

Isis Pharmaceuticals' GeneTrove Division Enters Into Target Validation Collaboration and Patent License Agreement With Pharmacia Corporation

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CARLSBAD, Calif., March 27 /PRNewswire-FirstCall/ -- Isis Pharmaceuticals, Inc., (Nasdaq: ISIS) announced today that Pharmacia Corporation (NYSE: PHA) will utilize its GeneTrove™ division's proprietary antisense inhibitors to conduct target validation studies. GeneTrove will provide Pharmacia with antisense-based tools to explore the biological role of genes selected by Pharmacia. In addition to employing GeneTrove's services and expertise, Pharmacia will license specific intellectual property within Isis' functional genomics suite of patents for in-house applications.

"We are very pleased that Pharmacia, a global pharmaceutical leader, has chosen GeneTrove as one of its partners for antisense-based functional genomics research," said Richard K. Brown, Ph.D., Isis' Vice President and President of GeneTrove. "By working with GeneTrove, our partners gain the benefit of our proprietary chemistry and 13 years of experience with antisense technology. We are excited to put that experience to work for Pharmacia."

Under the collaboration, Isis will design and deliver to Pharmacia antisense inhibitors to specific genes. Isis will maintain rights to develop antisense drugs to the genes. Financial terms of the deal were not announced.

As a division of Isis, GeneTrove provides three major product offerings to the pharmaceutical and biotechnology industry: 1) Custom Target Validation collaborations, 2) the Human Gene Function Database and Antisense Inhibitor Library, and 3) an intellectual property licensing program. The division's offerings are designed to meet critical and timely needs of the pharmaceutical and biotechnology industry, and help partners make strategic drug target selections for drug discovery. In GeneTrove's Custom Target Validation collaborations, the division aids corporate partners in identifying the role of a specific gene (gene functionalization) and whether a specific gene is a good target for drug discovery (target validation).

Isis' functional genomics patent suite is comprised of approximately 50 patents and applications. A central component of the patent suite is intellectual property surrounding RNase H. RNase H is a naturally occurring cellular enzyme that cleaves the RNA portion of a RNA/DNA duplex, such as that formed when an antisense inhibitor binds to RNA. The company's functional genomics suite of patents represents a subset of Isis' overall intellectual property estate of more than 900 issued patents that Isis owns or exclusively licenses, covering RNA-based drug discovery and development. This functional genomics suite of patents broadly covers the use of RNA/DNA oligonucleotides, or antisense inhibitors, in gene functionalization and target validation, including: chemistries; antisense inhibitor designs called "motifs;" methods of use of antisense inhibitors; and mechanisms of action by which antisense inhibitors inactivate an RNA target.

Isis Pharmaceuticals, Inc. is exploiting its expertise in RNA to discover and develop novel human therapeutic drugs. The company has commercialized its first product, Vitravene® (fomivirsen), to treat CMV-induced retinitis in AIDS patients. In addition, Isis has 13 products in its development pipeline, with two in late-stage development and six in Phase II human clinical trials. LY900003 (ISIS 3521), an inhibitor of PKC-alpha, is in Phase III trials for non-small cell lung cancer, and alicaforsen (ISIS 2302), an ICAM-1 inhibitor, is in Phase III human clinical trials for Crohn's disease. Isis has a broad patent estate, as the owner or exclusive licensee of more than 900 issued patents worldwide. Isis' GeneTrove division uses antisense to assist pharmaceutical industry partners in validating and prioritizing potential gene targets through customized services. Ibis Therapeutics™ is a division focused on the discovery of small molecule drugs that bind to RNA. Additional information about Isis is available at www.isispharm.com.

This press release contains forward-looking statements concerning Isis Pharmaceuticals' functional genomics division, GeneTrove, its product offerings and intellectual property, and the collaboration between Isis Pharmaceuticals and Pharmacia. Any statement describing a goal, expectation, intention or belief of the company is a forward-looking statement and should be considered an at-risk statement. Such statements are subject to certain risks and uncertainties, particularly those inherent in the process of conducting gene functionalization and target validation activities, in launching new products and services for or with collaborators, and in discovering, developing and commercializing drugs that are safe and effective for use as human therapeutics and financing such activities. Actual results could differ materially from those projected in this release. As a result, you are cautioned not to rely on these forward-looking statements. These and other risks concerning Isis' research and development programs are described in additional detail in the Company's Quarterly Report on Form 10Q, for the period ended September 30, 2001, which is on file with the U.S. Securities and Exchange Commission, copies of which are available from the company.

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CONTACT: Kristina Peterson of Isis Pharmaceuticals, Inc., +1-760-603-2521