

Pig organs may soon be suitable for human transplant, thanks to CRISPR

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For decades, scientists and doctors have dreamed of creating a steady supply of human organs for transplantation by growing them in pigs. But concerns about rejection by the human immune system and infection by viruses embedded in the pig genome have stymied research. By modifying more than 60 genes from pig embryos — 10 times more than have been edited in any other animal — researchers believe they may have produced a suitable non-human organ donor.

The work was presented at a meeting of the National Academy of Sciences (NAS) on human gene editing. Geneticist George Church of Harvard Medical School in Boston, Massachusetts, announced that he and colleagues had used [CRISPR gene-editing technology](#) to inactivate 62 porcine endogenous retroviruses (PERVs) in pig embryos. These viruses are embedded in all pigs' genomes and cannot be treated or neutralized. [It is feared that they could cause disease](#) in human transplant recipients.

Church's group also modified more than 20 genes in a separate set of embryos, including genes encoding proteins that sit on the surface of pig cells and are known to trigger the human immune system or cause blood clotting. He declined to reveal the exact genes, however, as the work is unpublished. Eventually, pigs intended for organ transplants will have both these modifications and the PERV deletions.

Read full, original post: [Gene-editing record smashed in pigs](#)