

Isis Pharmaceuticals and ITRI of Taiwan Initiate SARS Antisense Drug Discovery Effort

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CARLSBAD, Calif., and HSINCHU, Taiwan, June 24 /PRNewswire-FirstCall/ -- Isis Pharmaceuticals, Inc., (Nasdaq: ISIS) and the Industrial and Technology Research Institute (ITRI) of Taiwan announced today that they will collaborate to identify antisense drug candidates targeting the coronavirus associated with Severe Acute Respiratory Syndrome (SARS).

Under the agreement, Isis will conduct the antisense drug discovery research and ITRI will provide \$2 million in initial funding to initiate the collaboration, with the potential for further funding. The primary goals of the initial phase of the collaboration are to identify one or more SARS antisense drugs and to develop aerosol and intravenous formulations in preparation for preclinical toxicology studies.

"We are pleased to lead Taiwan's efforts to find a treatment for SARS, which is clearly a worldwide public health threat," said Johnsee Lee, Ph.D., Executive Vice President and Chief Technology Officer of ITRI. "Antisense technology represents a rapid and efficient approach to drug discovery, and we are optimistic that our work with Isis, the leader in this field, will produce important new antiviral medications for patients with SARS."

Isis responded to the SARS outbreak by initiating an aggressive antisense drug discovery program. The company has synthesized approximately 200 antisense inhibitors to regions of the coronavirus sequences that are unchanged, or conserved, across all known SARS related sequences. These inhibitors will be the subject of the initial research work conducted within the Isis/ITRI collaboration.

"Antisense technology is extremely well-suited to address the SARS outbreak. Using Isis' proprietary screening methods, we can rapidly identify and produce highly selective antisense drugs that target areas in the RNA that seem less likely to mutate," said C. Frank Bennett, Ph.D., Isis' Vice President, Antisense Research. "Based on past experience, antisense drugs can be rapidly formulated for aerosol and parenteral delivery. Our studies show that antisense drugs delivered through these routes readily reach the lung and intestine, which are primary locations for SARS virus replication. Further, the safety and pharmacokinetics of our second-generation antisense drugs are well understood, enabling us to move new drugs toward the clinic expeditiously. We are pleased to bring our expertise to bear on this important issue."

About SARS

Severe acute respiratory syndrome (SARS) is a respiratory illness that has recently been reported in Asia, North America, and Europe. According to the World Health Organization, approximately 8,459 probable cases and 805 deaths from SARS have been reported worldwide as of June 23, 2003. Scientists from multiple laboratories throughout the world have detected a previously unrecognized coronavirus (called SARS CoV) in patients with SARS. This novel coronavirus is believed to be the cause of SARS. SARS symptoms include fever, headache, an overall feeling of discomfort, body aches, and respiratory symptoms, which may be mild or may become severe and life threatening. The primary way that SARS appears to spread is by close person-to-person contact.

About ITRI

The Industrial Technology Research Institute -- ITRI -- of Taiwan is a non-profit R&D organization engaging in applied research and technical services. It was founded in 1973 by the Ministry of Economic Affairs (MOEA) of the government of Taiwan to attend to the technological needs of Taiwan's industrial development. ITRI's contribution to the IT technology in the past is a key factor in the recent economic growth in Taiwan and ITRI is currently engaging in a wide range of industrial research projects under governmental and private contracts. ITRI has highly-regarded teams working together in electronics/optoelectronic, computer and communications, chemical/material sciences, biomedical engineering, machinery/automation, and industrial safety/health. The Biomedical Engineering Center (BMEC) at ITRI is involved in R&D of genomics technology including gene chips, proteomics, bio-informatics, miniaturized medical device research including biophotonics and nanobiotechnology, tissue engineering research including biomaterials and stem cell research, pharmaceutical research including drug delivery, peptidomimetics and herbal drug development. Additional information about ITRI or BMEC can be obtained at www.itri.org.tw.

About Isis Pharmaceuticals, Inc.

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 antisense products in its development pipeline, with two in late-stage development and five in Phase II human clinical trials. Affinitak™ (formerly called LY900003 and ISIS 3521), an inhibitor of PKC- α , is in Phase III development 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 1,200 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 diagnosis of infectious organisms and 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' drug discovery and development plans for the treatment of SARS. Any statement describing a goal, expectation, intention or belief of Isis 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 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 on Form 10-Q for the period ended March 31, 2003, which is on file with the U.S. Securities and Exchange Commission, copies of which are available from the company.

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