

## **Ceapro Inc. Announces its First Major Milestones with its PGX Enabling Technology**

- *Company announces completion of PGX pilot scale facility, installation of custom-designed process equipment, and formation of expert PGX team*
- *Agreement with University of Alberta, utilizing \$332K grant from Canadian Government, signed to conduct impregnation studies using PGX technology*
- *Bioavailability study for new chemical entity CoQ10-beta glucan to commence this month*

**EDMONTON, ALBERTA – June 1, 2017 – [Ceapro Inc.](#) (TSX-V: CZO) (“Ceapro” or the “Company”)**, a growth-stage biotechnology company focused on the development and commercialization of active ingredients for healthcare and cosmetic industries, today provided an update of the Company’s [Pressurized Gas eXpanded](#) (“PGX”) technology and announced advancements on research projects related to product development and enabling technologies to be presented today during the planned corporate update prior to the start of the Annual General and Special Meeting (AG&SM) of Shareholders.

In September 2016, Ceapro announced the grand opening of its new bio-processing extraction facility in Edmonton with a dedicated space necessary for the design and implementation for the Company’s PGX enabling technology, which is currently in development at various scale levels for all industries and all applications. Using a step-wise approach, a team of engineers recently completed a unique in-house custom designed set of process equipment, which the Company intends to use for the further advancement of PGX as a delivery system platform. This proprietary equipment will enable Ceapro to produce sufficient material for both application development studies and saleable product for niche applications and for initial seeding of the market.

The Company has conducted encouraging lab-scale research with PGX and analyzed biopolymer samples from different sources. Given the unique properties obtained with processed compounds and especially the increased surface area allowing for inclusion of other biomaterial, PGX becomes an extraordinary and unique enabling technology to produce innovative delivery systems.

Gilles Gagnon, M.Sc., MBA, President and CEO of Ceapro, commented, “Since the opening of our new facility in September of last year, we have worked diligently to implement the custom process equipment and our expert PGX team to further develop this technology as a delivery system platform. These steps represent a major milestone for the advancement of our strategy and an important step forward in realizing our vision for PGX. Ceapro is well positioned to continue important momentum through our next phase of growth.”

Utilizing its proprietary PGX technology, Ceapro has successfully completed the impregnation of bioactives, demonstrating the first water soluble solid nanodispersion formulation of Co-enzyme Q10 (“CoQ10”). The Company recently presented the positive results from the first phase of a project to develop a functional energy drink at the 16th European Meeting on Supercritical Fluid Technologies. Following the announcement of these positive results for the development of a water soluble new chemical entity formed by the combination of CoQ10 and PGX-processed dry beta glucan, the next step is to test if the newly formed chemical complex will reach the targeted cells to bring the expected health benefits.

“We are very pleased with the findings from these studies and remain encouraged as we move forward into the next phase of development. We are happy to announce the completion of the protocol for the next phase of development for this project and that it will be implemented at the University of Alberta (“U of A”) with Dr. Feral Temelli and Dr. Donna Vine from the Department of Agricultural, Food and Nutritional Science.”

The overall goal of the project with U of A is to determine the bioavailability of the CoQ10-BG complex and to test the beneficial bioactivity of this novel ingredient. In order to achieve this goal, the specific objectives of the study are to:

- Determine the direct *in vivo* intestinal bioavailability using a rodent model;
- Evaluate the plasma pharmacokinetics using a rodent model;
- Determine the bioactivity effects in a control and metabolic-syndrome prone rodent model under high-dietary fat conditions; and
- Assess plasma pharmacokinetics in different food matrices in human subjects.

The Company expects results from the first two animal study objectives by year end. The results from these studies will pave the way for discussions advancement with multinational companies. Importantly, while these studies are underway, cholesterol and other biomarkers will be observed, which is expected to provide some insight for the upcoming large clinical trial evaluating beta glucan as a cholesterol reducer.

While most of the impregnation studies using PGX have been done with beta glucan and CoQ10, there is a need for more research to evaluate the impregnation of other biopolymers and bioactives such as oat-based avenanthramides and fat-soluble vitamins D and E, as well as to evaluate the potential of PGX for proteins like monoclonal antibodies that are highly needed in the biopharmaceutical industry.

With those needs in mind, Ceapro has signed an exclusive research agreement with University of Alberta, which was recently awarded a grant of \$332,000 by the Natural Sciences and Engineering Research Council of Canada to conduct the project titled “*PGX technology for drying of biopolymers and their impregnation with bioactives,*” which aims 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 will involve four post-graduate students working in Dr. Temelli and Ceapro's labs where more than ten products will be assessed.

"We look forward to continuing our relationship with U of A with this project and are thankful to the Natural Sciences and Engineering Research Council of Canada for their grant contribution. We have made tremendous progress and remain focused on advancing our unique and disruptive enabling technologies, which we believe will continue to play a key role in Ceapro's success," concluded Mr. Gagnon.

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

The Company's patented Pressurized Gas eXpanded (PGX) 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, nano-sized polymer structures and novel bio-nanocomposites. PGX is ideally suited for processing challenging high-molecular-weight, water-soluble biopolymers. It has the ability to 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 Researcher at Ceapro. The license from U of A provides Ceapro with exclusive worldwide rights in all industrial applications.

### **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.

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