NEURALSTEM STEM CELLS EXTEND LIFE OF RATS WITH ANIMAL MODEL OF ALS
Transplanted Human Stem Cells Function In Diseased Spinal Cord, Delay Disease Onset

Rockville, MD – October, 16, 2006 – Human neural stem cells (hNSCs) developed by Neuralstem, Inc. significantly extended the life of rats with a genetic mutation that gives them a disease analogous to amyotrophic lateral sclerosis (ALS) and delayed disease onset, a paper published in this issue of the journal Transplantation (http://www.transplantjournal.com) reported. The transplanted stem cells, derived from human fetal spinal cord tissue, survived well in the neurodegenerative spinal cord environment, integrated with host cells and delivered neuroprotective factors to the diseased motor neurons.

“This is the first time we have seen evidence that human neural stem cells can be effective in delaying the onset of ALS in an animal model,” commented Dr. Karl Johe, Neuralstem’s Chief Scientific Officer and a co-author of the study. “Previous studies seemed to indicate that stem cells were not able to differentiate into neurons in the spinal cord and therefore would not be useful for treating spinal cord diseases. In contrast, our transplanted stem cells were able to differentiate robustly into mature neurons and to provide significant functional benefit.”

“We believe this is a very encouraging step forward,” said Richard Garr, Neuralstem, Inc. CEO. “Our goal is to demonstrate that our cells are safe and can effectively treat neurodegenerative diseases. This study is an important milestone. It establishes that the cells can indeed integrate and thrive in the spinal cord, and that they are the right type of cells to provide a significant functional benefit. Our next step will be to expand the graft area and to optimize the cell dosing in order to produce even greater functional benefit.”

In a study conducted at the Johns Hopkins University Medical Institutes, laboratory-grown human neural stem cells (hNSCs) isolated from a fetal spinal cord region were grafted into the spinal cord of 16 rats with a genetic mutation (SOD1 G93A) that gives them a disease like a particularly aggressive form of ALS. An additional 11 SOD1 rats constituted the placebo group. At the end of the study, the hNSCs showed robust engraftment into their host environment and excellent long-term survival. 70.4% had differentiated into neurons. Additionally, the human NSCs made synaptic contact with, and were able to release motor neuron growth factors to, the host motor neurons. When analyzed for motor neuron survival, twice as many motor neurons survived during the disease process in rats transplanted with live...
hNSCs than in those in the control group, indicating an apparent neuroprotective effect of the human NSCs against the ongoing neural degeneration of the host.

The rats transplanted with hNSCs lived an average 11 days longer (149 days versus 138 days) than the placebo group and experienced disease onset by an average of 7 days later (122 days versus 115 for the placebo group).

“These stem cells not only survived in an extremely adverse environment, but may have actually produced and delivered motor neuron growth factors, which promote growth and function, to the sick motor neurons,” commented Dr. Vassillis E. Koliatsos, whose lab conducted the study. “Beyond the clinical results of extended life span, the possibility that the presence of these stem cells may have aided degenerating neurons is very promising.”

About Neuralstem

Neuralstem Inc.’s patent-protected technology enables, for the first time, the ability to produce neural stem cells of the human brain and spinal cord in commercially reasonable quantities, and to control the differentiation of these cells into mature, physiologically relevant human neurons and glia. The Company’s primary focus is to transplant these cells into patients to treat currently incurable diseases. For more, go to www.neuralstem.com.

This press release contains forward-looking statements. Neuralstem wishes to caution the readers of this press release that actual results may differ from those discussed in the forward-looking statements and may be adversely affected by, among other things, the risks associated with new product development and commercialization, clinical trials, intellectual property, regulatory approvals, potential competitive offerings, and access to capital. For further information, please visit the company's website at www.neuralstem.com, and review the company's filings with the Securities and Exchange Commission.

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