

Stem Cell Advance Spares Embryos

Scientists have created human embryonic stem cells using a technique that does not require the destruction of embryos — a development that could be a huge step forward in the controversial research.

(A)

Supporters argue that fertility clinics have been removing cells from embryos created in vitro since 1990 to screen them for genetic diseases and chromosomal abnormalities. An estimated 2,500 children alive today had a cell or two removed when they were embryos.

(B)

Dr. Robert Lanza, the study's senior author, said he believed the technique met reasonable ethical standards and should make the research palatable even to social conservatives. "If the method is accepted, it will give the field a badly needed jump-start," he said.

(C)

However, scientists argue that the method could help to treat many diseases such as Alzheimer's, Parkinson's and diabetes. While until now, this was only possible with stem cells won from embryos that were killed by removing the inner cell mass for that purpose, the new approach avoids the ethical problem since it is no longer necessary to destroy the embryos for the procedure to work.

(1) Stem cell experts said the argument was speculative. Though it may be possible to grow a human blastomere into an embryo, it does not occur naturally and has never been documented in a lab. "They're citing something without any medical evidence," said Dr. Irving L. Weissman, director of Stanford University's stem cell institute.

(2) And even opponents admitted that although any use of human embryos for research purposes raises serious ethical concerns, it is encouraging to see that scientists are at least making serious efforts to move away from research that involves the destruction of embryos.

(3) The method involves taking a normal 3-day-old embryo with 8 to 10 cells and removing a single cell, which is then biochemically coaxed into producing embryonic stem cells. The original embryo, despite missing one cell, is unharmed, thus avoiding concerns about destroying life.

(4) But critics are already saying that the new technique falls short. They said the method injured embryos, and they questioned whether the cell that's removed could itself develop into an embryo. According to pro-life activists, the study raises more ethical questions than answers.

adapted from: <http://www.latimes.com/news/science/la-sci-stemcells24aug24.0.2085850.story?track=tohtml>

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