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ZIOPHARM Announces Oral Presentation Highlighting Ad-RTS-IL-12 Results Correlated With Reducing Cancer Stem Cells in the Brain at ASGCT 17th Annual Meeting

BOSTON, May 22, 2014 (GLOBE NEWSWIRE) -- ZIOPHARM Oncology, Inc. (Nasdaq:ZIO), a biopharmaceutical company focused on the development and commercialization of new cancer therapies, announced today results demonstrating the potent anti-tumor and anti-cancer stem cell (CTC) effects of Ad-RTS-IL-12 in a glioma (brain cancer) model, and in other preclinical and clinical settings. Ad-RTS-IL-12 is a novel DNA-based therapeutic candidate for the controlled expression of IL-12, an important protein for stimulating an anti-cancer T cell immune response. The presentation, titled "Intratumoral Regulated Expression of IL-12 as a Gene Therapy Approach to Immunotherapy," was presented in an oral session at the 17th Annual Meeting of the American Society of Gene and Cell Therapy (ASGCT), held May 21-24 in Washington, DC.

Results from human and laboratory studies of Ad-RTS-IL-12 demonstrate that precise control of IL-12 gene expression levels can be achieved using Intrexon Corporation's (NYSE:XON) RheoSwitch Therapeutic System® (RTS®). Rapid, tight modulation of in vivo expression of IL-12 using the activator ligand veledimex was demonstrated across these studies. When IL-12 expression is "switched on" it rapidly leads to expression and an immune response. This immune response is characterized by an increase in tumor infiltrating lymphocytes with system wide immune activation. This modulated immune response has resulted in anti-tumor effects in both injected and systemic non-injected lesions in Phase 1 and Phase 2 studies of Ad-RTS-IL-12 in subjects with melanoma and breast cancer.

The data presented today further demonstrate that Ad-RTS-IL-12 has potent anti-cancer effects in a glioma model, showing both a reduction in tumor mass and prolonged survival when compared to existing treatment standards. The data also show a significant reduction in brain cancer stem cells, as measured by dramatically reduced nestin levels. Brain cancer stem cells are thought to play a critical role in recurrence and metastasis.

"Ad-RTS-IL-12 seems to offer precise control over a potent immuno-oncology weapon, the IL-12 cytokine," said Antonio Chiocca, MD, PhD, Prof. and Chairman of Neurosurgery at Brigham and Women's Hospital and Harvard Medical School. "With malignant glioma in particular, delivery of IL-12 is one of several promising experimental approaches being tested, but unlike other therapies the ability to control IL-12 expression in vivo may prove to be ground breaking. This is increasingly being demonstrated both in preclinical models, as well as in the clinic, where patients are showing reversal of immuno-toxicity, including cytokine storm, and then resume therapy." He continued: "IL-12's role in reducing cancer stem cells is also very encouraging, as the role of these cells in recurrence and metastasis is increasingly well understood. I look forward to further data from these clinical and preclinical programs, as well as to the initiation of a Phase 1 study of Ad-RTS-IL-12 in brain cancer."

About ZIOPHARM Oncology, Inc.:

ZIOPHARM Oncology is a Boston, Massachusetts-based biotechnology company employing novel gene expression and control technology to deliver DNA for the treatment of cancer. ZIOPHARM's technology platform employs Intrexon Corporation's RheoSwitch Therapeutic System® technology to turn on and off, and precisely modulate, gene expression at the cancer site in order to improve the therapeutic index. This technology is currently being evaluated in Phase 2 clinical studies of the immune system cytokine interleukin-12 for the treatment of breast cancer and advanced melanoma. Multiple new Investigational New Drug Applications for new targets using synthetic biology technology are expected through 2015. ZIOPHARM is also developing novel small molecules as potential cancer therapeutics.

Forward-Looking Safe Harbor Statement:

This press release contains certain forward-looking information about ZIOPHARM Oncology, Inc. that is intended to be covered by the safe harbor for "forward-looking statements" provided by the Private Securities Litigation Reform Act of 1995, as amended. Forward-looking statements are statements that are not historical facts. Words such as "expect(s)," "feel(s)," "believe(s)," "will," "may," "anticipate(s)" and similar expressions are intended to identify forward-looking statements. These statements include, but are not limited to, statements regarding our ability to successfully develop and commercialize our therapeutic products; our ability to expand our long-term business opportunities; financial projections and estimates and their underlying assumptions; and future performance. All of such statements are subject to certain risks and uncertainties, many of which are difficult to predict and generally beyond the control of the company, that could cause actual results to differ materially

from those expressed in, or implied or projected by, the forward-looking information and statements. These risks and uncertainties include, but are not limited to: whether Ad-RTS-IL-12, palifosfamide, darinaparsin, indibulin, or any of our other therapeutic products will advance further in the clinical trials process and whether and when, if at all, they will receive final approval from the U.S. Food and Drug Administration or equivalent foreign regulatory agencies and for which indications; whether Ad-RTS-IL-12, palifosfamide, darinaparsin, indibulin, and our other therapeutic products will be successfully marketed if approved; whether any of our other therapeutic product discovery and development efforts will be successful; our ability to achieve the results contemplated by our collaboration agreements; the strength and enforceability of our intellectual property rights; competition from other pharmaceutical and biotechnology companies; the development of, and our ability to take advantage of, the market for our therapeutic products; our ability to raise additional capital to fund our operations on terms acceptable to us; general economic conditions; and the other risk factors contained in our periodic and interim SEC reports filed from time to time with the Securities and Exchange Commission, including but not limited to, our Annual Report on Form 10-K for the fiscal year ended December 31, 2013 and our Quarterly Report on Form 10-Q for the quarter ended March 31, 2014. Readers are cautioned not to place undue reliance on these forward-looking statements that speak only as of the date hereof, and we do not undertake any obligation to revise and disseminate forward-looking statements to reflect events or circumstances after the date hereof, or to reflect the occurrence of or non-occurrence of any events.

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