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CORIELL INSTITUTE AND NIH PROVIDE SCIENTISTS WITH POWERFUL NEW STEM CELLS

Advancing Huntington's Disease, Spinal Muscular Atrophy, and Diabetes Research

CAMDEN, N.J. – Coriell Institute for Medical Research announced today the availability of powerful new stem cells to the scientific research community. These cells – called induced pluripotent stem cells – possess many of the important properties of embryonic stem cells. However, they bypass controversy as they can be made from skin cells or blood cells, avoiding the need to involve embryo-derived cells. Induced pluripotent stem (iPS) cells can multiply indefinitely and can become almost any type of cell in the human body. These cell lines, available through the National Institutes of General Medical Sciences (NIGMS) Human Genetic Cell Repository at Coriell, were derived from individuals with Huntington's disease, juvenile onset diabetes, muscular dystrophy, spinal muscular atrophy, or severe combined immunodeficiency.

The demand in the research community for access to iPS cells is quickly growing. Coriell's President and CEO, Michael F. Christman, Ph.D., recognizes the importance of incorporating this new technology into Coriell's repertoire. "The promise of stem cell research lies in its application in understanding the progression of human disease, to better target therapies to optimize our health outcomes, and to ultimately use stem cells therapeutically to cure disease and reverse injury," says Christman.

iPS cells are revolutionizing the way human disease is studied and how drugs are developed. Creating iPS cell lines from individuals with various rare and common diseases, as well as from various populations, will open the doors for pre-clinical testing. In a stem cell-based strategy often called "disease in a dish," researchers can use iPS cells to model a disease as it occurs in an individual by causing the iPS cells to differentiate, or transform, into the tissue type of interest, and then observing each step of the disease process. The decline of neurons afflicted with Alzheimer's disease or pancreatic cells fighting diabetes are being studied in a Petri dish. Pre-clinical drug discovery will begin by screening potential drug candidates using iPS cells created from individuals with diseases, such as cystic fibrosis, to see which drugs alleviate the symptoms caused by the disease. By proving efficacy within the diseased environment prior to clinical trials, drugs can move through the pipeline more quickly to reach patients sooner.

The NIGMS Human Genetic Cell Repository has been managed by Coriell since 1972 and currently contains more than 10,500 cell lines. By combining Coriell's nearly 60 years in biobanking expertise, its highly-skilled laboratory staff, and its commitment to serving as a

critical resource to the scientific community, Coriell is uniquely qualified to distribute these important new stem cell lines. In addition to the five iPS cell lines recently released, other iPS cell lines will be made available in the coming months.

Dorit S. Berlin, Ph.D., principal investigator of the NIGMS Human Genetic Cell Repository at Coriell, states, “The Repository has been recruiting submissions of induced pluripotent stem cell lines made by researchers worldwide in order to make these important biomaterials broadly available to the biomedical research community.” To date, the Repository has received from several respected laboratories more than 30 iPS cell lines, most of which were derived from skin cell cultures from the NIGMS Repository at Coriell. Several of the cell lines used to create these iPS cells have been in the Repository for more than 30 years, cryogenically preserved decades before the development of these new methodologies. Indeed, the importance of biobanking and repository science to current and future biomedical research has been demonstrated, and the availability of iPS cells at Coriell is a testament to both the quality and the utility of the NIGMS Repository.

The NIGMS Repository at Coriell is also establishing iPS cells in-house by reprogramming human cell cultures maintained in its cell collections. First developed in 2007, researchers take a skin or blood cell and add several gene factors in a process called “cellular reprogramming,” to revert that cell to a stem cell state. The Stem Cell Biobank at Coriell has established and implemented thorough characterization of the iPS cell lines to ensure that the highest quality resources are made available to the scientific research community.

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About Coriell

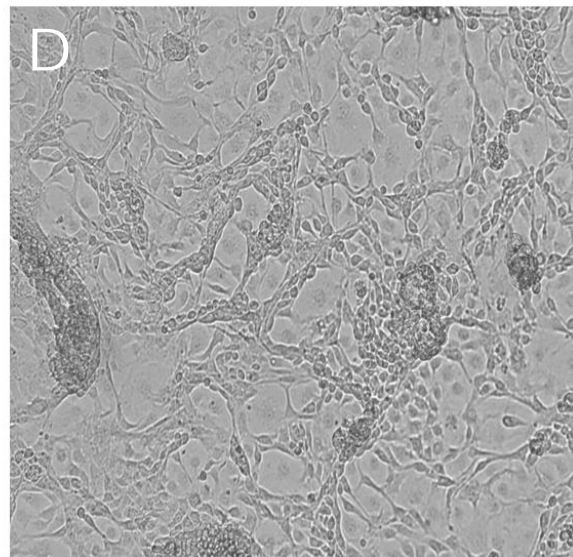
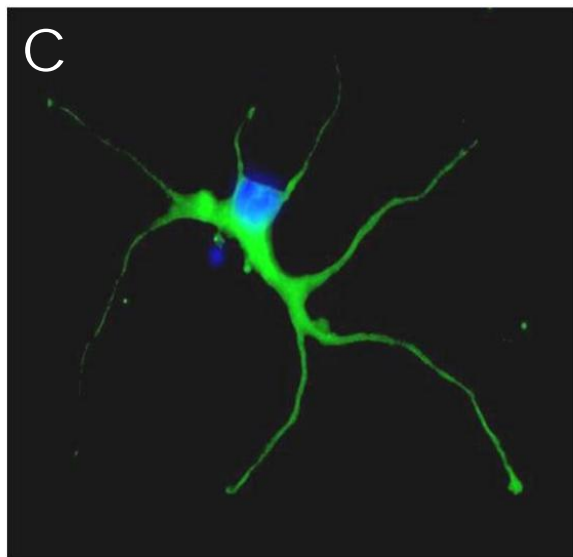
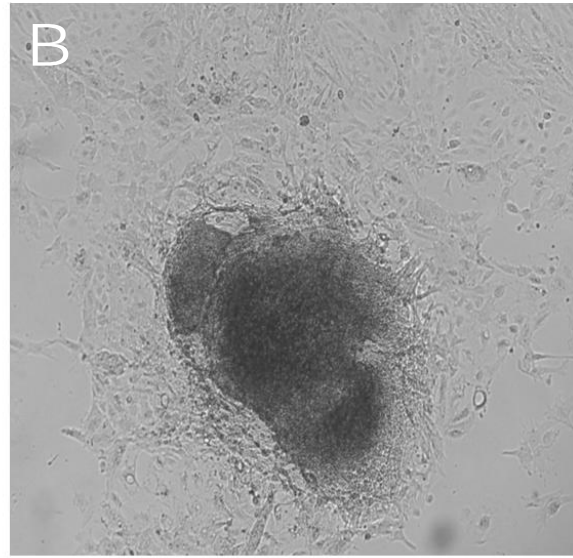
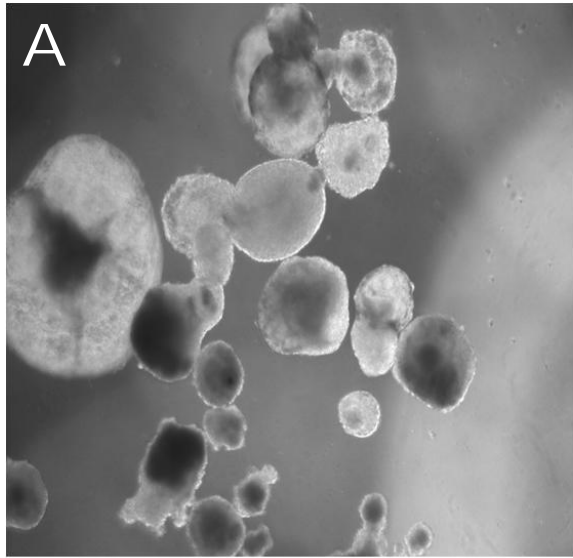
Coriell Institute for Medical Research is an independent, non-profit biomedical research institution based in Camden, New Jersey. Founded in 1953, the Institute is dedicated to unlocking the genetic code of human disease. Coriell is a pioneer in genomic medicine, examining the utility of DNA information in clinical care through the Coriell Personalized Medicine Collaborative® (CPMC®) research study (www.cpmc.coriell.org). Coriell is also exploring the promise of induced pluripotent stem cells – stem cells created from skin or blood – having the potential to advance today’s understanding of human disease. And, Coriell continues to be recognized as the world’s leading biobank, distributing biological samples, and offering custom research services, to scientists around the globe. For more, visit www.coriell.org.

About NIH & NIGMS

National Institutes of Health (NIH) includes 27 Institutes and Centers and is a component of the U.S. Department of Health and Human Services. It is the primary Federal agency for conducting and supporting basic, clinical, and translational medical research, and investigates the causes, treatments and cures for common and rare diseases.

NIGMS, part of NIH, supports basic research to increase our understanding of life processes and lay the foundation for advances in disease diagnosis, treatment and prevention. For more, visit www.nih.gov and www.nigms.nih.gov.

Induced pluripotent stem cell differentiation.



The cells shown above were created from human induced pluripotent stem cells. They were first reprogrammed from skin cells to become undifferentiated cells, giving them the potential to become any one of the 200 cell types in our bodies. This ability to become multiple other cell types is called pluripotency. Induced pluripotent stem cell lines undergo extensive characterization at Coriell, including assessment for their capability to differentiate – as determined by both spontaneous differentiation into embryoid bodies [Panel A] or directed differentiation into cardiac cells [Panel B], neural cells [Panel C], and pancreatic cells [Panel D].

[Click here for information about the iPS cells available through the NIGMS collection at Coriell.](#)