Researchers Report Neublastin Virtually Restores Complete Long-Term Sensory Motor Function in Preclinical Studies

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Findings by Biogen Idec, University of Arizona and Tufts University Reported in Nature Neuroscience

CAMBRIDGE, Mass.--(BUSINESS WIRE)--Biogen Idec (Nasdaq: BIIB), in collaboration with scientists at the University of Arizona and Tufts University reported in the April issue of the journal *Nature Neuroscience* that in preclinical studies, injections of the protein neublastin promoted the regeneration of damaged sensory nerve cells and produced virtually complete, long-term restoration of sensory and motor function. These studies suggest neublastin has potential for further development as a treatment for traumatic nerve injury.

Neublastin, also known as artemin, belongs to a family of proteins, called glial-derived neurotrophic factors (GDNF), which promote nerve cell survival. The protein is unique because it acts selectively on sensory neurons. In previous preclinical studies, neublastin reversed a number of features of chronic pain associated with peripheral nerve injury.

Specifically in the studies, six neublastin injections were administered over 11 days following injury to the dorsal root, a bundle of peripheral nerve fibers adjacent to the spinal cord that transmit sensory information to the central nervous system. The injections promoted nerve growth into the spinal cord and restored the ability to respond normally to a variety of sensory stimuli and perform complex motor activities such as grasping an object on contact. The functional recovery occurred even after a two-day delay in administering neublastin and lasted for more than six months.

“Sensory nerves entering the spinal cord have minimal capacity to regenerate and severe injury often results in permanent loss of sensory functions,” said Frank Porreca, PhD, Professor of Pharmacology at the University of Arizona, the study’s senior author. “The results of our preclinical studies, showing dramatic, long-term recovery of pain sensation and complex motor skills after neublastin injections, represent an important and novel advance in research efforts in the area of traumatic nerve injury.”

In a series of biochemical, molecular and electrophysiology studies, the researchers also demonstrated that neublastin promoted the regeneration of multiple classes of nerve cells back into the spinal cord and the re-establishment of functional connections with their spinal targets.

“These exciting results support further research, as the data suggest that neublastin may have the potential to promote sensory neuronal regeneration and functional recovery following injury,” said Ken Rhodes, PhD, Vice President, Discovery Neurobiology, Biogen Idec. “The neublastin program is part of Biogen Idec’s commitment to innovative neurological science and discovery.”

Biogen Idec is developing neublastin for use in treating peripheral nervous system diseases under an exclusive license from NsGene. Scientists at NsGene discovered neublastin in 1998.

About Biogen Idec

Biogen Idec creates new standards of care in therapeutic areas with high unmet medical needs. Founded in 1978, Biogen Idec is a global leader in the discovery, development, manufacturing, and commercialization of innovative therapies. Patients in more than 90 countries benefit from Biogen Idec's significant products that address diseases such as lymphoma, multiple sclerosis, and rheumatoid arthritis. For product labeling, press releases and additional information about the company, please visit www.biogenidec.com.

Biogen Idec Safe Harbor

This press release contains forward-looking statements regarding the development of neublastin (also known as artemin) and its potential as a treatment for various indications. These statements are based on Biogen Idec’s current beliefs and expectation, based on preclinical studies conducted to date. Drug development involves a high degree of risk. Factors which could cause actual results to differ materially from current expectations include: the risk that unexpected concerns may arise from additional data or analysis, that regulatory authorities may require additional information and/or further studies before further development is conducted, or may fail to approve the drug. The company may also encounter other unexpected hurdles. For more detailed information on the risks and uncertainties associated with Biogen Idec’s drug development and other activities, see the periodic reports of Biogen Idec filed with the Securities and Exchange Commission. Biogen Idec assumes no obligation to update any forward-looking statements, whether as a result of new information, future events or otherwise.

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