Avenge Bio Announces Peer-Reviewed Publication on Preclinical Proof-of-Concept for LOCOcyte™ Platform Technology in Malignant Mesothelioma

NATICK, Mass., August 22, 2022 /PRNewswire/ -- Avenge Bio, Inc., ("Avenge" or the "Company") a biotechnology company developing the LOCOcyte™ immunotherapy platform for the precision administration of potent immune effector molecules to treat solid tumors, today announced a publication in the peer-reviewed journal *Clinical Cancer Research* describing the foundational, preclinical data establishing the efficacy and safety of pleural administered LOCOcyte™ for the treatment of pleural malignant mesothelioma. The manuscript, entitled "Activation of adaptive and innate immune cells via localized Interleukin-2 cytokine factories eradicates mesothelioma tumors," was published today and can be viewed on the *Clinical Cancer Research* website.

Malignant mesothelioma and lung cancers which have metastasized to the pleural cavity remain particularly deadly with median survival times of less than a one year. Mesothelioma affects the organs that are lined by the mesothelium including the organs of the chest (pleura) and abdomen (peritoneum). It is a highly aggressive cancer and is essentially lethal in all cases. Despite recent advances in therapies to treat malignant mesothelioma, optimal and safe delivery remains a challenge. Current therapeutic options are of limited efficacy in both early and late-stage disease. Immunotherapies, including the use of PD-1 inhibitors, delivered systemically, have been shown to marginally extend patient survival. To overcome this challenge, a research team at Rice University led by Professor Omid Veiseh, Ph.D., has developed an innovative immunotherapy platform that enables engineered cells to produce immune-activating molecules, for a specified duration, within this fluid tumor microenvironment.

The *Clinical Cancer Research* manuscript details the LOCOcyte™ platform and its safety and efficacy in preclinical models. The human cells are engineered to produce murine immune cell signaling molecule interleukin-2 (IL2), a critical cytokine that initiates a robust localized immune response when administered into the pleural cavity of tumor-bearing mice that model advanced malignant mesothelioma. Overall, we observed a significant reduction of tumor burden in mice treated with IL2 monotherapy and complete eradication of tumor burden in mice treated with IL2 and an immune checkpoint inhibitor combination therapy.

“The continued occurrence of malignant mesothelioma necessitates the clinical assessment of new, effective treatments. Thus, the potential of the IL-2 cytokine factory for the treatment of malignant mesothelioma highlights the urgency of its evaluation in clinical trials," said Dr. Veiseh, Assistant Professor of Bioengineering at Rice University and a Founder of Avenge Bio.

Dr. Bryan Burt, Chief of the Division of Thoracic Surgery at Baylor College of Medicine, commented, "Pleural mesothelioma is a devastating malignancy that has traditionally defeated standard therapies. Whereas immune checkpoint blockade has recently demonstrated an encouraging signal in patients with unresectable disease, most patients still do not respond to therapy and systemic immune-related adverse events remain significant. Local delivery of a therapeutic can reduce toxicity by confining the immunostimulatory effects to local tumor microenvironment, highlighting a strong rationale for developing Avenge’s LOCOcyte™ platform."

Avenge Bio has an exclusive license from Rice University for this technology. In July 2022, Avenge announced that Food and Drug Administration ("FDA") cleared the Investigational New Drug ("IND") application for AVB-001 for the treatment of platinum resistance ovarian cancer. The Phase 1, multi-center clinical trial is expected to be initiated in the second half of 2022.

About LOCOcyte™ Platform

Our LOCOcyte™ allogeneic cell-based immunotherapy platform enables potent localized modulation of the immune system which also precipitates a systemic immune response, allowing us to treat previously intractable cancers. The technology leverage three unique advantages:

(1) Potent immune effector molecules are generated by synthetically engineering allogeneic cells creating a ready-to-use therapy,

(2) Therapy is localized in proximity to the primary tumor site and generates innate and adaptive immune response, and

(3) The immunomodulator trains the patient's immune system generating a robust immune response that seeks and eradicates distal metastasis without systemic toxicity.

About Avenge Bio

Avenge Bio, Inc. ("Avenge") is an oncology-focused biotechnology company developing transformative cell-based immunotherapeutic products for the treatment of intractable solid tumors by incorporating its LOCOcyte™ platform. The LOCOcyte™ platform leverages proprietary engineered cells delivered to the local tumor environment that generate high concentrations of immune effector molecules in proximity to the tumor. This initiates a robust, local, and durable systemic immune response while avoiding toxicities associated with systemic immunotherapies. Avenge's most advanced product candidate, AVB-001, produces native IL-2 immunotherapy and is initially being studied in metastatic peritoneal cancers such as ovarian cancer. Avenge has additional pipeline candidates for the treatment of a wide range of cancers including pancreatic, lung and breast cancers. Avenge was founded in 2019 based upon technology developed in the laboratory of Omid Veiseh, Ph.D. and has an exclusive license from Rice University for this technology. To learn more about Avenge visit: www.avengebio.com and follow us on LinkedIn and Twitter.

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