

Some experiments involving animals require greater scrutiny, say scientists

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UK scientists are calling for a new body of experts to be set up to advise on “sensitivities” raised by a fast moving area of biomedical research—the use of animals containing human material.

A report by the Academy of Medical Sciences says rapidly developing techniques will soon test the boundaries of what the public finds acceptable.

A working group of scientists looked into the scientific, social, ethical, safety, and regulatory aspects of research using animals containing human material.

It says that most experiments on animals designed to improve human health or combat disease do not pose new ethical concerns or need extra regulation.

But it says two categories of research require further scrutiny from the proposed new national body that should advise the Home Office within the existing framework of legislation.

One, described as a “very narrow range of experiments,” should not be licensed now because the scientific case is not justified or they raise “very strong ethical concerns.”

These experiments include transplanting human derived neural cells into monkey brains that could engender human like behaviour, breeding of animals with human derived germ cells that could produce human or true-hybrid embryos, and allowing any “mixed embryo” to develop beyond 14 days.

Another category should be “approached with caution” but might be permitted if, after further oversight, these experiments are deemed safe, ethical, and have strong scientific justification, says the report.

This includes adding human genes or cells to non-human primates and experiments that substantially alter animals’ behaviour or appearance so as to affect characteristics like “speech” or skin texture perceived as “uniquely human.”

Martin Bobrow, who chaired the academy working group and is professor emeritus of medical genetics at Cambridge University, said there was no evidence that activity that shouldn’t be permitted was happening already in the UK.

He said the aim of the report was to get ahead of the debate and raise discussion with the public and government rather than react to developments once they had taken place.

Professor Bobrow said: ‘This is not stuff which is miles away. The technology is in existence. This is a proactive attempt to

look at an area of medical science which is interesting, important, and growing.’

Animals containing human cells or DNA are widely used in laboratories. Most are mice containing a single human gene used to study gene function and disease.

Larger animals, such as pigs and goats, are sometimes considered more suitable for particular studies because of their size, biology, and physiology and the techniques that are used.

Launching their report, leading members of the working group described how different types of experiments using different animals were helping to produce better understanding of many conditions such as motor neurone disease, stroke, cancer, and Down’s syndrome.

They also reflected on ethical concerns shared by members of the public who had been consulted for the academy report in a series of focus groups.

The working group was set up in November 2009 to consider issues raised by introducing human material into animals, including stem cell technologies that extend the range and complexity of animal models that can be created.

The working group found there was particular sensitivity about future research that might involve the brain, especially those of monkeys, and the possibility of “humanising” animals’ appearance.

Robin Lovell-Badge, who heads the division of stem cell biology and developmental genetics at the Medical Research Council’s National Institute of Medical Research, referred to television adverts portraying “talking meerkats and cats with opposable thumbs.” “We all laugh when we see that, but we think the public would not be so happy if we were doing that in the labs,” he said.

Professor Bobrow said the findings showed the views of the public and scientists were largely in step at this point and most people backed research that would yield widely available benefits.

The report, *Animals containing human materials*, is at www.acmedsci.ac.uk/p47prid77.html.

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