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FREEHOLD, NEW JERSEY, UNITED STATES, December 10, 2021 /EINPresswire.com/ -- NASDAQ Company Advances [AI-Enhanced Protein Design Technology](#) for Cellular Therapy Development: Avalon Globocare, Inc. (NASDAQ: AVCO)

AVCO Logo

[Clinical-Stage CellTech Developer](#) Dedicated to Immune Effector Cell Therapy and Exosome Technology.

Introducing Life Saving COVID-19 Diagnostics and Therapeutics.

> Dr. Shuguang Zhang MIT, has validated the innovative application of the QTY code tech to transform important cellular therapy targets that have been previously difficult to work with in the laboratory"
>
> *David Jin, M.D. CEO of AVCO*

New Treatment for Deadly Cytokine Storm in COVID-19 Patients.

Novel Technology to Efficiently Synthesize & Study Previously Difficult to Work With Drug Targets.

Technology Will Facilitate Drug Design for Cancer & Immune Diseases.

Study Published in September 2021 Issue of Journal Membranes.

Avalon and research partner, Massachusetts Institute of Technology (MIT), combine their

protein design "QTY Code" technology with Google's DeepMind artificial intelligence (AI) program, AlphaFold2, to accurately predict the 3D structures of protein receptors that have potential use as cellular therapy targets

 A study of the application and capabilities of the dual technology was published in the November 2021 issue of Life, a peer-reviewed life sciences journal

FREEHOLD, N.J., Dec. 09, 2021 -- Avalon GloboCare Corp. (NASDAQ: AVCO), a clinical-stage global developer of cell-based technologies and therapeutics, today announced further advancement of the Company's sponsored research and licensing agreement with the Massachusetts Institute of Technology (MIT). Avalon and MIT have combined their artificial intelligence (AI)-enhanced protein design "QTY Code" technology with Google's AlphaFold2, a DeepMind AI program developed to predict 3-dimensional (3D) protein structures of previously difficult to work with drug targets. This new system is designed to accelerate and advance Avalon's capabilities in developing novel targets for immuno-oncology and cellular medicine.

The "QTY Code" breakthrough technology, developed by Avalon and the laboratory of Dr. Shuguang Zhang, Ph.D., of MIT's Media lab in Boston, MA, is a protein-design platform that can
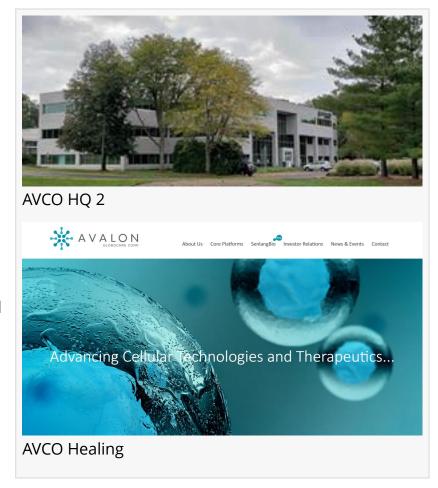

AVCO Rings NASDAQ Bell

AVCO Headq 1

turn water-insoluble transmembrane receptor proteins into water-soluble proteins, enabling their use in many clinical applications, including drug development. This program has already successfully generated a series of decoy receptors, which function to soak up excess chemokines and cytokines produced in the body during a potentially fatal 'cytokine storm.' These cytokine

storms can occur in patients with COVID-19 and in cancer patients being treated with CAR T-cell therapy.

The newly published study demonstrated the utility and efficiency of combining the two AI-based technologies. The researchers used the QTY code technology to design water-soluble versions of chemokine receptors—water-insoluble proteins involved in cytokine storms, cancer, autoimmune diseases and important drug targets—and then used AlphaFold to accurately predict the structures of these clinically important proteins.

Combining the "QTY code" with AlphaFold2, provides Avalon with a novel, accurate, and efficient in-silico tool to improve knowledge about important potential therapeutic targets such as transmembrane receptors and other proteins to better understand their biology and facilitate the development of novel cellular therapies.

AVCO HQ 2

AVCO Healing

"This new study with our collaborator, Dr. Shuguang Zhang from MIT, has validated the innovative application of the QTY code technology to transform important cellular therapy targets that have been previously difficult to work with in the laboratory," said David Jin, M.D., Ph.D., President and Chief Executive Officer of Avalon. "This new approach is advancing our capabilities in designing novel immuno-oncology and cellular medicine therapies and we are excited to continue to work with Dr. Zhang to advance these drug development technologies," added Dr. Jin.

The study of the new dual technology application was published in the November 2021 issue of Life, an international, peer-reviewed, open-access life sciences journal.

Advanced Filtration Tech Could Help Stop Life-Threatening Cytokine Storm in COVID-19 Patients

Cytokine storm has made frequent appearances in the news lately as a life-threatening complication in patients suffering from COVID-19. The condition is an inflammatory syndrome triggered by hyperactivation of immune cells that can significantly impact the patient's chances of making a full recovery or surviving the infection at all.

Fortunately, AVCO has already been developing a range of therapies that have the potential to help target cytokine storm and other risk factors that make the widespread virus so difficult to get under control.

What Is Cytokine Storm?

The immune system uses cytokines to perform a variety of important tasks from clotting blood to triggering antibody production. When overworked — as can happen when the body is fighting off an aggressive, difficult disease like COVID-19 or is being treated with therapies designed to activate an immune response — that same immune system can end up producing too many cytokines. When the ones that trigger an inflammatory response are produced in excess, the cytokines trigger severe inflammatory symptoms, damage healthy tissue, and can even cause multiple organs to fail, leading to death.

AVCO AVA-Trap™ Already Targets Cytokine Storm

Because cytokine storm is a common risk factor in many cancer therapies, the oncology-focused AVCO was already hard at work on a way to calm down cytokine storms. The AVCO AVA-Trap™ therapeutic program was developed to target this potentially fatal complication. By using cytokine receptor proteins, the AVA-Trap™ program could dampen the release of cytokine, essentially filtering out the excess cytokines.

When COVID-19 started to spread through populations around the globe in 2020, doctors soon realized that the virus could induce a cytokine storm and that, when it did, the chances of that patient surviving grew slim. AVCO moved quickly to file and expanded patent for the proprietary filtration technology so it could be used to help COVID patients increase their chances of recovering from the disease.

AVCO Launches Full-Scale Plan to Tackle COVID-19 Pandemic

In addition to leveraging its existing AVA-Trap™ program to help combat cytokine storm and improve patient outcomes, AVCO also began working on a slate of other tools doctors can use to keep the evolving virus at bay.

In partnership with Adial Pharmaceuticals Inc. (NASDAQ: ADIL), AVCO is distributing a rapid diagnostics test that can detect multiple COVID antibodies with between 92.9% and 98.6% accuracy in just 10 minutes. Using the AVCO existing global distribution network, the 2 companies are able to make this rapid and highly accurate test available to healthcare providers worldwide.

In another partnership with Austria's University of Natural Resources and Life Sciences (BOKU), AVCO is working on an intranasal spray vaccine for COVID-19. Based on innovative S-layer

technology that creates uniform, repetitive protein structures, the vaccine could become a highly effective formula in a format that people could self-administer — reducing the burden on healthcare providers to individually vaccinate the world's population and reducing barriers to access for people with mobility challenges or who live too far from the nearest vaccine administration site.

Finally, AVCO began practical testing for its allogeneic MSC-based cellular therapy (ACETEX™), which could treat the acute respiratory distress syndrome (ARDS) and multisystem inflammatory syndrome that can also come with severe cases of COVID-19 infection and, like cytokine storm, significantly increase the risk of mortality. ARDS alone has been the cause of death in 70% of fatal COVID-19 cases where an aggressive inflammatory response happens.

ACETEX™ uses mesenchymal stromal cells taken from bone marrow, fat tissue, or other tissue types and adapts them to help moderate the body's immune system response. Because cytokine storm, ARDS, and multisystem inflammatory syndrome in COVID-19 patients are all triggered by a hyperactive immune response, the potential ACETEX™ has for better regulating the immune response could offer a reliable treatment option to stop these complications in their tracks and prevent them from progressing to a fatal stage.

AVCO and University of Natural Resources and Life Sciences (BOKU) Co-develop Innovative In-Silico Technology, Enabling the Design and Synthesis of Novel Cell Membrane Receptor Targets for Cancer and Immune-Related Diseases

On October 7th AVCO announced co-development of a novel, cell-free, in-silico system to facilitate the Company's drug development efforts, together with the Institute for Synthetic Bioarchitectures at the University of Natural Resources and Life Sciences (BOKU) in Vienna, Austria. A study of the new technology was featured in the September 2021 issue of Membranes, an international, peer-reviewed journal.

The new AVCO technology reveals that difficult-to-study cell membrane proteins can be efficiently expressed in a cell-free system, allowing for their evaluation as potentially druggable targets. The technology expands Avalon's ability to design and produce novel membrane proteins—including receptors found on the surface of immune cells and cancer cells that are important for cell signaling and diseases such as cancer—providing Avalon an efficient tool to screen and optimize potential therapeutic targets.

Proteins function within cells and are also present on cell surfaces, embedded within the cell's outer membrane. These membrane proteins include cell surface receptors that function in cell signaling and regulation of communication with other cells and tissues. These molecules are important drug targets and include receptors on immune cells such as T-cells for the development of cellular immunotherapies.

The researchers used computer-based models, developed at the University of Vienna, to identify

factors that optimize the expression of membrane proteins in a cell-free, in-silico system, resulting in high protein yield. The AVCO study demonstrated the success of this method by showing the ability to manipulate and express a drug target membrane protein, a human voltage-dependent anion channel, at high yield.

The use of this novel AVCO technology can improve knowledge about receptors and other membrane proteins to better understand the biology of drug targets and to develop novel therapies, including immunotherapies for cancer.

The new technology is a direct result of a collaboration between AVCO and researchers at BOKU, Vienna, the University of Vienna, the Science for Life Laboratory within the Division of Nanobiotechnology at the KTH Royal Institute of Technology in Stockholm, Sweden and the Department of Biochemistry at the King Abdulaziz University in Jeddah, Saudi Arabia.

For more information on Avalon GloboCare Corp. (NASDAQ: AVCO) visit:

http://www.avalon-globocare.com

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these uncertainties, the forward-looking events referred to in this release might not occur.

SOURCE: CorporateAds.com

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