

May 13, 2021



# Pressure BioSciences Awarded Three Additional Patents for Revolutionary Ultra Shear Technology Platform

***Unique Commercial-Scale Capabilities for Highest-Quality Nanoemulsions of Oils in Water Enabled by PBI's UST Platform, Addressing Multiple Billion Dollar Opportunities in Diverse Markets Worldwide***

**SOUTH EASTON, MA / ACCESSWIRE / May 13, 2021** /Pressure BioSciences, Inc. (OTCQB:PPIO) ("PBI" or the "Company"), a leader in the development and sale of broadly enabling, pressure-based instruments, consumables, and platform solutions to the worldwide life sciences and other industries, today announced the award of three additional patents for its revolutionary Ultra Shear Technology™ (UST™) platform, all entitled "System for High Pressure, High Shear Processing of Fluids". The new patents, awarded in Japan (No. 6843063), Australia (No. 2016243553), and China (ZL201680026865.2), bring the Company's Intellectual Property ("IP") estate to a total of 6 issued patents for UST and 29 issued patents overall.

Thousands of important products in everyday use are composed of oil-based active ingredients that are mixed and blended into water, typically with the addition of emulsifying chemicals (e.g., surfactants) that are undesirable constituents or leftovers in the final product applications, ranging from food and beverages, to pharmaceuticals, nutraceuticals, cosmetics, agrochemicals, industrial lubricants, and even cannabis oil extracts (e.g., CBD). Scientific data indicate that improved absorption, higher bioavailability, greater stability, lower surfactant levels, and other key advantages (such as safer and more reliable dosing control) are better achieved with the highest quality nanoemulsions using extremely low and controlled nano-droplet sizes, versus current nano/micro/macro emulsion technologies. UST was created to revolutionize the processing of immiscible oil and water combinations into a new generation of safer, more effective, and more appealing, highest quality and highly profitable nanoemulsions.

"Nanoemulsions of ingestible, topical, and other products have long been known to offer better stability, more efficient absorption, and improved bioavailability, while often requiring lower levels of emulsifiers compared to macro/micro emulsions," commented Dr. Edmund Y. Ting, PBI's Sr. Vice President of Engineering and the inventor on the patent. "Because of these significant advantages, nanoemulsions have become the focus of numerous research efforts worldwide. Cost-effective scale-up of high quality nanoemulsion processing for product commercialization has been challenging for current technologies. PBI's innovative, patented UST platform was designed to provide the critical, scalable processing technology for small to large-scale commercial applications that require the highest quality nanoemulsion products with extremely low and well-controlled droplet sizes."

John B. Hollister, PBI's Director of Marketing and Sales, added: "Our first commercial UST-

based processing system (the BaroShear K45) is planned for market release in the fourth quarter of 2021. Although we previously announced pre-orders for the purchase of over a dozen systems, we recently adapted our business strategy from an outright sale to a long-term leasing and licensing program. This change is expected to result in consistent flows and rapid growth of monthly revenues over long periods of time, as our UST platform penetrates and gains standardization acceptance across the multitude of large and diverse market applications that await this innovative and enabling technology. Our strategy adjustment to a leasing and licensing model also presents key advantages in avoiding sizable up front capital expenditures for customers, and our pre-order customers have been delighted with this welcome development."

Mr. Hollister expanded on the scalability of the UST platform: "In partnership with The Ohio State University, we recently announced the formation of a food industry consortium to advance and commercialize the UST process at the appropriate scale for liquid foods and beverage applications. The Consortium is open to food and beverage companies from around the world, whose annual financial commitments will provide them with the earliest access, demonstrations, testing and product design, and commercial licensing opportunities for the breakthrough capabilities delivered by PBI's UST platform."

Richard T. Schumacher, President and CEO of PBI, observed: "Recently, as part of the UST development process, we offered demonstrations of our prototype UST platform on product samples from groups with pharmaceutical, nutraceutical (including CBD), cosmetic and personal care, agrochemical, and diverse food and beverage applications. Our prospective clients have been stunned by the performance differentiation achieved with UST, compared to their standard emulsification processes. We are currently engaged in multiple discussions and negotiations for access and product licensing rights, as we anticipate our transition from development to production of commercial UST platform processing systems later this year."

Mr. Schumacher summarized: "The newly awarded patents in Japan, Australia, and China, combined with the recently awarded UST patent in the U.S., are a key development for our prospective customers across multiple market areas, as they help to ensure licensing protection for the performance breakthroughs enabled by UST. We anticipate that current discussions with potential UST customers worldwide will result in initial revenue-generating UST leasing and licensing applications before the end of 2021, and that rapid acceleration of UST applications closures and announcements will follow through 2022 and beyond. Such anticipated growth, when combined with the increased interest we are now seeing in our traditional PCT product line, interest that did not exist in 2020, offers PBI shareholders strong reasons to be very excited about the future of their Company."

### **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 and other industries. 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 control biomolecular interactions safely and reproducibly (e.g., cell lysis, biomolecule extraction). Our primary focus is 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, 2020, 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 PBI and this press release, please click on the following website link:

<http://www.pressurebiosciences.com>

Please visit us on Facebook, LinkedIn, and Twitter.

## **Investor Contacts:**

Richard T. Schumacher, President and CEO (508) 230-1828 (T)  
Edmund Y. Ting, Sc.D., Sr. VP Engineering (508) 230-1829 (F)  
John B. Hollister, Director Marketing & Sales

**SOURCE:** Pressure BioSciences Inc.

View source version on accesswire.com:

<https://www.accesswire.com/647202/Pressure-BioSciences-Awarded-Three-Additional->

[Patents-for-Revolutionary-Ultra-Shear-Technology-Platform](#)