

Pressure BioSciences, Inc. to Collaborate with the Lawrence Berkeley National Laboratory on the Analysis of Microorganisms in Oil Spills: Results Could Lead to Improved Strategies for Environmentally-Safe Clean-up

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South Easton, MA, August 23, 2010 – Pressure BioSciences, Inc. (NASDAQ: PBIO) (“PBI” and “the Company”) today announced a collaboration with the Lawrence Berkeley National Laboratory (“LBNL”). Scientists at LBNL are using the Company’s pressure cycling technology (“PCT”) platform in studies aimed at improving the analysis of microorganisms in environments with low biomass, such as oil reservoirs or deep sea oil plumes from oil spills. It is possible that improved microbe analysis may lead to better strategies for oil spill clean-up. LBNL’s successful use of the Company’s PCT-based products over the past few months has led to this collaboration.

Since 1967, there have been nearly 50 major oil spills in 19 countries, many of which were designated as “environmental disasters”. The effects of an oil spill – no matter the size – can be devastating on both marine and coastal life. Consequently, rapid and effective clean-up, based in part on a thorough understanding of the biological changes, effects, and consequences of an oil spill, is essential to help minimize both short and long-term damage.

Dr. Janet Jansson, Senior Staff Scientist in the Earth Sciences Division of LBNL, said: “The recent oil spill in the Gulf of Mexico has resulted in an enormous environmental catastrophe, necessitating an unprecedented clean-up effort. Multiple strategies have been used - including chemical dispersants, skimming, booms, and controlled burns. However, one of the most promising – and environmentally safest - strategies is to rely on natural microorganisms to degrade the oil before it can accumulate.”

Dr. Jansson continued: “A team of scientists from LBNL has launched a major effort to collect samples from Gulf waters near the oil spill, to monitor the microbial degradation process and the potential for natural microbial clean-up of the oil. Due to the low number of microorganisms in these samples, LBNL scientists need to use the best, most sensitive sample preparation methods to analyze these important but challenging samples. To that end, we have chosen to use Pressure BioSciences’ PCT-based products in this project, because they result in greater nucleic acid and protein yields from low concentrations of microorganisms, as compared to other methods.”

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CALENDAR OF PBI EVENTS

High Pressure Bioscience and Biotechnology (HPBB2010)	BIOPHARM AMERICA 2010
AUG. 28-SEPT. 1, 2010	SEPT. 15-17, 2010
MUNICH, GERMANY	BOSTON, MA

[Pressure BioSciences and Harvard Symposium Featured on Page 1 of Genetic Engineering & Biotechnology News](#)



Volume 30, Number 14 August 2010

Use of Ultrahigh Pressure on the Rise

For Full Presentations from the [Harvard Symposium Applications of Ultra-high Pressure in Biotechnology](#)

See Page 2

Dr Norman Schaad (USDA) Presents Poster at the 2010 American Phytopathological Society (APS) Meeting

[Improved extraction of DNA of Ca. Liberibacter species from plants and cultivated cells using pressure cycling technology \(PCT\)](#)

Dr Schaad et al., concluded that compared to other methods “The PCT Shredder Tube™ in combination with DNAzol® and PCT, provide a reliable and highly efficient method of DNA extraction from both plant and culture samples giving earlier Ct values and robust amplification curves for RT-PCR and a greater DNA yield and number of positive amplifications from cultures.”

Click On Title for Full Poster

Full Presentations from the Harvard Symposium Applications of Ultra-high Pressure in Biotechnology

Co-hosted by the Laboratory for Innovative Translational Technologies (HC-LITT) and Central Laboratory (HCCL) of Harvard Catalyst | The Harvard Clinical and Translational Science Center (Harvard CTSC) led by Drs. Winston P. Kuo and Vincent Ricchiuti and the Proteomics Resource at Harvard School of Public Health (HPR) led by Dr. Alexander R. Ivanov

Titles are Linked to Full Presentations

High Pressure Instruments for Innovation and Discovery

Edmund Y. Ting, B.S.M.E., M.Sc., Sc.D., Pressure BioSciences, Inc., S. Easton, MA 02375

Development of Essential Sample Preparation Techniques in Proteomics Using Ultra-high Pressure

Alexander R. Ivanov, Ph.D., Harvard School of Public Health, HSPH Proteomics Resource, Department of Genetics and Complex Diseases, Boston, MA 2115

High Pressure Digestion Improves Reproducibility and Differential Expression Monitoring in Proteomic Experiments

E. Bonneil, Institute for Research in Immunology and Cancer, Université de Montréal, Canada

Application of High Pressure for High Performance Proteomics

Daniel López-Ferrer, Pacific Northwest National Laboratory, Richland, WA

High Pressure Direct Protein Extraction from Tissue – Trypsin Digest with Pressure Cycling Technology (PCT)

Paul H. Pevsner, Dept. of Pathology, University of Missouri School of Medicine, Columbia, MO

Recovery and Immunoaffinity Enrichment of Integral Membrane Proteins from Metastatic Ovarian Cancer Tissue

Luke Schneider, Target Discovery, Inc., Palo Alto, CA

Application of Pressure for Improved Proteomic Analysis of FFPE Formalin

Carol B. Leaman, Dept. of Biophysics, Armed Forces Institute of Pathology, Rockville, MD

Available Soon

Symposium: Applications of Ultra-High Pressure in Biotechnology: Continued

Titles are Linked to Full Presentations

A Need for Improved Sample Inactivation and Extraction Methods to Support System Biology Analysis of Biological Threat Organisms

Bradford S. Powell, Bacteriology Division U.S. Army Medical Research Institute of Infectious Diseases, Fort Detrick, MD

Convenient and Reliable Extraction of *Borrelia burgdorferi* from Ticks Using Pressure Cycling Technology (PCT) and The PCT Shredder

Richard C. Tilton, Ph.D., Medical Diagnostics Laboratories

The Real Jurassic Park: The Isolation of Proteins from Microorganisms Preserved in Amber Inclusions for 40 Million Years

Gary B. Sr

Available Soon

¹ Harvard Catalyst Laboratory for Innovative Translational Technologies, Boston, MA.

² Politecnico di Milano, Department of Chemistry, Materials & Chemical Engineering, Milan, Italy

Pressure Cycling Technology (PCT) Augments Sensitivity of Detection and Robustness in Forensic DNA Analyses

Bruce Budowle, Ph.D., Department of Forensic and Investigative Genetics, Institute of Investigative Genetics, University of North Texas Health Science Center, Ft Worth, Texas

Rapid Sample Preparation Method for Analysis of N-Linked Glycans

Zoltan Szabo, Barnett Institute, Northeastern University, Boston, Massachusetts 02115

High-Pressure Assisted In-Gel Tryptic Digestion for Qualitative and Quantitative Characterization of Protein Mixtures

Melkamu Getie-Kehtie, FDA-CBER-NIH, Rockville Pike, Bethesda, MD 20892

High Pressure in Life Sciences – Trends and Future Opportunities

Alexander Lazarev, Ph.D.

Pressure BioSciences, Inc.,

14 Norfolk Ave., S. Easton, Massachusetts 02375

Disclaimer

Harvard Catalyst | The Harvard Clinical and Translational Science Center, HC-LITT, HCCL, HPR, and the DoD do not endorse any company or product. The opinions expressed during this event are solely those of the speakers and of PBI, and do not represent the views of Harvard Catalyst, Harvard University and its affiliated academic health care centers, the National Center for Research Resources, the DoD, or the National Institutes of Health.

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Dr. Olivia Mason, a post-doctoral researcher in Dr. Jansson's laboratory, commented: "In an effort to develop technologies that utilize indigenous microorganisms in enhancing oil recovery, we are using a systems biology approach to characterize the microbial communities associated with oil reservoirs. Similarly, we are attempting to characterize the microbial communities in a deep-sea oil plume, to determine their role in bioremediation, and to use this knowledge to develop effective strategies for future oil spill clean-ups. Such analysis requires the use of cutting-edge methods that allow for unprecedented insights into microorganisms that exist in very low concentrations in such environments. PBI's PCT-based products have been shown to significantly increase the yield of DNA and to extract a greater microbial diversity from such samples. Thus, they have become a sample preparation method of choice for our laboratory."

Dr. Nate Lawrence, Vice President of Marketing for PBI, said: "We are installing three additional NEP3229 PCT Sample Preparation Systems at LBNL under an initial, six-month reagent rental program, to be used alongside of their recently purchased NEP3229 PCT System. We will also support our colleagues at LBNL with advice based on our extensive experience in high pressure engineering and biology. The work they are doing is extremely important, and we are pleased and honored to be part of their program."

Dr. Lawrence concluded: "This collaboration is the result of a high quality PBI customer expanding the use of our PCT-based product line in a new and important area. We believe that there are many of other laboratories performing similar work to LBNL. Since oil spills will continue to occur, it is important for these labs to develop new, environmentally-sound, microorganism-based clean-up strategies. The credibility provided by our LBNL relationship and the PCT-based applications they have already shown are possible, is expected to provide additional sales opportunities in the near future."

Forward Looking Statements

Statements contained in this press release regarding PBI's intentions, hopes, beliefs, expectations, or predictions of the future are "forward-looking" statements within the meaning of the Private Securities Litigation Reform Act of 1995. Such forward looking statements include statements regarding the advantages of PCT in processing samples from oil reservoirs and oil plumes, including the extraction of significantly more nucleic acids and proteins than other available methods, and the extraction of a greater microbial diversity from such samples; that improved microbe analysis may lead to better strategies for oil spill clean-up; the use of natural microorganisms to degrade oil before it accumulates; the number of laboratories performing studies similar to the scientists at LBNL; and the additional sales opportunities that may result from the collaboration with LBNL. These statements are based upon PBI's current expectations, forecasts, and assumptions that are subject to risks, uncertainties, and other factors that could cause actual outcomes and results to differ materially from those indicated by these forward-looking statements. These risks, uncertainties, and other factors include, but are not limited to: possible difficulties, delays and additional costs in the implementation of PBI's strategies that may adversely affect the commercialization of PCT and PCT-dependent products, including PBI's plan to focus on laboratories performing studies similar to LBNL; the collaboration with LBNL may not result in generating data that supports the advantages of PCT for microbe analysis, and LBNL continuing with the reagent rental program after the initial six-month period; changes in customer needs and technological innovations; other scientists may not achieve the same PCT results reported by LBNL; and PBI's sales force may not successfully sell the PCT product line because scientists may not perceive the advantages of PCT for releasing proteins and nucleic acids in microorganisms in oil reservoirs and oil plumes. Further, the Company expects that it will need additional capital to fund its continuing operations beyond the first quarter of 2011. Additional risks and uncertainties that could cause actual results to differ materially from those indicated by these forward-looking statements are discussed under the heading "Risk Factors" in PBI's Annual Report on Form 10-K for the year ended December 31, 2009, and other reports filed by PBI from time to time with the SEC. PBI undertakes no obligation to update any of the information included in this release, except as otherwise required by law.

*PCT MicroTubes and MicroCaps
Are Now Available in Convenient,
Easy-to-Use 96 Well Racks
and Other Formats*



- 96 MicroTubes or MicroCaps in Bulk
- 96 MicroTubes or MicroCaps in Packets of 8 Each (Original)
- 96 MicroTubes in a Rack (No Caps)
- 96 MicroCaps of 50, 100, or 150 uL in a Rack (No Tubes)
- 96 MicroTubes with 50 uL MicroCaps in a Rack (Pre-capped)
- 96 MicroTubes with 100 uL MicroCaps in a Rack (Pre-capped)
- 96 MicroTubes with 150 uL MicroCaps in a Rack (Pre-capped)

For More Information or to
Request a PBI Specialist to Contact You
Please Click: info@pressurebiosciences.com

**Special Pricing
Offers Through September**
If You Are Considering Purchasing Another
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