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THE NEW YORK STEM CELL FOUNDATION RESEARCH INSTITUTE ANNOUNCES LARGEST-EVER STEM CELL REPOSITORY

Population in a dish being made available to scientific community

NEW YORK, NY (October 22, 2014) – The New York Stem Cell Foundation (NYSCF) Research Institute, through the launch of its repository in 2015, will provide for the first time the largest-ever number of stem cell lines available to the scientific research community. Initially, over 600 induced pluripotent stem (iPS) cell lines and 1,000 cultured fibroblasts from over 1,000 unique human subjects will be made available, with an increasing number available in the first year. To collect these samples, NYSCF set up a rigorous human subjects system that protects patients and allows for the safe and anonymous collection of samples from people interested in participating in research.

A pilot of over 200 of NYSCF's iPS cell lines is already searchable on an online database (www.nyscf.org/repository). The pilot includes panels of iPS cell lines generated from donors affected by specific diseases such as type 1 diabetes, Parkinson's disease, and multiple sclerosis, as well as a diversity panel of presumed healthy donors from a wide range of genetic backgrounds representing the United States Census. These panels, curated to provide ideal initial cohorts for studying each area, include subjects ranging in age of disease onset, and are gender matched. Other panels that will be available in 2015 include Alzheimer's disease, schizophrenia, Juvenile Batten disease, and Charcot-Marie-Tooth disease.

"NYSCF's mission is to develop new treatments for patients. Building the necessary infrastructure and making resources available to scientists around the world to further everyone's research are critical steps in accomplishing this goal," said Susan L. Solomon, CEO of The New York Stem Cell Foundation.

NYSCF has developed the technology needed to create a large collection of stem cell lines representing the world's population. This platform, known as the NYSCF Global Stem Cell Array™, is an automated robotic system for stem cell production and is capable of generating 200 iPS cell lines a month from patients with various diseases and conditions and from all genetic backgrounds. The NYSCF Global Stem Cell Array™ is also used for stem cell differentiation and drug screening.

Currently available in the online database that was developed in collaboration with eagle-i Network, of the Harvard Catalyst, is a pilot set of approximately 200 iPS cell lines and related information about the patients. This open source, open access resource discovery platform makes the cell lines and related information available to the public on a user-friendly, web-based, searchable system. This is one example of NYSCF's efforts to reduce duplicative research and enable even broader collaborative research efforts via data sharing and analysis. NYSCF continues to play a key role in connecting the dots between patients, scientists, funders, and outside researchers that all need access to biological samples.

"The NYSCF repository will be a critical complement to other existing efforts which are limited in their ability to distribute on a global scale. I believe that this NYSCF effort wholly supported by philanthropy will help accelerate the use of iPS cell based technology," said Dr. Mahendra Rao, NYSCF Vice President of Regenerative Medicine.

To develop these resources, NYSCF has partnered with over 50 disease foundations, academic institutions, pharmaceutical companies, and government entities, including the Parkinson's Progression Markers Initiative (PPMI), PersonalGenomes.org, the Beyond Batten Disease Foundation, among several others. NYSCF also participates in and drives a number of large-scale multi stakeholder initiatives including government and international efforts. One such example is the Cure Alzheimer's Fund Stem Cell Consortium, a group consisting of six institutions, including NYSCF, directly investigating, for the first time, brain cells in petri dishes from individual patients who have the common sporadic form of Alzheimer's disease.

"We are entering this next important phase of using stem cells to understand disease and discover new drugs. Having collaborated with NYSCF extensively over the last five years on the automation of stem cell production and differentiation, it's really an exciting moment to see these new technologies that NYSCF has developed now being made available to the entire academic and commercial research communities," said Dr. Kevin Eggan, Professor of Stem Cell and Regenerative Biology at Harvard University and Principal Investigator of the Harvard Stem Cell Institute.

NYSCF's unique technological resources have resulted in partnerships with companies to develop both stem cell lines and also collaborative research programs. Over the past year, NYSCF has established collaborations with four pharmaceutical companies to accelerate the translation of basic scientific discoveries into the clinic. Federal and state governments are also working with NYSCF to further stem cell research in the pursuit of cures. In 2013, NYSCF partnered with the National Institutes of Health (NIH) Undiagnosed Disease Program (UDP) to generate stem cell lines from 100 patients in the UDP and also collaborate with UDP researchers to better understand and potentially treat select rare diseases.

About The New York Stem Cell Foundation

The New York Stem Cell Foundation (NYSCF) is an independent organization founded in 2005 to accelerate cures and better treatments for patients through stem cell research. NYSCF employs over 45 researchers at the NYSCF Research Institute, located in New York, and is an acknowledged world leader in stem cell research and in developing pioneering stem cell technologies, including the NYSCF Global Stem Cell Array™. Additionally, NYSCF supports another 70 researchers at other leading institutions worldwide through its Innovator Programs, including the NYSCF – Druckenmiller Fellowships and the NYSCF – Robertson Investigator Awards. NYSCF focuses on translational research in a model designed to overcome the barriers that slow discovery and replaces silos with collaboration.

NYSCF researchers have achieved several major discoveries in the field, including: the first diploid stem cell line from a patient with type 1 diabetes using somatic cell nuclear transfer in April 2014; the first stem cell-derived beta cell model that accurately reflects the features of a genetic form of diabetes in June 2013; the generation of functional, immune-matched bone substitutes from patients' skin cells (featured in *The Wall Street Journal* in May 2013); the discovery of a clinical cure to prevent transmission of maternally inherited mitochondrial diseases in December 2012; the derivation of the first-ever patient specific embryonic stem cell line (#1 Medical Breakthrough of 2011 by *Time* magazine); the discovery of a new way to reprogram stem cells; and, the creation of the first disease model from induced pluripotent stem cells (also named the #1 Medical Breakthrough by *Time* magazine in 2008). More information is available at www.nyscf.org.