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The New York Stem Cell Foundation

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New York Stem Cell Foundation-Druckenmiller Fellow Lead Author on Study That Creates Blood Vessel Cells From Stem Cells

NEW YORK, NY (January 21) - New York Stem Cell Foundation (NYSCF)-Druckenmiller Fellow, **Daylon James, PhD**, of Weill Cornell Medial College, is lead author on a study defining conditions for generating a plentiful supply of endothelial (vessel lining) cells that are suitable for therapeutic use. Dr. James and his colleagues created a human embryonic stem cell (hESC) "reporter" line that can be used to measure endothelial cell production and activity.

The study, Expansion and maintenance of human embryonic stem cell–derived endothelial cells by TGFβ inhibition is Id1 dependent, was published in the online edition of *Nature Biotechnology* on **January 17th, 2010,** and will also appear in the journal's print edition. In addition to Dr. James, whose work is funded by NYSCF, contributors to the study also included NYSCF-Druckenmiller Fellows, **Drs. Gabsang Lee and Marco Seandel**.

Using the reporter line, Dr. James and his colleagues were able to monitor the emergence of endothelial cells in live cultures, and screen for small bioactive molecules that increased their yield. By this method, they were able to indentify a compound that robustly increased the amount of endothelial cells produced. This work establishes a standard methodology for generating functional endothelial cells from hESCs using conditions that are suited to clinical application. These cells can now be routinely and economically produced on scales that make pre-clinical assessment of their efficacy practical in large animal models of vascular disease.

"We are very proud of Dr. James. These findings bring us closer to having functional endothelial cells available for studying vascular disease," says **Susan L. Solomon**, NYSCF's founder and CEO.

As advancements in induced pluripotent stem (iPS) cell technology continue, hESC research like that of Dr. James is essential for the field of stem cell research. Embryonic stem cells are still the gold standard for monitoring pluripotency and differentiation capabilities.

"It is research like this that brings us closer to cures for the major diseases of our time," said **Dr. Kevin Eggan**, Chief Scientific Officer of NYSCF. "Daylon is one of the premier young scientists in the field of stem cell research and we are excited to have him in our fellowship program."

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About The New York Stem Cell Foundation

Founded in 2005, The New York Stem Cell Foundation is dedicated to furthering stem cell research to advance the search for cures of the major diseases of our time. NYSCF opened the first privately funded stem cell laboratory in New York City in March 2006 to serve as a "safe haven" where scientists can conduct advanced 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 directly focused on curing disease; and educates the public about the importance and potential benefits of stem cell research. For more information, visit www.nyscf.org.