Aura Biosciences Announces Publication of Data in Cancer Immunology Research Supporting the Immune Mediated Mechanism of Action of the Virus-Like Drug Conjugate (VDC) Technology Platform

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Results Support VDCs induction of Pro Immunogenic Cell Death and the Generation of Long Lasting Adaptive Anti-Tumor Immunity –

Combination of VDCs with Checkpoint Inhibitors Achieves a High Complete Response Rate and Prevents Long Term Tumor Recurrence –

CAMBRIDGE, MA – April 14, 2021 – Aura Biosciences, a clinical-stage oncology company developing a novel class of virus-like drug conjugate (VDC) therapies for multiple oncology indications, today announced the online publication of data in the peer-reviewed medical journal *Cancer Immunology Research*, a journal of the American Association for Cancer Research, that supports the broad application of the Company's proprietary VDC technology platform for treating cancer. The manuscript, titled, "Virus-like Particle-drug Conjugates Induce Protective, Long-lasting Adaptive Anti-Tumor Immunity in the Absence of Specifically Targeted Tumor Antigens," describes promising long term anti-tumor activity of AU-011, the Company's lead VDC candidate, as a monotherapy and in combination with checkpoint inhibitor antibodies in preclinical studies conducted in collaboration with the Center for Cancer Research at the National Cancer Institute of the National Institutes of Health.

"Collectively, these promising results confirm treatment of AU-011 resulted in targeted tumor cytotoxicity with hallmarks of immunogenic cell death that may promote a durable anti-tumor immune response," said Cadmus C. Rich, MD, MBA, Chief Medical Officer and Head of R&D for Aura. "Additionally, the additive activity of AU-011 in combination with checkpoint inhibitors has shown a high level of durable complete responses and prevention of tumor recurrence, warranting continued research into its potential clinical utility to effectively treat multiple types of tumors like non-muscle invasive bladder cancer as a primary treatment and further prevent metastatic disease."

Key findings from the manuscript include:

- In vitro and in vivo studies in immunocompetent murine tumor models demonstrated a dose-dependent cytotoxic response of AU-011 with an upregulation of the markers of immunogenic cell death like caspase-1 and calreticulin surface expression demonstrating that AU-011 mediated cell death was able to generate potent immune stimulatory conditions within the tumor microenvironment.
- A single in vivo dose administration of AU-011 caused rapid cell death leading to long term complete responses in 50% of all animals. Combination with immune checkpoint inhibitor antibodies improved therapeutic efficacy resulting in 70-100% complete response rate that was durable 100 days post-treatment with 50-80% of those animals displaying protection from secondary tumor re-challenge.
- Depletion studies of CD4+ or CD8+ T-cells at the time of AU-011 treatment or tumor re-challenge confirmed the involvement of both cell populations in the mechanism of action of AU-011 and the promotion of long-lasting anti-tumor protection.

"These promising findings further reinforce the therapeutic advantages of VDCs in treating cancer compared to other available treatments, which include the broad tumor selectivity and multivalent binding of the virus-like particles compared to antibodies, the ability to deliver hundreds of cytotoxic molecules and the generation of long-lasting anti-tumor immunity," said Elisabet de los Pinos, Ph.D., Chief Executive Officer of Aura. "While our initial clinical focus has been in ocular oncology, our VDC approach has wide application as a single agent and as a combination therapy in a variety of solid tumors, including non-muscle invasive bladder cancer, which is expected to enter the clinic in 2022 We remain focused on advancing our novel VDC approach to transform the treatment of tumors and improve outcomes for patients with cancer."

About AU-011 (belzupacap sarotalocan)

AU-011 is a first-in-class virus-like drug conjugate (VDC) therapy in development for the first line treatment of choroidal melanoma. The virus-like component of the VDC selectively binds unique heparan sulphate proteoglycans (HSPGs) that are modified and overexpressed on the tumor cell surface of choroidal melanoma (and other tumor types) and delivers a potent cytotoxic drug that is activated with infrared light. Upon activation with an ophthalmic laser, the cytotoxic drug rapidly and specifically disrupts the cell membrane of malignant melanoma cells with a pro-immunogenic cell death that can activate the immune system generating long term anti-tumor immunity. The unique specificity of tumor binding by the VDC enables the preservation of key eye structures, which may allow for the potential of preserving patients' vision and reducing other long-term complications of radiation treatment. The possibility of early treatment intervention and the activation of the immune system could lead to a reduction in the metastases rate for patients with this life-threatening disease. AU-011 can be delivered using equipment commonly found in an ophthalmologist's office and does not require a surgical procedure, pointing to a potentially less invasive, more convenient therapy for patients and physicians. AU-011 for the treatment of choroidal melanoma has been granted Orphan Drug and Fast Track designations by the U.S. Food and Drug Administration and is currently in Phase 2 clinical development.

About Aura Biosciences

Aura Biosciences, Inc. is a clinical-stage oncology company developing a novel technology platform based on virus-like drug conjugates (VDCs) to target and destroy cancer cells selectively while activating the immune system to create long lasting anti-tumor immunity. The VDC technology platform is based on the discoveries of NIH Distinguished Investigator Dr. John Schiller of the Center for Cancer Research at the National Cancer Institute (NCI). The company has the goal of developing this technology in multiple cancer indications with an initial focus in ocular oncology, a group of rare diseases for which there are no approved drugs. Aura's lead product candidate belzupacap sarotalocan (AU-011) is currently in Phase 2 development for the first line treatment of choroidal melanoma, a vision and life-threatening form of eye cancer where standard of care radioactive treatments leave patients with major vision loss and severe comorbidities. Aura has demonstrated the efficacy and safety of AU-011 in a Phase 1b/2 trial, including high rates of tumor control and vision preservation. Future pipeline applications for Aura's technology include additional ocular oncology indications like choroidal metastases and solid tumor indications like non-muscle invasive bladder cancer. Aura is headquartered in Cambridge, MA. For more information, visit **www.aurabiosciences.com** or follow us on **Twitter**.

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