

NEW YORK STEM CELL FOUNDATION PLAYS CRITICAL FUNDING ROLE IN MAJOR NEW A.L.S. RESEARCH ANNOUNCED TODAY

NEW YORK, NY (July 31, 2008) – In a breakthrough discovery, Dr. Kevin Eggan, Chief Scientific Officer of The New York Stem Cell Foundation and Principal Faculty Member of the Harvard Stem Cell Institute, has produced human stem cell lines from the cells of patients afflicted with a version of amyotrophic lateral sclerosis (ALS), commonly known as Lou Gehrig's disease. Eggan's work marks the first time scientists have replicated in a laboratory the specific human cells affected by disease. His experiments were funded by The New York Stem Cell Foundation and carried out by a team of scientists working at Harvard and Columbia Universities.

"No one has ever managed to isolate these neurons from a patient and grow them in a dish," Eggan said. "Now we can make limitless supplies of the cells that die in this awful disease." A further significance of his successful effort to derive these new stem cells, Eggan said, is that it will open up new avenues for scientists to study the root cause of ALS and many other diseases like it.

The work, published in today's on-line edition of the journal *Science*, is a major step toward scientists' belief that stem cell research will eventually make it possible to treat patients suffering from chronic diseases with stem cell-based treatments created from their own cells.

"Kevin Eggan is an international leader in stem cell research, and this is a pathbreaking discovery, one that will bring us closer to the answers we seek about the most devastating diseases of our time," said Susan L. Solomon, co-founder and Chief Executive Officer of The New York Stem Cell Foundation. "We are truly excited to have played a role in making it possible."

"This exciting result means that we will be able to use human stem cells to discover why motor neurons die in ALS and to find ways of preventing their death," said Zach Hall, NYSCF board member and former president of the California Institute for Regenerative Medicine (CIRM). "Eggan's work demonstrates that the long-awaited goal of producing disease-specific stem cell lines can work. This method can now be applied to a wide variety of diseases, including cancer, diabetes, and other neurodegenerative diseases, to help us understand their causes and find therapies for them."

Eggan, working with his colleagues John Dimos and Kit Rodolfa of the Harvard Stem Cell Institute and two NYSCF post-doctoral research fellows, Paolo Di Giorgio and Justin Ichida, derived induced pluripotent cells, known as iPS cells, from skin cells of two elderly patients. A team led by Christopher Henderson with Hynek Wichterle of Columbia University Motor Neurology Center coordinated patient participation and collection of the skin cells.

iPS cells, which are a form of stem cell, can be coaxed into cells that resemble the cells found in the human body. In the case of the patients with ALS, Eggan’s team induced them to become motor neuron cells similar to the cells affected by the disease. The process of creating iPS cells involves the use of genes, one of which is a cancer-promoting gene, and as a result iPS cells are used as a way to study disease, not as a therapy that can be transplanted into patients.

Eggan will continue working with human embryonic stem cells, including SCNT (somatic cell nuclear transfer), which has been the main focus of his work. “It’s essential to note that we couldn’t possibly be where we are now without first doing extensive work with human embryonic stem cells,” he said. “It will be essential to continue to do work with embryonic stem cells as they remain the stem cell gold standard.”

Scientists believe that because cells such as the ones Eggan’s team derived can be genetically matched to the cells from a person suffering from the disease, they will provide a significant tool for understanding how ALS and other diseases work, and how to prevent them – permitting the disease, in effect, to be studied in a laboratory dish. Scientists expect that eventually it will be possible to create similar cells for the study of any number of diseases, from Parkinson’s disease to diabetes and cancer.

NYSCF funded the Eggan’s team’s portion of the research. The foundation has supported Eggan’s work since 2005.

“The New York Stem Cell Foundation’s support was integral to our ability to pursue this research,” said Dr. Eggan. “Private funding continues to play a critical role in driving the research that is helping us to understand diseases as never before. NYSCF is a nimble and focused organization that can keep pace with the needs of researchers as the pace of our work continues to intensify.”

About The New York Stem Cell Foundation

Founded in 2005, The New York Stem Cell Foundation is a privately funded foundation dedicated to furthering human stem cell research to advance the search for cures of the major diseases of our time. The foundation opened the first privately funded human embryonic stem cell laboratory in New York City in March 2006 to serve as a “safe haven” where scientists can conduct advanced human embryonic stem cell research free of federal restrictions. The organization supports scientists engaged in stem cell research through grants, fellowships and symposia; runs collaborative, state-of-the-art research facilities supported entirely with private funds and directly focused on curing disease; and educates the public about the importance and potential benefits of stem cell research.

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