

Advantagene Announces Clinical Trial Collaboration

Clinical Study to Combine GMCI[™] with Opdivo[®] (nivolumab) in the Treatment of Malignant Glioma

(AUBURNDALE, MA) April 27, 2018 – Advantagene, Inc. today announced that the company entered into a clinical trial collaboration with Bristol-Myers Squibb (NYSE:BMY) to evaluate the safety, tolerability, and preliminary efficacy of Advantagene's investigational *Gene Mediated Cytotoxic Immunotherapy* (GMCI[™], *aglatimagene besadenovec* + *valacyclovir*), in combination with Bristol-Myers Squibb's programmed death-1 (PD-1) immune checkpoint inhibitor, Opdivo (*nivolumab*), in newly diagnosed malignant glioma patients receiving standard of care (SOC) surgery and radiation with or without temozolomide. This study is being conducted in collaboration with leading physician/scientists in the Adult Brain Tumor Consortium (ABTC), a group of premier research institutions located across the United States.

Treatment of malignant gliomas is generally unsuccessful with 22,000 diagnoses and 13,000 deaths annually in the U.S. alone, according to the American Cancer Society. Malignant gliomas, most commonly glioblastoma multiforme (GBM), represent a critical unmet need, with a median survival of less than 15 months.

"GMCI by itself showed very promising survival benefits in our recent Phase 2 brain cancer study. This is the next step, the first human study evaluating the potential benefits of combining the immune-stimulatory properties of GMCI with an immune checkpoint inhibitor," said Dr. Estuardo Aguilar-Cordova, CEO of Advantagene. "GBM is a lethal disease with limited treatment options. We are excited to partner with Bristol-Myers Squibb, a world-leader in oncology, to advance a combination we hope will provide meaningful benefits to brain cancer patients."

The ABTC was constituted to develop more effective treatments for malignant brain tumors. It includes 11 brain tumor centers at leading universities coordinated by the Johns Hopkins School of Medicine and funded by the National Cancer Institute (NCI). The study will be led by Dr. E. Antonio Chiocca, Professor of Neurosurgery at Harvard Medical School and Neurosurgeon-in-Chief at Brigham and Women's Hospital, and Dr. Patrick Wen, Professor of Neurology at Harvard Medical School and Director of the Center for Neuro-Oncology, Dana-Farber Cancer Institute. Dr. Chiocca elaborated "Glioblastoma is a disease in need of effective

treatments and clinical trials represent the best hope for further progress against this devastating disease. Existing positive clinical data from GMCI combined with standard of care, along with results from preclinical studies combining it with an anti-PD-1, strongly support clinical evaluation of the combination of GMCI with nivolumab in glioblastoma patients."

About Advantagene, Inc. & GMCI

Advantagene is a Massachusetts based biotechnology company developing its proprietary Gene Mediated Cytotoxic Immunotherapy (GMCITM) platform technology for the treatment of solid tumors. GMCI is a low toxicity immunotherapy that stimulates a patient's own immune system to generate a robust response against his or her cancer, causing tumor cell death and clearance. The company is conducting additional GMCI clinical studies in prostate, lung, and pancreatic cancer. For more information about Advantagene and GMCITM immunotherapy please visit www.advantagene.com.

Advantagene, Inc.

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