

OHSU Scientist Successfully Modifies DNA In Human Embryos, Report Says



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Shoukhrat Mitalipov, an Oregon Health & Science University biologist, has successfully modified defective DNA in a human embryo using a technique called CRISPR.

An Oregon scientist known for breaking barriers has done it again, successfully modifying DNA in human embryos, according to a report in [Technology Review](#). Shoukhrat Mitalipov of Oregon Health & Science University targeted a gene associated with a human disease, surpassing work done in China, the report said. An OHSU spokesman declined to comment, saying the report is still under embargo. Mitalipov's team worked with human embryos produced by sperm from men with a genetic mutation, the report said, noting they were of "clinical quality." They then modified the mutation using a gene-editing technique, CRISPR.

Chinese researchers have also modified human embryos with CRISPR. But the report said Mitalipov worked on more embryos and had more success. His team avoided altering genes that were not targeted -- called off-target effects -- or only modifying some of the targeted DNA, which is called mosaicism. "Mitalipov and his colleagues are said to have convincingly shown that it is possible to avoid both mosaicism and 'off-target' effects, as the CRISPR errors are known," the report said.

The work offers the possibility that one day science will be able to modify genes in human embryos to prevent disease. Critics worry, however, that gene-editing in embryos opens the floodgates to the creation of "designer babies" in which parents specify traits they want their children to have.

The technique has stirred waves of controversy. The National Institutes of Health has banned experiments that involve genome-editing of human embryos, and Congress has barred the U.S. Food & Drug Administration from considering allowing human trials involving altered embryos.

Mitalipov, who heads OHSU's Center for Embryonic Cell and Gene Therapy, is no stranger to controversy. He created the first cloned monkeys in 2007 and in 2013 created the first human embryonic stem cells through cloning. The first CRISPR modifications of DNA in a human embryo date to 2015. But those experiments involved embryos with serious mutations. In the current experiment, the embryos were not allowed to develop for more than a few days, the report said.-- Lynne Terry

Note: Look for updates and discussions.