November 8, 2023

Peer-Reviewed Scientific Study Independently Confirms Pressure BioSciences' UltraShear Nanoemulsion Platform Vastly Outperforms Current Technologies, Delivering CBD with Unprecedented Speed, Efficiency, Reliability, and Bioavailability

World-Renowned Researchers Validate that UltraShear-Processed CBD Nanoemulsions Deliver CBD with Absorption Speed and 4X Bioavailability in Bloodstream vs. Existing Edible CBD Consumer Products

SOUTH EASTON, MA / ACCCESSWIRE / November 8, 2023 /Pressure BioSciences, Inc. (OTCQB:PBIO) ("PBIO" or "Company"), a leader in the development and sale of broadly enabling, pressure-based instruments, consumables, and specialty process development and testing services to the global nutraceuticals, cosmeceuticals, food/beverage, biotherapeutics, agrochemical, and other industries today announced powerful scientific validation by globally-renowned cannabis/natural products researcher Dr. Mahmoud A. ElSohly of ElSohly Laboratories, Inc., that PBIO's UltraShear™ nanoemulsified CBD ("Nano CBD") achieved unparalleled efficiency of oral-GI CBD absorption and systemic bioavailability of active CBD.

Independent Scientific Confirmation: UltraShear Delivers Absorption Speed and Efficiency Defying Expectations

- Now verified by world-renowned scientific researcher and team: PBIO's UltraShear Technology platform allows oil-soluble active molecules (like CBD) to be prepared into premium quality nanoemulsions of vanishingly tiny oil droplets in water, enabling those molecules to deliver unprecedented absorption speed and bioavailability compared to current technologies.
- Their study "Absorption and Bioavailability of Novel UltraShear Nanoemulsion of Cannabidiol in Rats" was *published on November 7, 2023* in the peer-reviewed journal *Medical Cannabis and Cannabinoids.*
- Dr. ElSohly stated: "Our team was surprised by the results of the oral-GI ingestion of UltraShear Nano CBD, with blood levels detected and rising so quickly that it looked almost like instant absorption! It completely eclipsed by at least 4X the current widely-reported CBD bioavailability *of approximately 6%*."

UltraShear Nanoemulsified CBD by Oral-GI Ingestion - Results Summary

- Achieved CBD absorption of 80% compared to direct IV infusion levels over 24 hours - and 10% in 1st 30 mins.
- Within the 1st hour, the UltraShear-processed CBD exceeded current benchmarks of 6% for bioavailability of CBD from existing edible CBD consumer products - and achieved 4X above current benchmarks over 24 hours.
- UltraShear-processed CBD bioavailability achieved more than 2-2.5X improvement above levels previously measured for the FDA-approved oral-GI CBD product used to control epileptic seizures in children: Epidiolex®.
- **Highlighted great promise for rapid absorption directly into the bloodstream by non-oral-GI routes (in the cheek, under the tongue, intranasal, rectal, transdermal/topical) for even higher bioavailability levels.**

Empowering Exceptional Products for Partners and Consumers

- Study results provide evidence of potentially dramatic advantages for consumers in the CBD marketplace.
- John Hollister, PBIO Director of Sales and Marketing, stated: "Delivering scientifically proven breakthroughs in CBD absorption and bioavailability, UltraShear processing allows our partners to bring vastly superior products to market that give their customers more of what they are paying for. Consumers will love the blazing fast initial benefits and the 4X bioavailability that deliver a dramatically improved consumer experience."
- PBIO's first UltraShear-processed product (UltraShear Nano-CBD) is a preservative-free, "green/clean" labeled, sterile-filtered and vialed, all plant-based, highly bioavailable organic product that is expected to become the compelling natural choice for today's health and environmentally conscious consumers.

UltraShear Nano-CBD Shows 2-2.5X Higher Bioavailability Than the Only FDA-approved CBD Drug Epidiolex®

- When Jazz Pharmaceuticals purchased GW Pharmaceuticals for its CBD drug Epidiolex *for $7.2 Billion in 2021*, investors took serious note of the potential of this new therapeutic.
- Ric Schumacher, PBIO's President and CEO, explained: "The study results showed that the UltraShear nanoemulsified CBD delivered 2 - 2.5X higher bioavailability than the billion-dollar drug Epidiolex. Investors are looking at our revolutionary UltraShear platform as a potential path to capitalize on next-generation improved CBD performance, whether as an approved drug or non-approved nutraceutical - or both."

Next up: Global Multibillion-Dollar Markets in Nutraceuticals, Cosmeceuticals, Pharmaceuticals, Agrochem, and Food/Beverage

- The CBD opportunity for UltraShear is very large but is dwarfed by the scale of opportunities in massive markets like nutraceuticals, cosmetics/skincare, agrochemicals, liquid foods and beverages, and pharmaceuticals.
- Jeff Peterson, PBIO Board Chairman, concluded: "This hotly anticipated study has delivered game-changing independent scientific validation of UltraShear and illuminates similar opportunities for revolutionary delivery of many other oil-soluble active components. It launches powerful new opportunities for PBIO partnering, revenue generation, and value recognition across these multi-billion-dollar markets."

About Dr. Mahmoud ElSohly

Dr. Mahmoud A. ElSohly and his team are one the most eminent and renowned cannabis and natural products research teams in the world. Currently a Research Professor at The National Center for Natural Products Research, and a Professor of Pharmaceutics and Drug Delivery, School of Pharmacy, University of Mississippi (UM), Dr. ElSohly received a B.S. in Pharmacy and Pharmaceutical Chemistry and a M.S. in Pharmacy and Pharmaceutical Sciences from Cairo University (Cairo, Egypt) and a Ph.D. in Pharmacognosy from the University of Pittsburgh. He is also President and Laboratory Director of ElSohly Laboratories Inc., an analytical forensic drug testing and product development laboratory. He has over 40 years' experience working on the isolation of natural products (notably cannabis secondary metabolites), as well as synthesis, analysis, and forensic chemistry testing. Dr. ElSohly has been awarded over 40 patents and published over 400 peer-reviewed articles.

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 first patented enabling technology platform, Pressure Cycling Technology (PCT), is used to control bio-molecular interactions (such as cell lysis and biomolecule extraction) safely and reproducibly, for biomarker and target discovery, drug design and development, biotherapeutics characterization and quality control, soil & plant biology, forensics, and counter-bioterrorism applications. Our acquisition of the BaroFold™ patented technology platform in 2017, allowed us to offer important new bio-pharma contract services and GMP manufacturing equipment to this enormous market sector. Most recently, we developed the commercially scalable and high-efficiency pressure-based Ultra Shear Technology™ (UltraShear™) platform (UltraShear™ or UST™), which allows us to produce stable and precisely controlled nanoemulsions of otherwise immiscible oil and water components. 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 the leader in high-pressure platform technologies, providing unique and effective solutions to diverse, major (and growing) global market sectors.

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 X (formerly Twitter).

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SOURCE: Pressure Biosciences