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UPMC and Pitt Develop New Cancer Immunotherapy with Avalon GloboCare

PITTSBURGH, Aug. 04, 2021 (GLOBE NEWSWIRE) -- A new collaboration among [UPMC Hillman Cancer Center](#), the [University of Pittsburgh](#) and New Jersey-based biotechnology company [Avalon GloboCare Corp.](#) (NASDAQ: AVCO) aims to develop new cancer immunotherapy approaches and streamline manufacturing processes to bring these powerful treatments to cancer patients within days instead of weeks.

Cancer immunotherapy, which stimulates and trains a patient's own immune system to target and kill tumors while leaving healthy cells intact, is an effective treatment for many cancer patients. One of these therapies, chimeric antigen receptor (CAR) T-cell therapy, alters a patient's own T-cells to kill their cancer cells. This approach has been successful for some patients with leukemias, lymphomas and more recently, multiple myeloma, but only a limited number of patients have been able to benefit from these therapies.

The new collaboration, led by [Yen-Michael S. Hsu, M.D., Ph.D.](#), director of the Immunologic Monitoring and Cellular Products Laboratory (IMCPL) at UPMC Hillman, seeks to develop next-generation CAR-based cellular therapies to make them accessible to a wider range of cancer patients.

CAR T-cell therapies approved by the U.S. Food and Drug Administration (FDA) are personalized therapies, made from the patient's own cells. Current therapies use a DNA-based viral vector to engineer expression of the CAR against an antigen present on tumor cells. Patient cells are modified in the laboratory and infused back into the patient in a process that takes several weeks.

"With Avalon GloboCare FLASH-CAR™ technology, we will use an innovative messenger ribonucleic acid (mRNA)-based technology platform that will allow researchers to create CAR cellular therapies much faster than before -- in just one to two days," said Hsu. "We also believe this approach will reduce toxicity and overall cost associated with current CAR T-cell therapies, meaning more cancer patients could be eligible for this type of cellular therapy."

The researchers are also using the technology to develop next-generation, personalized CAR T-cell therapies, including engineering cells that target more than one tumor antigen, enhancing their ability to target and kill cancer cells. Hillman's IMCPL and Avalon GloboCare are developing a treatment for patients with relapsed or refractory B-cell lymphoblastic leukemia and non-Hodgkin lymphoma. Human clinical trials are poised to begin in mid-2022.

Another goal, according to Hsu, is to make "universal" or "off-the-shelf" CAR-based cancer immunotherapies. Unlike personalized treatments, this universal cellular therapy will be derived from a healthy donor, manufactured in bulk and readily available to treat patients

without delay

“A clinician could order this cellular immunotherapy in the same way as antibody or oral cancer treatment, reducing the time a patient has to wait for treatment. Because this cellular therapy would be made in a large batch, the cost of manufacturing would be much lower, resulting in a lower cost of the final cellular therapy products for patients,” said Hsu.

The researchers are also working to streamline and enhance the quality of CAR T-cell manufacturing with Avalon’s Point-of-Care Modular Autonomous Processing System onsite at UPMC Hillman, a National Cancer Institute-designated comprehensive cancer center.

As an FDA-registered, Foundation for Accreditation of Cellular Therapy-accredited laboratory, the IMCPL supports investigator-initiated research and technical expertise in translating laboratory research into clinical biologic products. The mission of the lab is to deliver high-quality and safe translation of cutting-edge scientific breakthroughs into cellular therapies for improving cancer care and human health.

About UPMC Hillman Cancer Center

[UPMC Hillman Cancer Center](#) is the region’s only National Cancer Institute-designated Comprehensive Cancer Center and is one of the largest integrated community cancer networks in the United States. Backed by the collective strength of UPMC—which is ranked No. 15 for cancer care nationally by *U.S. News & World Report*—and the [University of Pittsburgh School of Medicine](#), UPMC Hillman Cancer Center has nearly 70 locations throughout Pennsylvania, Ohio, New York, and Maryland, with cancer centers and partnerships internationally. The more than 2,000 physicians, researchers, and staff are leaders in molecular and cellular cancer biology, cancer immunology, cancer virology, biobehavioral cancer control, and cancer epidemiology, prevention, and therapeutics. UPMC Hillman Cancer Center is transforming cancer research, care, and prevention—one patient at a time.

About the University of Pittsburgh School of Medicine

As one of the nation’s leading academic centers for biomedical research, the [University of Pittsburgh School of Medicine](#) integrates advanced technology with basic science across a broad range of disciplines in a continuous quest to harness the power of new knowledge and improve the human condition. Driven mainly by the School of Medicine and its affiliates, Pitt has ranked among the top 10 recipients of funding from the National Institutes of Health since 1998. In rankings recently released by the National Science Foundation, Pitt ranked fifth among all American universities in total federal science and engineering research and development support.

Likewise, the School of Medicine is equally committed to advancing the quality and strength of its medical and graduate education programs, for which it is recognized as an innovative leader, and to training highly skilled, compassionate clinicians and creative scientists well-equipped to engage in world-class research. The School of Medicine is the academic partner of [UPMC](#), which has collaborated with the University to raise the standard of medical excellence in Pittsburgh and to position health care as a driving force behind the region’s economy. For more information about the School of Medicine, see www.medschool.pitt.edu.

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.

For the latest updates on Avalon GloboCare's developments, please follow our twitter at @avalongc_avco

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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