



Idera Pharmaceuticals Publishes Data Demonstrating Novel Gene-silencing Oligonucleotide (GSO) Technology

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GSOs Exert Gene-silencing Activity Following Systemic Administration Without a Delivery Technology

GSOs Demonstrate Length-Dependent Gene-silencing Activity

CAMBRIDGE, Mass., Apr 18, 2011 (BUSINESS WIRE) --

Idera Pharmaceuticals, Inc. (Nasdaq: IDRA) today announced the online publication in the Journal of Medicinal Chemistry of its studies of a novel class of compounds, which we refer to as gene-silencing oligonucleotides (GSOs). In these studies, Idera's GSOs efficiently inhibited gene expression while overcoming some of the most intractable issues associated with other gene-silencing technologies: stability, specificity, and systemic delivery.

In the publication, entitled *Novel Oligonucleotides Containing Two 3'-Ends complementary to Target mRNA Show Optimal Gene Silencing Activity*, data is presented on the gene-silencing activity of GSOs in both cell-based assays and in mouse models. GSOs are single-stranded oligonucleotides comprised of RNA or DNA with two exposed 3'-ends. The key observations of the study are that the gene-silencing activity of GSOs was length dependent, with 19-mer GSOs having the greatest activity, and that GSOs were able to be delivered systemically without using a delivery technology. In the studies, GSOs demonstrated greater activity and a longer duration of activity against multiple targets including MyD88, VEGF, and TLR9 mRNAs, as compared to the traditional antisense compounds evaluated.

"The discovery that GSOs have length-dependent gene-silencing activity, which is analogous to observations with siRNA, was an unexpected but very important finding as it suggests that GSOs are engaging a similar cellular pathway for their activity," commented Nicola La Monica, Ph.D., Vice President of Biology at Idera Pharmaceuticals. "We are conducting studies of GSOs targeted to messenger RNA and micro RNA and we are very pleased with the results of these ongoing studies."

"The data reported in the publication demonstrate the robust gene-silencing activity of our proprietary GSOs and their efficient systemic delivery without the use of any delivery technology," commented Sudhir Agrawal, D.Phil, Chairman and Chief Executive Officer of Idera. "Our focus remains on advancing the clinical development of our TLR-targeted drug candidates. However, the GSOs provide us with a new technology platform that we are currently using for validating targets and for identifying new drug candidates for potentially undruggable targets."

Authors of the article were Lakshmi Bhagat, Ph.D., Mallikarjuna Reddy Putta, Ph.D., Daqing Wang, Ph.D., Dong Yu, Ph.D., Tao Lan, Ph.D., Weiwen Jiang, M.D., Ph.D., Zhenhua Sun, Ph.D., Hao Wang, Ph.D., Jimmy X. Tang, Nicola La Monica, Ph.D., Ekambar R. Kandimalla, Ph.D., and Sudhir Agrawal, D.Phil., all of Idera Pharmaceuticals.

About Gene-silencing Oligonucleotides

Idera's gene-silencing oligonucleotides (GSOs) are single-stranded RNA or DNA constructs with two exposed 3'-ends that are complementary to targeted mRNA sequences of therapeutic interest. These GSOs have inhibited gene expression both *in vitro* and *in vivo* without requiring a delivery technology for systemic delivery. Idera is developing GSOs through its pioneering nucleic acid chemistry expertise. Idera holds multiple patent applications for its GSOs that are pending worldwide.

About Idera Pharmaceuticals, Inc.

Idera Pharmaceuticals develops drug candidates to treat chronic hepatitis C virus infection, autoimmune and inflammatory diseases, cancer, and respiratory diseases, and for use as vaccine adjuvants. The company's proprietary drug candidates are designed to modulate specific Toll-like Receptors, which are a family of immune system receptors. Idera's pioneering DNA and RNA chemistry expertise enables us to create drug candidates for internal development and generates opportunities for multiple collaborative alliances. For more information, visit www.iderapharma.com.

Idera 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 results obtained in preclinical studies and early clinical trials will be indicative of results obtained in future clinical trials; 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, if the Company's products receive approval, they will be successfully distributed and marketed; whether the Company's collaborations will be successful; whether the patents and patent applications owned or licensed by the Company will protect the Company's technology and prevent others from infringing it; whether Idera's cash resources will be sufficient to fund the Company's operations; and such other important factors as are set forth under the caption "Risk Factors" in Idera's Annual Report on Form 10-K for the year ended December 31, 2010 which important factors are incorporated herein by reference. Idera disclaims any intention or obligation to update any forward-looking statements.

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