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# Ceapro Inc. Announces Successful Completion of Collaborative Research and Development Program with University of Alberta

*– Project significantly advances broadening the application and utility of Ceapro’s proprietary, first-in-class technologies to develop innovative delivery systems composed of new chemical complexes –*

*– New PGX-based products developed under the collaboration paves the way for commercial scale production of new chemical complexes and innovative delivery systems –*

*– Potential for applications in personal care, functional food, dietary supplement and pharmaceuticals –*

*– Findings to be presented at the upcoming 18<sup>th</sup> European Meeting on Supercritical Fluids –*

EDMONTON, Alberta, April 08, 2021 (GLOBE NEWSWIRE) -- [Ceapro Inc.](#) (TSX-V: CZO; OTCQX: CRPOF) (“Ceapro” or the “Company”), a growth-stage biotechnology company focused on the development and commercialization of active ingredients for healthcare and cosmetic industries, announced today the successful completion of its long-term research project with Professor Dr. Feral Temelli at the University of Alberta (UofA). Based on the successful results of the project, Ceapro will expand the utilization of the [PGX Technology](#) and generate innovative high-value ingredients with a competitive advantage, targeting applications in functional food, dietary supplement, personal care, and pharmaceuticals.

The collaborative project titled “*PGX technology for drying of biopolymers and their impregnation with bioactives*” was initiated in June 2017 and leveraged funding with the Collaborative Research and Development (CRD) grant project from the Natural Sciences and Engineering Research Council of Canada (NSERC). The goal of the project was to expand the array of PGX-processed polymers impregnated with bioactives based on a solid understanding of their behavior under the PGX processing conditions and the interactions between them.

"This project allowed for the screening of various compounds and the retention of the most promising ones with the best marketing potential. With these important findings, we have established an expanded PGX-based product pipeline further supporting the investment decision for the commercial scale up of the PGX Technology for the processing of oat beta glucan, yeast beta glucan and alginate. These first three products offer potential benefits either as stand-alone products or as carrier for other bioactives. We are very grateful to Professor Dr. Feral Temelli, her research team at the UofA, and Ceapro’s research team for

the success in this extensive collaborative research project,” commented Mr. Gilles Gagnon, President and Chief Executive Officer of Ceapro.

Results from this NSERC-CRD project demonstrated for the first time that Ceapro’s PGX Technology could be used to not only dry and purify polysaccharides like beta glucan, but also proteins and peptides, which could then be impregnated with valuable bioactives. Additionally, by leveraging the PGX Technology, the research team was able to generate unique composites known as exfoliated nanocomposites, made of homogeneously intertwined polymers (e.g. polysaccharides, proteins, enzymes and gums) with remarkable new properties. This project also greatly contributed to the development of new processing approaches using the PGX Technology, especially for the development of new delivery systems even making the dispersions of hydrophobic bioactives in water stable.

“Over the course of this project, significant inroads were made into a completely new and promising field – the simultaneous drying, purification and functionalization of proteins, peptides, and enzymes,” said Dr. Paul Moquin, Director Scientific Affairs and New Business Development at Ceapro. “Researchers made unique alginate-protein composites made of homogeneously intertwined polymers with remarkable new properties. Although it is early to totally capture the full impact that such findings will have on the development of future products, we expect that it will be disruptive to many economic sectors.”

Considerable resources were deployed during this project to study and characterize the PGX material, novel composites, and new delivery systems. Among all the work that was conducted, enhanced release kinetics of these hydrophobic bioactives in simulated gastrointestinal conditions was demonstrated, which is an indication of their potential increased bioavailability that can lead to improved health benefits. Results allow the selection of the best polymer as the carrier to generate optimal delivery systems for targeted applications including functional food, dietary supplement, personal care, cosmetic and drug applications.

"We are very happy to successfully complete this very ambitious project, generating a lot of new information, and paving the way for new opportunities and future applications of the PGX Technology," said Professor Dr. Feral Temelli from the Department of Agricultural, Food & Nutritional Science of the University of Alberta. "It was a major collaborative effort between our teams at the University of Alberta and Ceapro. Based on the training received at the UofA throughout this project, two of my team members were hired by Ceapro and it is wonderful that they continue to contribute to the growth of the PGX Technology. I really appreciate the financial support of NSERC-CRD program and Ceapro for this major project."

As a result of this collaborative work, Ceapro has greatly expanded its portfolio of innovative bioactive ingredients and delivery systems, and has garnered international attention, both in the industrial sector and the scientific community. The Company expects additional findings from this project to be published in peer-reviewed journals and scientific conferences, including three abstract presentations that have been accepted at the 18<sup>th</sup> European Meeting on Supercritical Fluids (EMSF) being held virtually May 4-6, 2021. One of the abstracts will be presented as a keynote address by Dr. Feral Temelli.

### **About Pressurized Gas eXpanded Liquid Technology (PGX)**

Ceapro’s patented Pressurized Gas eXpanded (PGX) technology is a unique and disruptive

technology with several key advantages over conventional drying and purification technologies that can be used to process biopolymers into high-value, fine-structured, open-porous polymer structures and novel biocomposites. PGX is ideally suited for processing challenging high-molecular-weight, water-soluble biopolymers. It can make ultra-light, highly porous polymer structures on a continuous basis, which is not possible using today's conventional technologies. PGX was invented by Dr. Feral Temelli from the Department of Agricultural, Food & Nutritional Science of the University of Alberta (U of A) along with Dr. Bernhard Seifried, now Senior Director of Research and Technology at Ceapro. The license from U of A provides Ceapro with exclusive worldwide rights in all industrial applications.

### **About University of Alberta**

The University of Alberta in Edmonton is one of Canada's top teaching and research universities, with an international reputation for excellence across the humanities, sciences, creative arts, business, engineering, and health sciences. Home to more than 38,000 students and 15,000 faculty and staff, the university has an annual budget of \$1.9 billion and attracts more than \$500 million in sponsored research revenue. The U of A offers close to 900 rigorous undergraduate, graduate, and professional programs in 18 faculties on five campuses-including one rural and one francophone campus. The university has more than 275,000 alumni worldwide. The university and its people remain dedicated to the promise made in 1908 by founding President Henry Marshall Tory that knowledge shall be used for "uplifting the whole people."

### **About Natural Sciences and Engineering Research Council of Canada (NSERC)**

The NSERC, through grants, fellowships and scholarships, promotes and supports research and research training in the natural sciences and engineering to develop talent, generate discoveries, and support innovation in pursuit of economic and social outcomes for Canadians

### **About Ceapro Inc.**

Ceapro Inc. is a Canadian biotechnology company involved in the development of proprietary extraction technology and the application of this technology to the production of extracts and "active ingredients" from oats and other renewable plant resources. Ceapro adds further value to its extracts by supporting their use in cosmeceutical, nutraceutical, and therapeutics products for humans and animals. The Company has a broad range of expertise in natural product chemistry, microbiology, biochemistry, immunology and process engineering. These skills merge in the fields of active ingredients, biopharmaceuticals and drug-delivery solutions.

For more information on Ceapro, please visit the Company's website at [www.ceapro.com](http://www.ceapro.com).

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Source: Ceapro Inc.