Idera Pharmaceuticals Provides Development Update on IMO-9200, an Antagonist of Toll-like Receptors

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Company Completed Phase 1 Trial in Healthy Subjects Which Demonstrated IMO-9200 Safe and Well-tolerated Across All Dose Regimens

Pre-Clinical Data Supporting IMO-9200 as an Oral Therapeutic Option to Treat Inflammatory Bowel Disease Presented at 2015 Digestive Disease Week Conference

CAMBRIDGE, Mass. and EXTON, Pa., May 18, 2015 (GLOBE NEWSWIRE) -- Idera Pharmaceuticals, Inc. (Nasdaq:IDRA), a clinical-stage biopharmaceutical company developing toll-like receptor and RNA therapeutics for patients with cancer and rare diseases, today announced the achievement of key development milestones for its product candidate IMO-9200, an antagonist of Toll-like receptors (TLRs) 7, 8 and 9. Specifically, the company today reported top-line data from a Phase 1 clinical trial of IMO-9200 in healthy subjects and announced the presentation of new preclinical data for IMO-9200 in models of inflammatory bowel disease (IBD) at the 2015 Digestive Disease Week Conference (DDW) in Washington, DC.

In the placebo-controlled Phase 1 clinical trial in 30 healthy subjects, IMO-9200 was administered by subcutaneous injection at escalating single-dose levels of 0.1, 0.3, and 0.5 mg/kg. In the multiple dose cohort, a dose of 0.5 mg/kg/week for four weeks was also evaluated. All dose regimens were well tolerated, with no serious adverse events related to IMO-9200 treatment reported. There were no patterns of laboratory or other safety parameters suggestive of any related adverse treatment effect.

Additionally, new preclinical data for IMO-9200 were presented on Saturday, May 16 at the 2015 Digestive Disease Week Conference (DDW). The poster presentation, entitled *"Targeting Innate Immune Receptors to Treat Inflammatory Bowel Disease: Activity of Oral IMO-9200, an Antagonist of TLRs 7, 8, and 9 in Mouse Models of Colitis,"* (Abstract #Sa1757) provided results from two mouse models of colitis. These results demonstrated the potential of orally dosed IMO-9200 as a treatment for inflammatory bowel disease (IBD), which includes Crohn's disease (CD) and ulcerative colitis (UC). Crohn's disease and UC are severe and debilitating autoimmune disorders characterized by chronic inflammation in the gastrointestinal tract. A copy of the poster can be found on Idera's corporate website: http://www.iderapharma.com/our-science/key-presentations-and-publications.

Presented data showed orally-delivered IMO-9200 treatment improved body weight and survival, with corresponding improvements in colon weight, length and histology, in a TNBS-induced Crohn's disease model. In addition, data showed that IMO-9200 treatment improved pro-inflammatory cytokine gene expression and levels in the colon and serum, and restored the TGF-β/SMAD3 signaling pathway. Comparable results for IMO-9200 were observed in a separate DSS-induced UC model, including a reduction on the Colitis Disease Activity Index (CDAI).

Collectively, these data demonstrate that TLRs are an important therapeutic target in IBD, and specific blocking of TLRs 7, 8 and 9 with oral IMO-9200 has the potential to disrupt the autoimmune cycle, reduce chronic intestinal inflammation, and improve disease symptoms.

Previously conducted preclinical studies have demonstrated the activity of IMO-9200 in mouse models of other autoimmune diseases, including the MRL/lpr model of lupus, the collagen antibody-induced arthritis model of rheumatoid arthritis, and the IL-23-induced dermal inflammation model of psoriasis.

"These data demonstrating the potential activity of IMO-9200 delivered either orally or subcutaneously as a novel therapeutic option for patients suffering from autoimmune diseases are encouraging and provide strong support for advancement into further clinical development," stated Vincent Milano, Chief Executive Officer of Idera Pharmaceuticals. "As we noted at the outset of this year, the strategic focus of Idera is directed towards oncology and rare diseases and as such, we are currently reviewing our various strategic options for the future of the IMO-9200 development program."

About Toll-Like Receptors (TLRs) and Idera's Proprietary TLR Antagonist Technology Platform

Toll-like receptors (TLRs) play a central role in the innate immune system and in regulating inflammation, and published data have implicated TLR dysfunction across a broad range of autoimmune diseases and genetically defined forms of B-cell lymphoma.

In autoimmune diseases, endogenous nucleic acids released from damaged or dying cells initiate signaling cascades through TLRs, inducing multiple cytokines. Subsequent inflammation causes further damage to the body's own tissues and organs and the release of more self-nucleic acids. Thus, a pathological amplification cycle is established, promoting disease progression.

In B-cell lymphomas characterized by the MYD88 L265P genetic mutation, an oncoprotein is produced that over activates TLR-initiated signaling, thereby activating transcription factors that promote the survival and proliferation of tumor cells.

Based on the company's proprietary chemistry-based discovery platform, Idera designed and developed two synthetic oligonucleotide-based TLR antagonists, IMO-8400 and IMO-9200. These clinical-stage candidates have demonstrated activity in multiple preclinical models of autoimmune disease and cancer, including psoriasis, lupus, arthritis, and MYD88 L265P-positive B-cell lymphoma.

About Idera Pharmaceuticals

Idera Pharmaceuticals is a clinical-stage patient-focused, biopharmaceutical company developing novel therapeutic approaches for the treatment of cancer and rare diseases. Idera's proprietary technology involves creating novel nucleic acid therapeutics. Idera's immunotherapy approach is based on the modulation of Toll-like receptors (TLRs). In addition to its TLR modulation programs, Idera is developing gene silencing oligonucleotides (GSO) technology that it has created to inhibit the production of disease-associated proteins by targeting RNA. To learn more about Idera, visit www.iderapharma.com.

Forward- Looking Statements

This press release contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E

of the Securities Exchange Act of 1934, as amended. All statements, other than statements of historical fact, included or incorporated in this press release, including statements regarding the company's strategy, future operations, collaborations, intellectual property, prospects, plans, and objectives of management, are forward-looking statements. The words "believes," "anticipates," "estimates," "plans," "expects," "intends," "may," "could," "should," "potential," "likely," "projects," "continue," "will," and "would" and similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words. Idera cannot guarantee that it will actually achieve the plans, intentions or expectations disclosed in its forward-looking statements and you should not place undue reliance on the company's forward-looking statements. There are a number of important factors that could cause Idera's actual results to differ materially from those indicated or implied by its forward-looking statements. Factors that may cause such a difference include: whether results obtained in preclinical studies and clinical trials such as the results described in this release with respect to IMO-9200 will be indicative of the results that will be generated in future clinical trials; whether products based on Idera's technology will advance into or through the clinical trial process when anticipated or at all or warrant submission for regulatory approval; whether such products will receive approval from the U.S. 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; and such other important factors as are set forth under the caption "Risk Factors" in the company's Quarterly Report on Form 10-Q for the period ended March 31, 2015. Although Idera may elect to do so at some point in the future, the company does not assume any obligation to update any forward-looking statements and it disclaims any intention or obligation to update or revise any forward-looking statement, whether as a result of new information, future events or otherwise.

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