Ziopharm Oncology Announces Exclusive License with National Cancer Institute to Identify and Use T-Cell Receptors Targeting Neoantigens for Cancer with Sleeping Beauty Platform

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– Scope of license includes library of T-cell receptors (TCRs) against neoantigens in hotspots including mutated KRAS, p53 and EGFR for use with Sleeping Beauty platform –

– Ziopharm also obtains license to manufacturing technologies for Sleeping Beauty*-modified TCR-expressing T cells targeting neoantigens –*

BOSTON, May 28, 2019 (GLOBE NEWSWIRE) -- Ziopharm Oncology, Inc. ("Ziopharm" or the "Company") (Nasdaq:ZIOP), a clinical stage immuno-oncology company developing next-generation cell and gene therapies, today announced an exclusive licensing agreement with the National Cancer Institute (NCI), an institute of the National Institutes of Health (NIH), for intellectual property for the development and commercialization of cell therapies for cancer.

Under the terms of the agreement, Ziopharm is granted rights to two groups of technologies for use with the Company's *Sleeping Beauty* platform. The first group of technologies covers intellectual property related to T-cell receptors (TCRs) reactive to mutations, or neoantigens, within KRAS, p53 and EGFR gene families. Alterations within these genes are referred to as "hotspots" as the genetic changes can be driver mutations found in multiple types of solid tumors and between individuals with the same cancer type. The second group includes manufacturing methods and processes to generate large numbers of *Sleeping Beauty*-modified T cells expressing high levels of the introduced neoantigen-specific TCRs.

"This license significantly expands our library of neoantigen-specific TCRs against hotspots and provides additional enhancements to our manufacturing capabilities for clinical-grade T cells through our *Sleeping Beauty* platform," said Laurence Cooper, M.D., Ph.D., CEO of Ziopharm. "We are pleased to finalize this licensing agreement with the NCI, which is a result of our ongoing collaboration with Dr. Rosenberg and his team and enhances our shared efforts to pursue a non-viral approach to treating patients with solid tumors with TCR-expressing T cells."

Ziopharm and the NCI are partnered in a cooperative research and development agreement (CRADA), supporting clinical work through January 2022 to evaluate *Sleeping Beauty* genetically modified T cells targeting solid tumors. Under the direction of Steven A. Rosenberg, M.D., Ph.D., Chief of the Surgery Branch, the NCI is using Ziopharm's non-viral *Sleeping Beauty* platform to initiate a phase 1 clinical trial to treat patients with a variety of metastatic/advanced solid tumors by infusing neoantigen-specific T cells.

Pursuant to the terms of the license agreement, NIH will receive from Ziopharm an upfront payment and certain clinical, regulatory, and sales milestone payments, as well as royalties on net sales of products covered by the license.

About Ziopharm Oncology, Inc.
Ziopharm Oncology is an immuno-oncology company focused on developing end-to-end cost-effective solutions using its non-viral *Sleeping Beauty* platform for TCR and CAR T-cell therapies and immune-stimulating gene therapy with Controlled Interleukin 12 (IL-12). The *Sleeping Beauty* platform genetically modifies T cells with DNA plasmids to express T-cell receptors (TCRs) to target specific antigens in solid tumors and chimeric antigen receptors (CARs) to target CD19 in blood cancers with the Company's very rapid T-cell manufacturing process. The *Sleeping Beauty* platform is being advanced in collaboration with the National Cancer Institute, The University of Texas MD Anderson Cancer Center and Eden BioCell. The Company also is developing its Controlled IL-12 platform, or Ad-RTS-hIL-12 plus veledimex, as monotherapy and in combination with immune checkpoint inhibitors to treat brain cancer, including in collaboration with Regeneron Pharmaceuticals.

Contacts:
Chris Taylor
VP, Investor Relations and Corporate Communications
617.502.1881
ctaylor@ziopharm.com

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