

## Animals enhanced with human brain cells—and robust levels of consciousness—create new ethical dilemmas

Neuroscientist Isaac Chen from the Perelman School of Medicine at the University of Pennsylvania, along with his colleagues, has written a timely [Perspective paper](#) published [October 3] in the science journal Cell Stem Cell. The paper was prompted by recent breakthroughs involving the transplantation of human brain organoids into rodents—a practice that’s led to concerns about the “humanization” of lab animals.

In their paper, the authors evaluate the current limits of this biotechnology and the potential risks involved, while also looking ahead to the future. Chen and his colleagues don’t believe anything needs to be done right now to limit these sorts of experiments, but that could change once scientists start to enhance certain types of brain functions in chimeric animals, that is, animals endowed with human attributes, in this case human brain cells.

In the future, the authors said, scientists will need to be wary of inducing robust levels of consciousness in chimeric animals and even stand-alone brain organoids.

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[Researcher Anders] Sandberg thought the arguments posed in the paper were “reasonable,” but he’s more concerned with another issue: the potential for suffering.

**Read full, original post:** [Rodents With Part-Human Brains Pose a New Challenge for Bioethics](#)