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**Idera Pharmaceuticals Broadens Toll-like Receptor Programs**

**- New Preclinical Data on Novel Agents that Act on TLRs 7, 8 and 9 and Expand Potential Therapeutic Applications Presented at American Association of Immunologists Meeting -**

**Cambridge, MA May 15, 2006** - Idera Pharmaceuticals (AMEX: IDP) today announced that it has expanded its portfolio of drug candidates targeting Toll-like Receptors (TLRs) to include novel RNA compounds that activate immune responses through TLR7 and TLR8 and novel DNA compounds that act to inhibit activity of TLR9. These novel compounds are the result of entirely in-house application of Idera's expertise in DNA and RNA chemistry. The new preclinical data were announced in three presentations made at the Annual Meeting of the American Association of Immunologists (AAI) in Boston, MA, May 13 and 14, 2006.

"Modulation of immune responses through TLRs is a powerful and broadly applicable therapeutic platform," commented Sudhir Agrawal, D. Phil., Chief Executive Officer and Chief Scientific Officer of Idera. "Our most advanced programs are with agents that activate immune responses through TLR9. We are evaluating these agents for potential applications in cancer, infectious disease, and, through an alliance with Novartis, in asthma/allergy."

"These additional pipeline candidates that activate immune responses through TLR7 and TLR8 and candidates that inhibit immune responses through TLR9 provide us with the potential to modulate the immune system in many different ways and complement our existing programs," continued Agrawal. "Idera's presentations at AAI describe novel TLR research that we are translating into areas of additional therapeutic focus including autoimmune diseases. As our research in these areas advances, it should allow us to substantially broaden the scope of our drug development pipeline and establish additional alliances."

## **Idera Presentations at AAI:**

### **Novel RNA-based Agonists of TLR7 and TLR8**

Abstract number 853 (Session Title: Innate Immunity and Infections) titled "RNAs containing novel structures and chemical modifications as potent agonists of Toll-like receptors 7 and 8" was presented on May 13, 2006. Idera scientists identified novel RNA compounds that were demonstrated in preclinical studies to activate immune responses through TLR8 or both TLR7 and TLR8. In the preclinical studies, the activity depended on the chemical modifications introduced into the RNA structure. Drug candidates targeting TLR7 and TLR8 have potential application in numerous therapeutic areas including cancer, infectious disease, and in combinations with vaccines.

### **Antagonists of TLR9**

Abstract number 1166 (Session Title: Treatment of Autoimmune Disease) titled "Synthetic antagonists of TLR9: *In vitro* and *in vivo* studies" was presented on May 14, 2006. Idera scientists demonstrated that novel synthetic compounds based on DNA structures inhibited activation of immune responses through TLR9 in a dose-dependent fashion in the *in vitro* and *in vivo* studies. This class of compounds may have potential applications in controlling autoimmune diseases.

### **TLR9 Agonists as Viral and Bacterial Vaccine Adjuvants**

Abstract number 32 (Session Title: Effective and Defective Responses to Chronic Infections) titled "Application of synthetic agonists of TLR9 as adjuvants for several antigens, including influenza, H. pylori and Hepatitis B-virus antigens" was presented on May 13, 2006. Idera scientists presented data demonstrating that in preclinical *in vivo* studies, co-administration of peptide antigens from influenza, *Helicobacter pylori*, and hepatitis-B viruses with a proprietary DNA-based TLR9 agonist induced strong antigen-specific antibody responses. These results show that TLR9 agonists may be useful agents in combinations with vaccines for infectious diseases and for cancer.

### **About Idera Pharmaceuticals, Inc.**

Idera Pharmaceuticals, Inc. (AMEX: IDP) is a Cambridge, Massachusetts biotechnology company focused on the discovery, development, and commercialization of targeted immune therapies based on modulation of Toll-like Receptors (TLRs). Drug candidates targeting TLRs have broad commercial potential in the areas of oncology, infectious disease, and allergy/asthma. Idera's most advanced clinical candidate, IMO-2055, is an agonist of TLR9 and is currently in a Phase 2 monotherapy trial in renal cell carcinoma, and in a Phase 1/2 chemotherapy combination therapy trial in solid tumors. Idera has selected another TLR9 agonist, IMO-2125, as a lead candidate for infectious diseases. Idera also is collaborating with Novartis for the discovery, optimization, development, and commercialization of TLR9 agonist drug candidates for asthma and allergy. For more information, visit [www.iderapharma.com](http://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 such as IMO-2055 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 in the time expected; whether, if the Company's products such as IMO-2055 receive approval, they will be successfully distributed and marketed; whether the results of preclinical studies will be indicative of results that may be obtained in clinical trials; 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 Quarterly Report on Form 10-Q filed on May 12, 2006, which important factors are incorporated herein by reference. Idera disclaims any intention or obligation to update any forward-looking statements.

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