


# Will using non-human primates in biomedical research and testing soon be a thing of the past?



Over the past decade, there has been a significant reduction in the number of non-human primates used in medical research and testing, and the European Commission has been instrumental in that. The 2009 scientific Opinion on the

topic helped shape European law in 2010 through the Directive on the protection of animals used for scientific purposes (animal protection Directive), obliging researchers to implement the 3R principle.

## → WHAT IS THE 3R PRINCIPLE?

The 3R principle stands for Replacing, Reducing and Refining. In a nutshell, that means replacing them with alternatives whenever possible, reducing the number of non-human primates used, and refining the handling and care of the animals as well as techniques and procedures used for the optimum well-being of the animals and for getting more and reliable data from fewer tests. People who fund and ask for research are also asked to support those studies and projects which abide those principles.

## → WHY DID THE EUROPEAN COMMISSION ASK FOR AN UPDATED OPINION ON THIS TOPIC?

European law requires the European Commission to review the "animal protection Directive", paying specific attention to the use of non-human primates and any advances which might reduce their use or render it obsolete. That is why the Commission requested the Scientific Committee on Health, Environmental and Emerging Risks (SCHEER) to issue an update of the 2009 Opinion.

## → WHAT PROGRESS HAS BEEN MADE SINCE THE 2009 OPINION?

There has been a decrease in the use of non-human primates since 2008. According to the latest available European Union statistics from 2011, approximately 6000 non-human primates were used in 2011, compared to almost 10 000 in 2008. This reduction was due to new developments in science and medicine and better sharing of data, which reduced unnecessary test duplication, improved test design and yielded more data from fewer animals. New alternatives are also increasingly available. For example, it is now possible to conduct some tests outside the body and even to test novel technology on willing human subjects when new techniques offer non-invasive, safe and ethical possibilities.

## → WHY ARE NON-HUMAN PRIMATES STILL BEING USED?

Because of their physical similarity to human beings, non-human primates are often considered to be the best models for addressing particular research questions. They are only used, however, when there are no possible alternatives, no other suitable species and when potential benefits may be significant. In the European Union, they are mainly used in research for the development, safety and efficacy assessment of pharmaceuticals.

## → ARE THERE EVEN MORE NEW ALTERNATIVES ON THE HORIZON?

Continued research is being done in all the research areas that now use non-human primates which is expected to lead to new techniques, methodologies and procedures. Non-human primates are predominantly used in the development and safety testing of pharmaceuticals and medical devices and in research related to the treatment

and prevention of infectious and neurological diseases. The search for alternatives for the use of non-human primates is ongoing in these and other areas.

To move toward completely replacing non-human primates, advances are needed in molecular biology, -omics technology, and developing new techniques using organoids. New imaging techniques, stem cell research and other scientific developments also offer promise of finding replacements for non-human primates in testing and research.

## → WILL THE USE OF NON-HUMAN PRIMATES BE PHASED OUT COMPLETELY ONE DAY?

The goal is to phase out the use of non-human primates, but for now, it is not possible for scientists to predict a timeline on when this will become possible. Because of their similarities to human beings, non-human primates remain essential for several areas of research like studies on the brain. However, as research continues to evolve and as technological advances and new developments make it possible to replace non-human primates, their use will continue to decline.

This factsheet is based on the Opinion of the independent Scientific Committee on Health, Environmental and Emerging Risks (SCHEER): 'The need for non-human primates in biomedical research, production and testing of products and devices'.

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