

***Nature* Publishes Amended Stem Cell Study**

BY Liz Townsend

Scientists at Advanced Cell Technology (ACT), who originally claimed that they could extract embryonic stem cells without killing the embryo, published an amended report in the November 23 issue of *Nature* admitting that all embryos used in their experiments were destroyed.

The ACT scientists added several clarifying sentences to their article that appeared in the online edition of *Nature* in August. "In this proof-of-principle study, multiple biopsies were taken from each embryo using micromanipulation techniques and none of the biopsied embryos were allowed to develop in culture," one of the added sentences read.

The controversy began when ACT issued a press release August 23 claiming that "company scientists have successfully generated human embryonic stem cells (hES cells) using an approach that does not harm embryos."

"We have demonstrated, for the first time, that human embryonic stem cells can be generated without interfering with the embryo's potential for life," Robert Lanza, ACT vice president of research and scientific development and one of the report's co-authors, said in the press release.

Nature added to the misleading claims by issuing its own news release, stating, "By plucking single cells from human embryos, Robert Lanza and his colleagues have been able to generate new lines of cultured human embryonic stem (ES) cells while leaving the embryos intact."

While the media immediately trumpeted this "breakthrough," a close reading of the report revealed the truth. The corrected version now admits that although the ACT scientists believe that their technique may be successful without killing the embryo, the way they actually conducted the research ensured that the embryos would not survive.

The technique they describe is based on a method to conduct preimplantation genetic diagnosis on embryos before they are implanted for in vitro fertilization. As described by the *New York Times*, "one cell is removed to test for abnormalities when the embryo has reached the eight-cell stage. This does no apparent harm to the embryo, which, if the testing finds it normal, is then implanted with its seven remaining cells. The process has resulted in the birth of apparently healthy children."

The ACT researchers tried to determine if viable stem cell lines could be created using a single cell, or blastomere. However, instead of taking only one cell from each embryo, they used several. "Multiple blastomere biopsies were obtained from each embryo to minimize the number of embryos used in this study," according to another sentence added in the November *Nature*.

Since they were able to generate stem cell lines from these blastomeres, the report theorizes that researchers could remove the cell from an embryo, establish a cell line, then replace the blastomere in the embryo and implant it in a uterus. But it still remains an untested theory.