

SCIENTISTS MOVE CLOSER TO HUMAN THERAPEUTIC CLONING

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By Rob Taylor

CANBERRA (Reuters) - Human therapeutic cloning has moved a step closer after U.S. researchers said they had successfully created embryonic stem cells from monkey embryos.

In what would be a world-first breakthrough, scientists told a stem cell research conference in the Australian city of Cairns this week that they had successfully created two batches of embryonic stem cells from cloned rhesus monkey embryos.

"We've been looking for this evidence for a long time," Australian stem cell pioneer Alan Trounson from the Melbourne-based Monash University Stem Cell Centre told Reuters.

"It's very important to have this, to know that we can do this, because it may result in a lot of new cell lines than can help us understand some complex diseases."

Previous efforts to obtain embryonic stem cells from cloned primate embryos have failed. Korean cloning scientist Woo Sook Hwang lost his job over fabricated successes using human eggs.

But Shoukhrat Mitalipov of the Oregon National Primate Research Centre in the United States said he had succeeded using modified Somatic Cell Nuclear Transfer, or SCNT, in which an egg cell nucleus is removed and replaced with a donor nucleus.

The cell eventually forms an early embryo, or blastocyst, with DNA almost identical to the donor organism.

Mitalipov said he used skin cells from a 10-year-old male rhesus monkey and presented the conference with proof of his success using DNA evidence. He also showed slides of the embryonic cells changing into heart cells and neurons.

A switch to using polarised light in labwork instead of dye and ultraviolet light traditionally used to identify cell chromosomes may have led to the breakthrough, he said.

Mitalipov's still-unpublished success may bring scientists closer to producing human embryonic stem cells from cloned adult body cells, reducing the risk of eventual rejection when using external donor cells.

Scientists hope therapeutic or regenerative cloning could help treat diseases including multiple sclerosis, cardiac illnesses and even spinal damage by encouraging embryonic cells to replace damaged nerve, blood or heart cells.

While Mitalipov's findings are yet to be confirmed, they could also bring scientists closer to cloning an adult primate, a group which includes humans, apes and monkeys.

"I remain guarded enough to want to see the process completed," Trounson said.

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