



Biogen Idec and Isis Pharmaceuticals Announce Global Collaboration for Antisense Program Targeting Spinal Muscular Atrophy

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-- Biogen Idec has Option to Develop and Commercialize Promising Compound for Most Common Genetic Cause of Infant Mortality --

-- Biogen Idec's Expertise in Neurology to Aid in Rapid Development of ISIS-SMN_{Rx} --

WESTON, Mass. & CARLSBAD, Calif.--(BUSINESS WIRE)--[Biogen Idec](#) (NASDAQ: BIIB) and [Isis Pharmaceuticals, Inc.](#) (NASDAQ: ISIS) today announced that they have entered into an exclusive, worldwide option and collaboration agreement under which the companies will develop and commercialize Isis' antisense investigational drug, ISIS-SMN_{Rx}, for the treatment of spinal muscular atrophy (SMA).

SMA is a genetic neuromuscular disease characterized by muscle atrophy and weakness, and it is the most common genetic cause of infant mortality. One child out of every 10,000 births worldwide is born with SMA. Children with SMA generally appear normal at birth, with symptoms developing as early as a few months after birth, and in the most severe form of the disease, children have a significantly shortened lifespan. Isis' ISIS-SMN_{Rx} is designed to compensate for the underlying genetic defect that causes SMA.

Under the terms of the agreement, Isis will receive an upfront payment of \$29 million and is eligible to receive up to \$45 million in milestone payments associated with the clinical development of ISIS-SMN_{Rx} prior to licensing. Biogen Idec has the option to license ISIS-SMN_{Rx} until completion of the first successful Phase 2/3 trial. Isis could receive up to another \$225 million in a license fee and regulatory milestone payments. In addition, Isis will receive double-digit royalties on sales of ISIS-SMN_{Rx}. Isis will be responsible for global development of ISIS-SMN_{Rx} through the completion of Phase 2/3 registrational clinical trials, with Biogen Idec providing advice on the clinical trial design and regulatory strategy. If Biogen Idec exercises its option, it will assume global development, regulatory and commercialization responsibilities.

"SMA is a heartbreaking disease – it can kill children before their 2nd birthday and there are currently no therapies to treat the disease," said George A. Scangos, Ph.D., CEO of Biogen Idec. "It is exactly the kind of disease and program that we are focused on at Biogen Idec. The unmet need could not be any greater, the program fits with our mission to bring innovative therapies to patients with serious neurologic diseases, and Isis' antisense compound has the potential to be a highly effective, first-to-market therapy for this deadly disease. We have the utmost respect for Isis' scientific leadership and expertise in antisense technology, and we have crafted a collaboration that brings together our two companies' strengths toward a common goal."

"Biogen Idec's expertise in the global development and commercialization of innovative new therapies for neurologic diseases is a great strategic fit to advance ISIS-SMN_{Rx}," said Stanley T. Crooke, M.D., Ph.D., Chairman of the Board and Chief Executive Officer. "This alliance is consistent with our business strategy to develop antisense drugs to proof-of-concept with a knowledgeable partner that is committed to supporting the rapid development of the drug. Given the severity of the unmet need in SMA, our proof-of-concept studies should also serve as the registrational trials for ISIS-SMN_{Rx}. We believe that, together with Biogen Idec, we will be able to expeditiously develop this investigational drug in hopes of bringing to market an effective and desperately needed treatment to improve the lives of children with SMA."

About SMA

SMA is a severe genetic disease that affects approximately 30,000-35,000 patients in the United States, Europe and Japan. One in 50 people, the equivalent of about 6 million people in the United States, are carriers of the SMA gene. Carriers experience no symptoms and do not develop the disease. However, when both parents are carriers, there is a one in four chance that their child will have SMA. SMA is caused by a loss of, or defect in, the survival motor neuron 1 (SMN1) gene leading to a decrease in the survival motor neuron (SMN) protein. SMN is critical to the health and survival of nerve cells in the spinal cord responsible for neuromuscular growth and function. The severity of SMA correlates with the amount of SMN protein. Infants with Type 1 SMA, the most severe form of the disease, produce very little SMN protein and have a life expectancy of less than two years. Children with Type II have greater amounts of SMN protein but still have a shortened lifespan and are never able to stand independently. Children with Type III have a normal lifespan but accumulate life-long physical disabilities as they grow.

About ISIS-SMN_{Rx}

ISIS-SMN_{Rx} is designed to treat all types of childhood SMA by altering the splicing of a closely related gene (SMN2) to increase production of fully functional SMN protein. The United States Food and Drug Administration granted orphan drug status and fast track designation to ISIS-SMN_{Rx} for the treatment of patients with SMA. In December 2011, Isis initiated the first Phase 1 clinical study evaluating ISIS-SMN_{Rx} in children with SMA. The Phase 1 study is a single-dose, dose-escalation study designed to assess the safety, tolerability and the pharmacokinetic profile of the drug in children between the ages of 2 and 14 who are medically stable. In this study, ISIS-SMN_{Rx} will be administered intrathecally as a single injection directly into the spinal fluid. Isis plans to follow this study with a Phase 1 multiple-ascending dose study.

Isis acknowledges support from the following organizations for ISIS-SMN_{Rx}: Muscular Dystrophy Association, SMA Foundation, Families of SMA and intellectual property licensed from Cold Spring Harbor Laboratory and the University of Massachusetts Medical School.

About Biogen Idec

Through cutting-edge science and medicine, Biogen Idec discovers, develops and delivers to patients worldwide innovative therapies for the treatment of neurodegenerative diseases, hemophilia and autoimmune disorders. Founded in 1978, Biogen Idec is the world's oldest independent biotechnology company. Patients worldwide benefit from its leading multiple sclerosis therapies, and the company generates nearly \$5 billion in annual revenues. For product labeling, press releases and additional information about the company, please visit www.biogenidec.com.

About Isis Pharmaceuticals

Isis is exploiting its leadership position in antisense technology to discover and develop novel drugs for its product pipeline and for its partners. Isis' broad pipeline consists of 28 drugs to treat a wide variety of diseases with an emphasis on cardiovascular, metabolic and severe and rare/neurodegenerative diseases, and cancer. Isis' partner, Genzyme, plans to commercialize Isis' lead product, mipomersen, following regulatory approval, which is expected in 2012. Isis' patents provide strong and extensive protection for its drugs and technology. Additional information about Isis is available at www.isispharm.com.

Biogen Idec Safe Harbor Statement

This press release contains forward-looking statements, including statements about product development and commercialization. These forward-looking statements may be accompanied by such words as "anticipate," "believe," "estimate," "expect," "forecast," "intend," "may," "plan," "will" and other words and terms of similar meaning. You should not place undue reliance on these statements. Drug development and commercialization involve a high degree of risk. Factors which could cause actual results to differ materially from current expectations include the risk that adverse safety events may occur, regulatory authorities may require additional information or may fail to approve any potential new therapy, product reimbursement may be limited or unavailable, there may be problems with manufacturing processes, intellectual property rights may not be adequately protected, and the other risks and uncertainties that are described in the Risk Factors section of Biogen Idec Inc.'s most recent annual or quarterly report and in other reports Biogen Idec Inc. has filed with the SEC. These statements are based on current beliefs and expectations and speak only as of the date of this press release. Biogen Idec Inc. does not undertake any obligation to publicly update any forward-looking statements.

Isis Safe Harbor Statement

This press release includes forward-looking statements regarding Isis' strategic alliance with Biogen Idec, and the discovery, development, activity, therapeutic potential and safety of ISIS-SMN_{RX}. Any statement describing Isis' goals, expectations, financial or other projections, intentions or beliefs, including the planned commercialization of mipomersen, 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 in the endeavor of building a business around such drugs. Isis' forward-looking statements also involve assumptions that, if they never materialize or prove correct, could cause its results to differ materially from those expressed or implied by such forward-looking statements. Although Isis' forward-looking statements reflect the good faith judgment of its management, these statements are based only on facts and factors currently known by Isis. As a result, you are cautioned not to rely on these forward-looking statements. These and other risks concerning Isis' programs are described in additional detail in Isis' annual report on Form 10-K for the year ended December 31, 2010 and its most recent quarterly report on Form 10-Q, which are on file with the SEC. Copies of these and other documents are available from the Company.

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