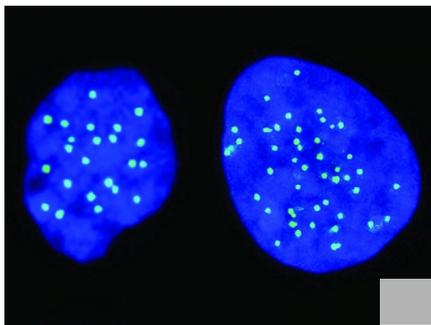


TAG Stem cells , Biology , Haploid , Diploid , Egg Cells , Genetics

New Type Of Stem Cell Possesses Just Half A Genome

By James Maynard, Tech Times | March 17, 12:41 AM

Like Follow Share Tweet Reddit 0 Comments SUBSCRIBE



Humans possess 46 chromosomes, but a newly-revealed type of stem cell has just half that number. How could this discovery reveal why humans have sex? Shown here are haploid (left) and diploid (right) cells. (Photo : Gloryn Chia/Columbia University Medical Center)

Stem cells come in several types, but a new variety developed by researchers possess just half of the genes normally found in a human genome. These newly-created haploid stem cells could lead to new therapies for a range of maladies, as well as new tools to assist in genetic screenings, researchers state.

Humans carry 46 chromosomes, detailing our genetic makeup. However, these new stem cells, like reproductive cells, holds just 23 chromosomes. Human beings inherit a total of 46 chromosomes, with half of the total coming from each parent.

Researchers triggered unfertilized human egg cells into division. The DNA within the structures were then marked with a fluorescent dye, and haploid cells were separated from the more-common diploid cells containing 46 chromosomes. Investigators found the haploid cells were able to develop into a wide range of cells, including those seen in muscles, nerves, and other body systems. This new research could answer one of the most basic questions biologists still have about higher life forms, including human beings.

"This study has given us a new type of human stem cell that will have an important impact on human genetic and medical research. These cells will provide researchers with a novel tool for improving our understanding of human development, and the reasons why we reproduce sexually, instead of from a single parent," said Nissim Benvenisty of the Azrieli Center for Stem Cells and Genetic Research at The Hebrew University of Jerusalem.

These are the first human cells ever shown to be capable of cell division while possessing only half the normal amount of genetic code. Haploid cells are easier to study than diploid cells, as there is no

"back-up" to "correct" changes made by medical researchers and caregivers.

Stem cells are currently being employed in a wide range of treatments for diseases and disorders.

This new technique could also be used to treat blindness, diabetes, and other disorders, as the genetic code is a perfect match for the egg cell donor. They might also, one day, be employed in the quest for treatments for reproductive issues in patients, researchers believe.

Development of the new haploid stem cell was profiled in the journal *Nature*.

Like Follow Share Tweet Reddit 0 Comments SUBSCRIBE

Related Articles

[Treating Diabetes With Cell Transplants](#)

[A Micrograph Shows Us What Cells Really Look Like In 'The Cell: A Visual Tour Of The Building Block Of](#)



Most Popular Most Co

You May Also Like



6 Steps Help Lazy People Change Their Life



See World Famous Athletes Starring in Inspiring TV Ads

