



Monstrous: China Clones Monkeys, Edits Genes To Make Mentally Ill

Technocrats have no moral or ethical compass, nor concern about the future of mankind. These experiments on animals are just one step away from tinkering with the human genome, which has already been demonstrated by another Chinese scientist. □ TN Editor

China's latest monkey [cloning](#) experiment has sparked outrage and been labeled "monstrous" by animals welfare advocates.

Researchers at the Chinese Academy of Sciences Institute of Neuroscience have cloned five monkey babies from a single donor with genes edited to cause diseases.

The Chinese scientists tinkered with a specific gene in the original donor monkey to produce the unhealthy animals which they say will help medical research.

The gene is BMAL1, which helps regulate the circadian rhythm but

scientists made it inoperative using a gene-editing tool, known as [CRISPR](#). With the gene turned off, the animals are at greater risk of developing sleeping problems, hormonal disorders and a host of diseases.

Researchers said the monkeys demonstrated increased anxiety and depression, reduced sleep time, and even “schizophrenia-like behaviors,” according to a [pair of papers](#) published by the scientists in the *National Science Review*.

All five macaques were born with identical genes, which include the mutation.

“Disorder of circadian rhythm could lead to many human diseases, including sleep disorders, diabetic mellitus, cancer, and neurodegenerative diseases, our BMAL1-knock out monkeys thus could be used to study the disease pathogenesis as well as therapeutic treatments” said Hung-Chun Chang, senior author and investigator of the Chinese Academy of Sciences Institute of Neuroscience [in a statement](#).

Researchers used a cloning technique known as somatic cell nuclear transfer to produce the five macaques, the same method they used to generate [the first two cloned monkeys this time last year](#).

It is also the same general method used to clone Dolly the sheep more than two decades ago.

The experiment to clone the two healthy monkeys, reported in the journal *Cell* in January last year, also caused some apprehension among the broader scientific community.

“The genie’s out of the bottle now,” said Jose Cibelli at the time, a cloning expert at Michigan State University in the US.

Animals rights advocates have slammed the latest experiment. Dr. Julia Baines, Science Policy Adviser at PETA UK, said: “Genetically manipulating and then cloning animals is a monstrous practice that causes animals to suffer.”

But [speaking to news.com.au in June](#), Director of the Chinese Academy of Sciences Institute of Neuroscience and co-author of the latest papers, Dr Mu-ming Poo, defended the practice of using cloned animals for medical research.

“More cloned monkeys will soon be produced,” he said at the time. “Some of them will carry gene mutations known to cause human brain disorders, in order to generate useful monkey models for drug development and treatment.”

It’s important to note that because primates share approximately 95 percent of human genes and a number of physiological and anatomical similarities, biomedical research currently uses a large number of monkeys, sometimes up to 100,000 annually around the globe.

“This number will be greatly reduced by the use of monkeys with uniform genetic background that reduces the noise in experimental studies,” Dr. Poo said, pointing to the example of testing drug efficacy before clinical trials.

“This will greatly help the ethical use of non-human primates for biomedical purposes.”

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