

# Making sperm from stem cells in a dish

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Researchers have found a way to turn mouse embryonic stem cells into sperm. This finding, reported in the journal *Cell* in a special online release on August 4th, opens up new avenues for infertility research and treatment. A Kyoto University team has coaxed mouse embryonic stem cells into sperm precursors, called primordial germ cells (PGCs), and shown that these cells can give rise to healthy sperm. The researchers say that such in vitro reconstitution of germ cell development represents one of the most fundamental challenges in biology.

When transplanted into mice that were unable to produce sperm normally, the stem cell derived PGCs produced normal-looking sperm, which were then used to successfully fertilize eggs. These fertilized eggs, when transplanted into a recipient mother, produced healthy offspring that grew into fertile male and female adult mice. The same procedure could produce fertile offspring from induced [pluripotent stem cells](#) that are often derived from adult [skin cells](#).

"Continued investigations aimed at in vitro reconstitution of germ cell development, including the induction of female PGCLCs and their descendants, will be crucial for a more comprehensive understanding of germ cell biology in general, as well as for the advancement of reproductive technology and medicine," the researchers wrote.

Provided by Cell Press

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