Ceapro Inc. Issued U.S. Patent for Enabling Pressurized Gas Expanded (PGX) Technology

- Patent Covers Proprietary Methods and Use of Micro- and Nano-Sized Particles Generated by Applying PGX Supercritical Fluid Technology

- PGX Enabling Technology for Worldwide Use in All Industries and All Applications

- Ceapro is Developing PGX at the Commercial Scale Level

EDMONTON, ALBERTA -- (Marketwired) -- 02/03/16 -- 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, today announced that the Company has received issuance from the U.S. Patent and Trademark Office ("USPTO") for U.S. Patent No. 13/638,254 titled, "Supercritical Fluid Treatment of High Molecular Weight Biopolymers."

The Company's Pressurized Gas eXpanded (PGX) technology licensed from University of Alberta via TEC Edmonton is a novel spray drying technique for processing water-soluble biopolymers and can produce numerous morphologies of biopolymers ranging from fine fibers to granular powder, which are highly water soluble. Because PGX operates at lower temperatures than conventional spray drying, it also enables the incorporation of thermosensitive bioactives. The allowed patent claims cover methods related to the production, impregnation and microencapsulation of micro- and nano-particles, agglomerates and fibers from high molecular weight water-soluble biopolymers applying supercritical fluid technology utilizing PGX.

Gilles Gagnon, M.Sc., MBA, President and CEO of Ceapro, stated, "The issuance of this U.S. patent for PGX is a very significant addition to our robust intellectual property portfolio surrounding our unique and disruptive enabling technology."

PGX processing of biopolymers results in powders with large specific surface area facilitating easier handling, dispersion, and dissolution in water much faster than powders of the same biopolymers prepared by prior art techniques, which is key to high molecular weight biopolymers used in cosmetic industries and the successful commercial scale production of Ceapro's pharmaceutical grade powder formulation of beta glucan. The Company has also successfully used PGX to impregnate micro- or nanoparticles with a bioactive material, including a highly porous biopolymer matrix of beta glucan impregnated
with Coenzyme Q10. This impregnated beta glucan has the potential for use in nutraceuticals, functional food ingredients, and even as a drug delivery vehicle.

In addition to utilizing PGX for production of Ceapro's cosmeceutical value-driver beta glucan, the Company has in-licensed its proprietary PGX enabling technology for worldwide use in all industries and all applications and is developing PGX at the commercial scale level. The construction of Ceapro's new 30,000 square-foot bio-processing extraction manufacturing facility in Edmonton, Alberta, now includes an expanded production area specifically designed to house a commercial and demonstration scale PGX skid.

"Since we in-licensed PGX, we have been conducting research with samples received from various multi-national companies in a broad range of industries, all resulting in positive lab scale level production," Mr. Gagnon added. "Given the encouraging end-products we have seen from analyzing these samples, we believe our expansion investment in the new facility to include in-house commercial PGX production is an important step forward in our strategy."

"We fully expect this technology will expand our reach into high-value nutraceutical and pharmaceutical programs and in parallel provide us with the opportunity to advance strategic alliance collaborations in a broad range of industrial applications. We believe this will unlock significant shareholder value in both the near and long-term," concluded Mr. Gagnon.

The dried highly porous biopolymers created by Ceapro's PGX enabling technology can also be impregnated and functionalized with other biopolymers to generate exfoliated nano-composites and novel advanced materials. Production of dry powder formulations and materials have significant bio-industrial applications ranging from functional foods, nutraceuticals, drug delivery, and cosmetic systems to advanced technical applications including specialty chemicals, agricultural uses, and numerous other industrial applications.

The Company's patented PGX Technology has the ability to:

- Dry aqueous solutions or dispersions of polymers derived from agricultural and/or forestry feedstocks, such as polysaccharides, gums, biopolymers at mild processing conditions (40°C);
- Purify biopolymers by removing contaminants, impurities and odors during the precipitation and drying process;
- Micronize the polymer to a matrix consisting of highly porous fibrils or spherical particles having nano-scale features depending on polymer molecular structure;
- Functionalize the polymer matrix by generating exfoliated nano-composites of various polymers forming fibers and/or spheres simply by mixing various aqueous polymer solutions/dispersions prior to PGX processing;
- Impregnate the polymer matrix homogeneously with thermo-sensitive bioactives and/or hydrophobic modifiers to tune solubility of the final polymer bioactive matrix all in the same processing equipment at mild conditions (40°C); and
- Extract valuable bioactives at mild conditions from fermentation slurries, while drying the residual biomass.

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

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 co-invented by Ceapro researcher Dr. Bernhard Seifried and University of Alberta professor, Dr. Feral Temelli.

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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