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Avalon GloboCare Expands AVA-Trap™ Program to Treat COVID-19 and CAR-T Related Cytokine Storms

- *Expands and files two USPTO provisional patent applications jointly with the Massachusetts Institute of Technology (MIT) Media Lab to develop a cytokine-specific blood purification system based on Avalon's proprietary AVA-Trap™ technology*

- *Reflects advancements to Avalon's AVA-Trap™ blood filtration system designed to rid the body of cytokines unleashed during the "cytokine storm" and acute respiratory distress syndrome (ARDS) in COVID-19 patients, as well as cancer patients treated with CAR T-cell therapy and other patients that require rapid removal of cytokines from the body*

- *The expanded patent application combines two novel technologies—S-layers and a protein design code tool—for a decoy cytokine receptor system to filter out pro-inflammatory cytokine levels in the blood in those experiencing cytokine storm*

FREEHOLD, N.J., Aug. 12, 2020 (GLOBE NEWSWIRE) -- Avalon GloboCare Corp. (NASDAQ: AVCO) (Avalon or The Company), a clinical-stage global developer of cell-based technologies and therapeutics, announced today that Avalon has expanded and filed two provisional patents with the U.S. Patent and Trademark Office outlining compositions and methods of developing a decoy cytokine receptor-based filter system to treat "cytokine storms." These provisional patent applications are direct results of recent advancements related to Avalon's *AVA-Trap™ therapeutic program*. The technology utilizes cytokine receptor–Fc-fusion proteins to potentially serve as an antibody-like decoy to dampen the excessive cytokine release that occurs during hyper-activation of the immune system—a life-threatening condition called "cytokine storm" that can cause multi-organ failure and death.

Patients infected with the SARS-CoV-2 virus that causes COVID-19 are susceptible to developing cytokine storms, which occur when the immune system suddenly produces high levels of inflammatory proteins called cytokines that concentrate in the blood. The extracorporeal hemo-purifier device is designed to provide potential treatment for patients experiencing cytokine storms induced by COVID-19, hepatitis, HIV, influenza, graft-versus-host disease, and cytokine release syndrome associated with CAR-T cell therapy.

The expanded patent application was jointly filed with Professor Shuguang Zhang of the Massachusetts Institute of Technology (MIT) Media Lab, and Professor Uwe Sleytr, a full member of the Austrian Academy of Sciences and pioneer of applied surface layer ("S-layer") nanotechnology.

The application combines Avalon's *AVA-Trap™* program with two innovative technologies.

The first is the QTY code protein design platform, which was developed together with Professor Shuguang Zhang's laboratory at MIT. This technology platform can turn water-insoluble proteins that normally reside within cellular membranes—and that can be difficult to work within the laboratory—into water-soluble proteins that can be used in many clinical applications. The second technology is applied S-layer nanotechnology, based on the repetitive protein structures that make up the outer surface of microbial cells. Coating of S-layers on solid surfaces can greatly enhance the binding orientation and efficiency of targeted ligand proteins that are directed to bind to, and capture, molecules of choice in the blood.

Together, Avalon is developing these unique technologies to advance an extracorporeal hemodialysis and hemo-purification device consisting of membrane protein receptors for specific cytokines coated onto an S-layer-based matrix that can be used to specifically filter out cytokines responsible for a "cytokine storms" in patients experiencing this immune system attack on the body, including patients with COVID-19.

While non-specific blood filtration systems exist, the clinical*AVA-Trap*™ blood filtration system would specifically target cytokine storm-causing proteins, allowing the detection and recovery of cytokines—and serving as a potential clinical therapy as well as a diagnostic tool. Importantly, it is the Company's goal to develop a filtration system that can be customized to trap only specific molecules.

"We are grateful for our strong scientific partnerships that enabled the rapid speed with which we are developing this novel clinical tool," stated David Jin, M.D., Ph.D., President and Chief Executive Officer of Avalon. "This medical device holds enormous promise as it directly addresses a leading cause of mortality for patients with illnesses that make them vulnerable to the damaging effects of a cytokine storm," added Dr. Jin.

About Avalon GloboCare Corp.

Avalon GloboCare Corp. (NASDAQ: AVCO) is a clinical-stage, vertically-integrated, leading CellTech bio-developer dedicated to advancing and empowering innovative, transformative immune effector cell therapy, exosome technology, as well as COVID-19 related diagnostics and therapeutics. Avalon also provides strategic advisory and outsourcing services to facilitate and enhance its clients' growth and development, as well as competitiveness in healthcare and CellTech industry markets. Through its subsidiary structure with unique integration of verticals from innovative R&D to automated bioproduction and accelerated clinical development, Avalon is establishing a leading role in the fields of cellular immunotherapy (including CAR-T/NK), exosome technology (ACTEX™), and regenerative therapeutics. For more information about Avalon GloboCare, please visit www.avalon-globocare.com.

Forward-Looking Statements

Certain statements contained in this press release may constitute "forward-looking statements." Forward-looking statements provide current expectations of future events based on certain assumptions and include any statement that does not directly relate to any historical or current fact. Actual results may differ materially from those indicated by such forward-looking statements as a result of various important factors as disclosed in our filings with the Securities and Exchange Commission located at their website (http://www.sec.gov).

In addition to these factors, actual future performance, outcomes, and results may differ materially because of more general factors including (without limitation) general industry and market conditions and growth rates, economic conditions, and governmental and public policy changes. The forward-looking statements included in this press release represent the Company's views as of the date of this press release and these views could change. However, while the Company may elect to update these forward-looking statements at some point in the future, the Company specifically disclaims any obligation to do so. These forward-looking statements should not be relied upon as representing the Company's views as of any date subsequent to the date of the press release.

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