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# Ceapro Inc. Demonstrates First Water Soluble Solid Nanodispersion Formulation of CoQ10 Utilizing its PGX Enabling Technology

**Announces positive results from the first phase of a project to develop a functional energy drink at the 16th European Meeting on Supercritical Fluid Technologies held in Lisbon, Portugal**

EDMONTON, ALBERTA -- (Marketwired) -- 05/04/17 -- [Ceapro Inc. \(TSX VENTURE:CZO\)](#) ("**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 the first development phase of a project entitled, "*Beta glucan with coenzyme Q10 ("CoQ10"): A novel ingredient for functional beverages.*" This project included two studies, which were conducted at the University of Alberta by Dr. Feral Temelli's team along with Ceapro researchers.

The primary objective of the first study was to find the optimal technical conditions to combine beta glucan and CoQ10, and to characterize the physical chemistry properties of the resulting newly formed chemical complex. The second study involved the development and testing of a prototype beverage formulation with the new chemical complex developed in the first study.

Positive results were obtained from both studies. The first study resulted in the successful development of a novel water soluble chemical complex (CoQ10-Beta Glucan) obtained from the utilization of Ceapro's enabling Pressurized Gas eXpanded Technology ("PGX").

The second study resulted in the successful preparation of an appealing prototype beverage formulation that was determined to be well liked by a trained panel. This conclusion comes from a blinded study involving 91 subjects who were asked to compare two formulations, beta glucan alone ("BG") versus CoQ10-impregnated beta glucan ("iBG"), based on several attributes such as appearance, flavor, sweetness, aftertaste, bitterness and thickness. No difference was observed between the two formulations, confirming the successful impregnation of the new complex (iBG) and its uniform dispersion in water.

These positive findings open new opportunities for commercialization of CoQ10, which is normally poorly bioavailable and commonly sold in the form of gel capsules or emulsions due to its liposoluble nature. The lipophilic antioxidant CoQ10 is a natural substance present in all human cells that plays a fundamental role during aerobic cellular respiration. While many approaches have attempted to compensate for the depletion of this "energy source"

caused by aging, certain diseases and the use of drugs to decrease cholesterol levels (statins), bioavailability remains an issue due to its poor solubility in water and its crystalline nature.

Bernhard Seifried, Ph.D., Senior Scientist/Engineer at Ceapro commented, "We are excited with these results where we were able to demonstrate for the first time that it is possible to form stable mixtures of coenzyme Q10 nanocrystals in water due to impregnation onto a highly porous water-soluble matrix like beta glucan that acts as a carrier to potentially enhance its bioavailability and bring this anti-oxidant compound to the targeted cells. We are pleased with the outcomes of this project, which we believe represents the first potential commercial application from the use of our PGX technology."

"We are very encouraged with the positive results from this study. We believe that the prototype beverage that was developed in this first phase exhibited the potential of iBG as a functional ingredient for incorporation into beverages and may inspire new applications in food products or natural health products. While many health claims have been reported with current commercial formulations, our next phase will be to conduct a bioavailability study in humans in order to support efficacy with solid scientific data. Upon the successful demonstration of an increased concentration of CoQ10 in human blood, we plan to pursue commercialization into this large market in partnership with a multinational company," added Gilles Gagnon, M.Sc., MBA, President and CEO of Ceapro.

This project was co-funded by Alberta Innovates Bio Solutions and Ceapro Inc.

### ***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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