

New stem cell techniques spare embryos

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Two teams of scientists say they have each devised unique methods to obtain embryonic stem cells without destroying a viable embryo.

However, groups opposed to embryonic-stem-cell research and some scientists say the techniques do not solve the ethical dilemma over the technique -- but merely raise new moral and philosophical questions.

In the first study, a team led by Dr. Robert Lanza of Advanced Cell Technology in Worcester, Mass., used a technique known as pre-implantation genetic diagnosis essentially to conduct a biopsy of mice embryos and pluck out one cell, while leaving the embryo intact and healthy.

The second technique was developed by Rudolf Jaenish, of the Massachusetts Institute of Technology's Whitehead Institute for Biomedical Research in Cambridge, Mass. Jaenish and his colleagues generated mouse embryos with a dysfunctional gene called Cdx-2. Without a functioning Cdx-2 gene, the embryos cannot implant in the uterus and develop further, so they are not considered viable.

Both studies were published online by the journal *Nature*.

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