

Ceapro Inc. Announces Positive Data from Bioavailability Studies Evaluating CoQ10 Formulations Impregnated with PGX-Processed Carriers

- *Findings from this collaborative project with the University of Alberta using a unique surgical methodology illustrate how PGX-processed carriers can successfully be uniformly loaded with a fat-soluble active ingredient to generate superior bioactive delivery systems*
- *Superior bioavailability data further confirm potential for the development of first-in-class slow-release formulations*
- *Strength of data further support investment decision for next scale-up level of the PGX Technology*

EDMONTON, Alberta, Oct. 13, 2022 (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, today announced positive results from its collaborative project led by Dr. Donna Vine, Professor at the Department of Agriculture, Food and Nutritional Science of University of Alberta.

In this study, titled “*Pre-clinical Testing of Intestinal Bioavailability of CoQ10-Formulations*” four PGX-processed highly purified carriers, outlined in the table below, were loaded (impregnated) with Coenzyme Q10 (CoQ10) and compared against two positive controls: a food-grade lipid-based formulation (CoQ10 in triolein or oil) and one of the best commercially available dry powder formulation: Cyclodextrin loaded with 22.1% CoQ10.

Sample code	Carrier used	CoQ10 load (%w)
iYBG	PGX Yeast b-Glucan	5.80
iAL	PGX Sodium Alginate	20.2
i(AL+OBG)	PGX (Sodium Alginate + oat b-Glucan)	15.8
i(AL+YBG)	PGX (Sodium Alginate + yeast b-Glucan)	22.5

In the summary report of the project, Dr. Vine concludes, “This *in vivo* pilot study shows that following 8 hours, the 5.8% iYBG and 20% iAL CoQ10 formulations have increased bioavailability of CoQ10 up to 2-3 fold higher compared to food grade CoQ10 in triolein and 22.1% commercial complex (Cyclodextrin) formulations.” Furthermore, an additional four hours of tissue collection (up to 12 hours) demonstrated an additional 30% increase in CoQ10 absorption in the 22.5% i(AL+YBG) formulation, highlighting the prolonged or delayed metabolism-absorption of CoQ10 which may also infer long-acting metabolic

benefits of CoQ10.

“With our recent announcement of the successful development and publication of new chemical conjugates like PGX Alginate loaded with CoQ10, we are very pleased to have demonstrated *in vivo* a superior bioavailability for these new chemical complexes with CoQ10 even when it is mixed in water formulation where bioavailability has always been a challenge for most commercial CoQ10 supplements. Knowing that Ceapro’s PGX-processed carriers can deliver CoQ10 into the tissues, we will advance to the next stage which includes looking for efficacy of these new chemical entities along with a partner involved in the marketing and sales of various forms of delivery systems that can be included in food, drinks, cream formulations, medical supplies like thin films, skin patches and up to nutraceuticals and pharmaceuticals,” said Gilles Gagnon, M.Sc., MBA, President and CEO. “Additionally, we are excited about some data strongly suggesting that we have a slow release formulation when combining i(AL+YBG) with CoQ10 (8-12 hours), which would be a first-in-class product. In summary, these results with alginate and yeast beta glucan as carriers for CoQ10 and possibly other bioactives support our investment decision for the next scale up level of the PGX Technology and the expansion of our pipeline targeting a large market potential.”

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, openporous polymer structures and novel biocomposites. 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 Director of Engineering Research and Technology 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 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.

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