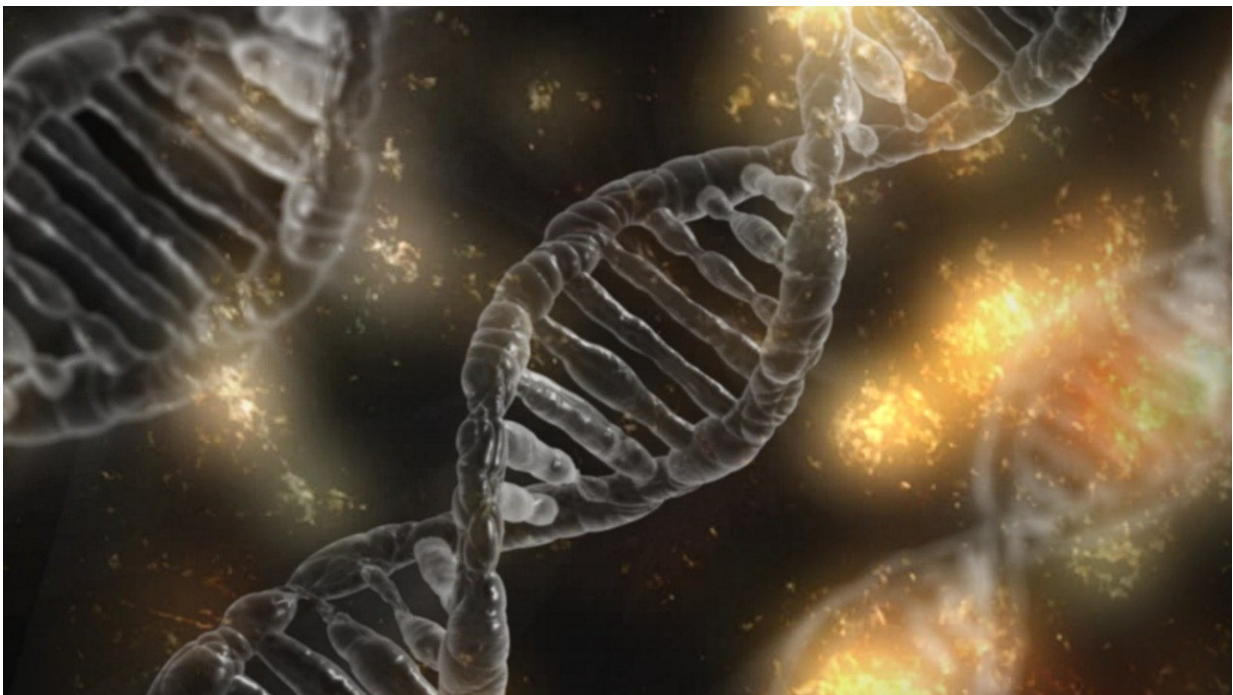


Chinese researchers add human brain-related gene to monkey genome in controversial experiment

April 11 2019, by Bob Yirka



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A team of researchers working in China has created several transgenic rhesus monkeys by adding a human gene involved in brain growth to the monkey's genome. In their paper published in the *National Science Review*, the group describes their work and the testing they conducted on

the monkeys after they were born.

Bioscientists are making moves to start using gene editing techniques on humans, both to prevent diseases and to learn more about how [human development](#). In this new effort, the team in China has added a human gene called MCPH1 to the genome of several rhesus [monkeys](#) as a means of learning more about human [brain](#) development. Prior research has shown that MCPH1 is involved in the growth of the brain—babies born without it have small brains.

To get the gene into the monkey genomes, the researchers simply injected viruses carrying the gene into monkey embryos and then allowed the monkeys to develop naturally. Eleven monkeys with the modified genome were born, but only five survived. Those five were tested to see what impact the human gene had on their development and abilities.

The researchers report that none of the monkeys had larger than normal brains, but all of them tested better than average on [memory tests](#) and in processing abilities.

The research, which was conducted by a team in China, is quite controversial—it would not have been allowed in most other countries. There's a consensus in the bioscience community that adding [human genes](#) related to brain development to monkey genomes crosses an ethical line. Some believe it could lead to monkeys like those seen in the movie *Planet of the Apes*. What sort of status would such monkeys have if they were altered in ways that allowed them to think like a human being? For this reason, most are not willing to take part in such research—indeed, even one of the researchers on the team in China, an American from North Carolina University, had second thoughts. He suggested that creating monkeys that have some aspects of human brain power "is not a good direction." He claims he only assisted with MRI

analysis for brain volume testing.

More information: Lei Shi et al. Transgenic rhesus monkeys carrying the human MCPH1 gene copies show human-like neoteny of brain development, *National Science Review* (2019). [DOI: 10.1093/nsr/nwz043](https://doi.org/10.1093/nsr/nwz043)

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