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Ceapro Inc. Expands Collaborative Research Program with McMaster University to Develop Inhalable Therapeutic for COVID-19

– New project seeks to expand on positive preliminary results from ongoing research program with McMaster University to develop innovative drug delivery systems using disruptive PGX Technology

– Ceapro at the forefront of pioneering approaches with natural products through utilizing validated enabling technology

EDMONTON, Alberta, May 26, 2020 (GLOBE NEWSWIRE) -- [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 announced it has entered into an additional research project expanding on the ongoing collaboration with McMaster University to develop an inhalable therapeutic for COVID-19. The new research project is entitled “*PGX-processed yeast beta-glucans as an inhalable immunomodulating therapeutic for COVID-19 patients.*”

The project will be under the leadership of Dr. Kjetil Ask, a pulmonary fibrosis expert, and Dr. Todd Hoare respectively from departments of Medicine and Chemical Engineering at McMaster University. Ceapro, in collaboration with Mitacs, a national, not-for-profit organization that has fostered growth and innovation in Canada for over 20 years, will help provide funding for the four post-graduate students involved in this project over the next year.

In August 2019, Ceapro announced its collaboration with the labs of Dr. Ask and Dr. Hoare aimed at developing innovative drug delivery systems using Ceapro’s disruptive [Pressurized Gas eXpanded \(PGX\) Technology](#) to optimize drug formulations used in areas of high unmet medical needs such as idiopathic lung fibrosis and antibiotic-resistant infections. To date the McMaster research team has successfully PGX-processed and highly purified a powder formulation of currently used commercial yeast beta glucan (YBG) that could be administered directly to the lungs by inhalation. The team seeks to expand on the positive preliminary results obtained from the ongoing collaboration to develop an inhalable therapeutic (PGX-YBG) for COVID-19.

“While we were reviewing the preliminary data collected as part of our CHRP research with Ceapro and Dr. Hoare in developing potential treatments for fibrotic lung disorders, we realized that this treatment strategy might also be useful for the most severe COVID-19 patients who develop Acute Respiratory Distress Syndrome and subsequent fibrotic

changes,” stated Dr. Kjetil Ask. “We are very grateful for Mitacs and Ceapro’s funding as it allows us to potentially make a real-time impact on the current COVID-19 pandemic, by developing inhaled treatment strategies that have immune modulatory and antifibrotic properties for the most severely affected patients.”

Given that the results obtained from preliminary biological studies where PGX-YBG new formulation has been found to modulate the immune system through a specific mechanism of action and without causing the undesirable side-effects associated with other YBGs, a benefit associated with the purification provided by the PGX process, researchers expect to demonstrate the utility of this new material in avoiding severe inflammation or so-called “cytokine storm” observed in the lungs of severe COVID-19 patients. This would be a first as there are to date no therapeutics that have been demonstrated to relieve such undesirable immune response or avoid the resulting changes in the lung tissue which causes the breathing difficulties and ultimately death in severe COVID-19 cases. Also, given that YBG is already approved as a pharmaceutical additive, it is anticipated that this short term pre-clinical study will lead to approval for rapid human trials that could save lives within the current pandemic and beyond.

“The potential of Ceapro’s materials to treat late-stage COVID-19 patients using only the material, without requiring a drug, is exciting and offers the potential to make a real-time impact on preserving lives during the pandemic,” stated Dr. Hoare, Professor at the Department of Chemical Engineering at McMaster University.

“While being aligned with our vision in developing new drug formulations and delivery systems, this project with McMaster University is one more example of the versatility and potential of the PGX technology. In this case, it may offer an additional tool in the fight against COVID-19 which is affecting so many vulnerable individuals during this crippling pandemic,” commented [Gilles Gagnon, M.Sc., MBA, President and CEO](#) of Ceapro. “I am very grateful and proud of the McMaster and Ceapro research teams for their continuing initiative, innovation and hard work. We are hopeful that this timely discovery will exceed expectations in paving the way for a new treatment approach for COVID-19 and other fibrotic end-point disease in the lung.”

“Mitacs is proud to partner with Ceapro and McMaster University to develop an inhalable therapeutic that has the potential to save lives. We believe that innovation is a powerful tool to solve the challenges brought by the COVID-19 pandemic, and we’re pleased to contribute to research solutions as we work with the best academic institutions across the country,” said John Hepburn, CEO and Scientific Director of Mitacs.

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 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 McMaster University

McMaster University, one of four Canadian universities listed among the Top 100 universities in the world, is renowned for its innovation in both learning and discovery. It has a student population of 23,000 and more than 175,000 alumni in 140 countries.

About Mitacs

Mitacs is a not-for-profit organization that fosters growth and innovation in Canada by solving business and not-for-profit challenges with research solutions from academic institutions. Mitacs is funded by the Government of Canada, the Government of Alberta, the Government of British Columbia, Research Manitoba, the Government of New Brunswick, the Government of Newfoundland and Labrador, the Government of Nova Scotia, the Government of Ontario, Innovation PEI, the Government of Quebec, and the Government of Saskatchewan.

For Mitacs news, please visit: www.mitacs.ca/en/newsroom

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.

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