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Idera Pharmaceuticals Announces Presentations of Preclinical Data on New Potential Oncology Applications of its TLR9 Agonists at AACR

Cambridge, MA, April 18, 2007 – Idera Pharmaceuticals, Inc. (AMEX: IDP) today announced two presentations of data for two new potential applications in oncology of its novel agonists of Toll-like receptor 9 (TLR9) at the Annual Meeting of the American Association for Cancer Research (AACR) being held in Los Angeles, CA, April 14-18, 2007. The first presentation covered a preclinical study in which Idera's lead oncology candidate IMO-2055 in combination with the multikinase inhibitor sorafenib showed enhanced antitumor activity compared to either agent alone in a mouse xenograft model. The second presentation covered a preclinical study in which an analog of IMO-2055 optimized for mice was administered by the intranasal route and showed potent antitumor activity in mouse models of lung metastases of colon carcinoma and melanoma.

"The new data in a mouse model show IMO-2055 has additive antitumor activity with sorafenib, and adds to our previous data of additive antitumor activity by IMO-2055 observed in combination with other targeted agents such as VEGF and EGFR inhibitors," said Robert W. Karr, M.D., President of Idera. "Our new data on intranasal delivery show promise for a potential new route of administration specifically to treat lung tumors."

Abstract 4771 entitled "The combination of IMO-2055, a synthetic agonist of toll-like receptor-9 (TLR9), and the multikinase inhibitor sorafenib tosylate (Nexavar®) demonstrates enhanced antitumor activity in a human non-small cell lung cancer xenograft model" was presented by Bernardo Chavira of TGen Drug Development Services in the session Cancer Therapeutics 2. The combination of IMO-2055 and sorafenib in the study lead to increased antitumor effects and increased survival, with survival means of 30.0 days in the IMO-2055 group, 27.8 days in the sorafenib group and 41.3 days in the combination group ($P<0.001$ compared with the placebo group mean survival of 19.5 days).

Abstract 3548 entitled “Antitumor activity of a synthetic agonist of TLR9 administered via intranasal route” was presented by Daqing Wang, Ph.D., of Idera Pharmaceuticals in the session Monoclonal Antibody Therapy and TLR Activation. In this study, the antitumor activity of a murine analog of IMO-2055 was examined following intranasal delivery in mouse models of colon carcinoma and melanoma metastasized to the lungs. Results show that the TLR9 agonist delivered by the intranasal route in the study lead to potent inhibition of lung metastases.

About Idera Pharmaceuticals, Inc.

Idera Pharmaceuticals is a drug discovery and development company that is developing drug candidates to treat cancer, infectious diseases, autoimmune diseases, allergy/asthma, and for use as vaccine adjuvants. Idera’s proprietary drug candidates are designed to modulate TLRs, the body’s first line of immune defense. Idera’s pioneering DNA chemistry expertise enables it to identify drug candidates for internal development and creates opportunities for multiple collaborative alliances. Idera’s most advanced clinical candidate, IMO-2055, is an agonist of TLR9 and is currently in a Phase 2 trial in oncology and in a Phase 1/2 chemotherapy combination trial in oncology. Idera has selected a second TLR9 agonist, IMO-2125, as a lead candidate for treating infectious diseases. Idera is collaborating with Novartis International Pharmaceutical, Ltd. for the discovery, development, and commercialization of TLR9 agonists for the treatment of asthma and allergy indications. Idera is also collaborating with Merck & Co., Inc. for the use of Idera’s TLR7, 8 and 9 agonists in combination with Merck’s therapeutic and prophylactic vaccines in the areas of oncology, infectious diseases, and Alzheimer’s disease. For more information, visit www.iderapharma.com.

Forward Looking Statements

This press release contains forward-looking statements concerning Idera Pharmaceuticals, Inc. that involve a number of risks and uncertainties. For this purpose, any statements contained herein that are not statements of historical fact may be deemed to be forward-looking statements. Without limiting the foregoing, the words "believes," "anticipates," "plans," "expects," "estimates," "intends," "should," "could," "will," "may," and similar expressions are intended to identify forward-looking statements. There are a number of important factors that could cause Idera’s actual results to differ materially from those indicated by such forward-looking statements, including whether products based on Idera’s technology will advance into or through the clinical trial process on a timely basis or at all and receive approval from the United States Food and Drug Administration or equivalent foreign regulatory agencies; whether the Company will complete enrollment of clinical trials or announce trial results in the time expected; whether, if the Company’s products receive approval, they will be successfully distributed and marketed; whether the results of preclinical studies such as those described in this press release will be indicative of results that may be obtained in clinical trials; whether the Company’s collaborations with Novartis and Merck will be successful; whether the patents and patent applications owned

or licensed by Idera will protect the Company's technology and prevent others from infringing it; whether Idera's cash resources will be sufficient to fund product development and clinical trials; and such other important factors as are set forth under the caption "Risk Factors" in Idera's Annual Report on Form 10-K filed on March 30, 2007, which important factors are incorporated herein by reference. Idera disclaims any intention or obligation to update any forward-looking statements.

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