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IDERA PHARMACEUTICALS SECURES \$19.5 MILLION IN FUNDING

Proceeds to Fund Clinical Programs Targeting Toll-like Receptors

Cambridge MA, March 27, 2006 – Idera Pharmaceuticals, Inc. (AMEX: IDP) announced today that it has raised \$9.75 million in gross proceeds from the private placement of common stock and warrants to new institutional investors, led by Baker Brothers Investments and including Tang Capital Partners, LP, and OrbiMed Advisors, LLC. The Company has also secured a commitment to purchase up to \$9.75 million of common stock from Biotech Shares Ltd., an entity formed by several current long-term Idera stockholders, supported by a letter of credit confirmed by JPMorgan Chase Bank, N.A.

The Company expects to use the proceeds from the transactions to support the development of Idera's pipeline of Toll-like receptor (TLR)-based drug candidates including funding its ongoing Phase 2 trial of IMO-2055 in renal cell cancer and its ongoing Phase 1/2 trial of IMO-2055 in combination with chemotherapy in solid tumors, as well as the pre-clinical development of a lead compound for infectious diseases, IMO-2125.

"We share Idera's long-term vision that therapeutics targeted to Toll-like receptors may play an important role across a broad range of therapeutic areas," said Julian Baker of Baker Brothers Investments. "We look forward to the advancement of the Company's pre-clinical and clinical pipeline of product candidates in the coming years."

"These financings provide Idera with a strong financial footing to advance our clinical development and drug discovery programs that are all derived from Idera's proprietary approach to creating TLR-based therapeutics," said Sudhir Agrawal, D.Phil., Chief Executive Officer and Chief Scientific Officer of Idera. "We are very pleased to have the strong interest of new, well-respected biotechnology institutional investors and the continued support of several current long-term investors."

About the Financings

In connection with the private placement with the new institutional investors, the Company issued, for a purchase price of \$9.75 million, 22,159,092 shares of its common stock and warrants to purchase up to an aggregate of 16,619,319 shares of its common stock at an exercise price of \$0.65 per share. The warrants are exercisable for a five-year period beginning in September 2006. According to the terms of the agreement, Idera has granted the investors certain participation rights in future financings and Baker Brothers Investments the right for a period of time to designate an individual for election to the Board of Directors of Idera.

In connection with its purchase commitment, Biotech Shares Ltd. has agreed to purchase up to a total of \$9.75 million of common stock during the period from June 24, 2006 through December 31, 2006 in up to three drawdowns made by Idera, at Idera's direction. In each drawdown, the shares of common stock will be sold at a price equal to 80% of the volume weighted average of the closing prices of the common stock on the five trading days preceding the drawdown notice, but such purchase price in no event will be less than the floor price of \$0.64 per share, which represents the closing price of the common stock on March 23, 2006. The Company's ability to make drawdowns is conditioned upon the effectiveness of a registration statement covering the resale of the shares to be issued and upon stockholder approval of an increase in Idera's authorized common stock which Idera expects to seek at its 2006 annual meeting. Biotech Shares Ltd's. commitment to purchase the common stock is supported by a letter of credit confirmed by JPMorgan Chase Bank, N.A. In connection with the commitment to purchase common stock, Idera issued to Biotech Shares Ltd. warrants to purchase up to 6,093,750 shares of common stock at an exercise price of \$0.74 per share. The warrants are exercisable for a five-year period beginning in September 2006.

About Idera Pharmaceuticals, Inc.

Idera Pharmaceuticals, Inc. (AMEX: IDP) is a Cambridge, Massachusetts-based 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 (or HYB2055), 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 is collaborating with Novartis for the discovery, optimization, development and commercialization of TLR9 agonist drug candidates targeting TLR9 for asthma and allergy. Idera also has selected another TLR9 agonist, IMO-2125, as a lead candidate for infectious diseases. 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 such as IMO-2055 will advance 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 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 November 9, 2005, which important factors are incorporated herein by reference. Idera disclaims any intention or obligation to update any forward-looking statements.

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