("PBI" and the "Company") is a leader in the development and sale of broadly enabling, pressure-based instruments, consumables, and platform technology solutions to the life sciences and other industries. The Company today announced that analytical testing on hemp-derived CBD oil processed via PBI's Ultra Shear Technology™ (UST™) platform has confirmed that UST processing uniquely achieves the challenging criteria for creating highly-effective "nanoemulsions" of CBD oil in water, without loss or modification of CBD throughout the entire UST process (> 99% recovery).

The ultimate goal in mixing oil-based nutritional and therapeutic products like CBD oil into water, for effective oral or topical delivery and absorption, is to reduce the size of the oil drops to such a level that they seemingly "vanish" into the water (become "water soluble"). These exceedingly small, nanometer-scale droplets are so tiny that it becomes very easy for the human (or other animal) body to absorb the oil-based nutrients or drugs (like CBD) directly from the inner surface of the oil droplet. Traditional processing methods struggle mightily with this challenge, but PBI's proprietary UST platform uses ultra-high pressure to create extreme shearing forces to make nanometer-scale droplets of fluids that become highly-stable, homogenized "nanoemulsions" of materials that normally do not mix (e.g., CBD oil and water).

Dr. Vera Gross, Director of Applications Development at PBI, explained: "We asked an independent, university-affiliated laboratory to determine the size of oil droplets achieved in UST-processed CBD oil, using a universally-accepted sizing method called DLS. Their analytical results revealed that the UST- processed oil drops were reduced to approximately 65 nm in size, well into the 20-200 nm range targeted for truly effective nanoemulsion delivery and absorption of nutrients and therapeutics, such as CBD (Nano- and Microscale Drug Delivery Systems, 2017)."

Dr. Gross continued: "It was critically important to also demonstrate that CBD from hemp-derived CBD oil was not lost or modified during UST processing. For this we enlisted the help of scientists at NutraFuels, Inc. (OTCQB: NTFU), which has an FDA-inspected, highly-qualified analytical testing laboratory with state-of-the-art equipment and well-trained chemists with years of experience in laboratory testing."

Mr. Cooper Dodd, R&D Scientist at NTFU, said: "Using a powerful laboratory method called HPLC to measure the concentrations of CBD and potential impurities, we determined that no appreciable amount of CBD was lost during the UST process. These results compare well to our standard processing method of ultrasonication, which can carry a risk of measurable loss of CBD, and sometimes creates the appearance of impurities if not performed properly. While there is more work to be done, as a nutraceutical manufacturer with products already on the market, we see these results as a robust leap towards better optimization of our CBD-enhanced products."

Dr. Keith Warriner, Professor of Food Science at the University of Guelph (Toronto), and a recognized expert in the cannabis industry, commented: "The data released today on UST-generated nanoemulsions of CBD oil are very impressive. Creating nanoemulsions of CBD oil with full preservation of CBD throughout the process, while not generating impurities, remains a significant challenge in the industry. These data indicate that UST can achieve that goal, thereby offering great promise to the future."

Professor Warriner continued: "Not only does the UST process appear capable of achieving stability of emulsions, but the controlled heating that also occurs may offer a valid alternative to thermal and non-thermal pasteurization methods to reduce the risk of harmful microbes in products such as edibles and topicals. I believe that CBD-infused topicals and similar products will prove more popular with users than edibles. However, to be successful, it is imperative that topicals be highly stable, safe, bioavailable, and readily absorbent nanoemulsions. After consideration of the data released today, the UST process appears to be a leading candidate to fill that important need."

Dr. Bradford A. Young, Chief Commercial Officer of PBI, summarized: "We were delighted to release a short video last week showing the ability of our new UST platform to make visually clear and stable mixtures of CBD oil and water. The scientific data released today have further validated the achievement of creating high quality, nanoemulsion mixtures of oil and water using our UST platform. In particular, these data specifically show that CBD levels are preserved all the way through UST processing to the finished product. We are very excited by these results and believe our proprietary Ultra Shear Technology can help a diverse variety of customers to develop a vast array of new and beneficial products spanning multiple large markets, including CBD and nutraceuticals, cosmetics and topicals, food and beverages, drug delivery and more."

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 high pressure-based products for biomarker and target discovery, drug design and development, biotherapeutics characterization and quality control, food science, soil & plant biology, forensics, and counter-bioterror applications. Additionally, we are actively expanding the use of our pressure-based technologies in the following areas: (1) the use of our recently acquired protein disaggregation and refolding technology from BaroFold, Inc. to allow entry

into the biologics manufacturing and contract research 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. For more information visit: www.pressurebiosciences.com

Forward-Looking Statements

This press release contains forward-looking statements. These statements relate to future events or the Company's future financial performance and involve known and unknown risks, uncertainties and other factors that may cause the Company's industry 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. These forward-looking statements are made under the "safe harbor" provisions of the U.S. Private Securities Litigation Reform Act of 1995. Investors can identify these forward-looking statements by words or phrases such as "may," "will," "except," "anticipate," "aim," "estimate," "intend," "plan," "believe," "is/are likely to," "future" or other similar expressions. The Company has based these forward-looking statements largely on its current expectations and projections about future events and financial trends that it believes may affect its financial condition, results of operations, business strategy, and financial needs. These statements are only predictions based on the Company's current expectations and projections about future events. Investors should not place undue reliance on these statements. In evaluating these statements, Investors should specifically consider various factors. Actual events or results may differ materially. These and other factors may cause the Company's 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 and other reports filed from time to time with the Securities & Exchange Commission (SEC). More detailed information about these risk factors are set forth in the Company's filings with the SEC. The Company encourages Investors to review these risk factors. 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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