



Kathy Valente
State Director

Concerned Women for America of Illinois presents:

Stem Cell Fact of the Day #22

"This is not good news."

~ Researcher Aravinda Chakravarti, Johns Hopkins University, Baltimore, Maryland

Gene defects plague embryonic stem-cell lines: Cancerous mutations threaten therapeutic future for cells

News@Nature.com, 9-5-05 (www.nature.com/news/2005/050905/full/050905-1.html)

Embryonic stem-cells that are cultured in the lab accumulate an alarming array of genetic changes, including mutations known to be linked to cancer. The finding throws into question whether such cells could eventually be used for therapy, unless they can be kept fresh and checked for mutations before use ...

In January, researchers announced that most human embryonic stem-cell lines ... have been contaminated by animal cells used as a growth medium in lab dishes. Any cell containing such foreign proteins would presumably trigger a damaging immune response if transplanted into a human patient. Researchers realized they would have to grow their cells differently in order to use them for therapy.

Now another difficulty has come to light. The longer the cells are kept, and the more they divide, the more errors they build up in their genetic code. "These mutations we are finding are a much bigger problem," says Aravinda Chakravarti of Johns Hopkins University.

*Chakravarti and his colleagues decided to take a closer look.... Out of nine cell lines, eight developed one or more genetic changes commonly observed in human cancers, the team reports in *Nature Genetics* (www.nature.com/ng/journal/vaop/ncurrent/abs/ng1631.html).*

The finding undermines a general assumption that stem cells remain unblemished until they are programmed to become a certain type of cell. "This is not good news. It suggests that the biological properties of the cells before and after replicating could be different," says Chakravarti.

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Concerned Women for America is the nation's largest public policy women's organization. CWA endorses adult and umbilical cord stem-cell research but condemns embryonic stem-cell research as immoral.

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