

# ANIMAL RESEARCH: THE FACTS

## ANIMAL RESEARCH FACTS

It is illegal in the UK and Europe to use animals to test cosmetics or their ingredients

It is illegal in the UK and Europe to use an animal in research if there is a viable non-animal method

All animal research in the UK is regulated and inspected by the Home Office

It is a legal requirement that all potential new medicines intended for human use are tested in two species of mammal before they are given to human volunteers in clinical trials

The law stipulates that all potential veterinary medicines must be safety tested in animals



Animal research is carried out by academic, commercial and government institutions so that we can learn more about the body and how it functions in health and disease, to test new medical treatments and to safety test substances that might harm people, animals or the environment. Anybody trying to find out about animal research for the first time will encounter many myths. These are some of the most common.



#### **MYTH: HUMANS AND OTHER ANIMALS ARE TOO DIFFERENT FOR RESULTS IN ONE SPECIES TO APPLY TO ANOTHER**

Humans and other animals have similarities and differences. Sometimes we look to the similarities to teach us about how biology works, such as studying how genes function or creating drugs which can be used for humans and other animals. We do this to treat humans and cats with leukaemia, for example, or dogs and humans with obsessive compulsive disorder (OCD)-both conditions have the same causes and are treated using the same drugs. Sometimes it is the differences we are looking at, like using mouse antibodies to cure cancer or finding out how zebrafish heal themselves so well after injury. Human volunteers cannot tell us anything about differences between species.

#### **MYTH: THERE ARE ALTERNATIVES TO USING ANIMALS**

Animals cannot and should not be used unnecessarily in research. In the UK, it is illegal to use an animal if there is an alternative way to do the research. There are many non-animal research methods and these are used wherever possible, but in some cases it is still necessary to use a whole living being. The '3 Rs'-Replacement, Refinement and Reduction-represent the 'spirit of the law' governing the use of animals in research.

More information about alternatives and work to reduce animal research is available from the National Centre for the 3Rs (NC3Rs).

#### **MYTH: 92% OF DRUGS THAT PASS ANIMAL TESTS FAIL IN HUMANS**

This figure encompasses not only animal tests but all the ways of testing drugs, including cell cultures and computer programs. Medical research has a naturally high failure rate because we cannot wait to understand everything about biology before we try to create new medicines. We need medicines today for a range of diseases from cancers and chronic conditions like diabetes to viruses like Ebola.

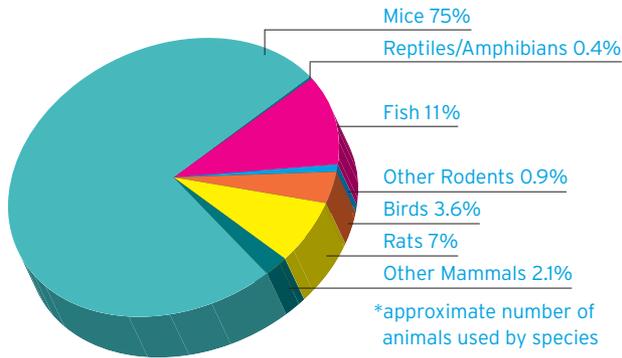


#### **THE 3 Rs**

**REPLACEMENT** of 'protected' animals (all living vertebrates, octopuses and other cephalopods) in research with alternative techniques, or avoiding animal use altogether.

**REFINEMENT** of scientific procedures to minimise animal suffering enhancing welfare of animals throughout their lives in and the animal house as well as in research situations.

**REDUCTION** of the number of animals used by obtaining more information from the same number of animals or the same amount of information from fewer animals.

**SPECIES****MYTH: ANIMAL TESTS LEAD TO BAD REACTIONS TO DRUGS IN HUMANS**

All drugs are tested on thousands of humans after being tested on animals.\* By the time they are available in hospitals or pharmacies we know the likely effect they will have on humans and these effects are listed in the booklet that comes with all medicines.



\*Drugs are ultimately approved for wider use on the basis of clinical trials in humans.

“Why don’t we use people? We do.  
Why don’t we use molecules? We do.  
But there is an absolute essential link between the two which our work on animals helps us to make. This work we do under very controlled conditions and we have the welfare of animals very much at heart.”

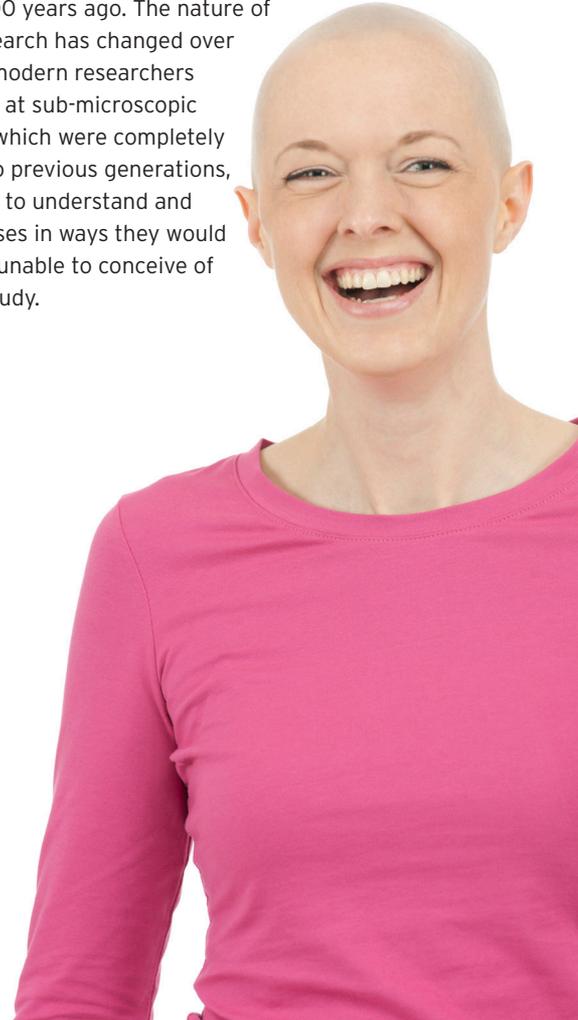
Professor Roger Morris,  
Head of the School of Biomedical  
Sciences, Kings College London

**MYTH: ANIMAL DRUG TESTS DON'T PREDICT THE TOXIC EFFECTS OF DRUGS ON HUMANS**

By law drugs are tested in two species of animal before being given to human volunteers. These animal tests predict toxic effects in humans between 70% and 95% of the time. There have been no deaths in human clinical trials in the UK for over 30 years because animals are effective at weeding out dangerous drugs and dangerous doses. The principal role of these safety tests is not to look for side effects (this can only be done by tests in human volunteers) but tell us whether a drug is damaging to the heart, liver or other vital organs before it enters human trials.

**MYTH: ANIMAL RESEARCH IS OLD-FASHIONED SCIENCE**

Much modern research couldn't have been done 10 years ago, let alone 100 years ago. The nature of animal research has changed over time until modern researchers are looking at sub-microscopic processes which were completely unknown to previous generations, allowing us to understand and treat diseases in ways they would have been unable to conceive of let alone study.



### **MYTH: ANIMAL RESEARCH IS ALL ABOUT TESTING DRUGS**

Most animal research is about discovering how basic biology works, not testing drugs. Based on this knowledge, other scientists might create drugs, treatments or health advice for humans and other animals.

### **MYTH: RESEARCH ANIMALS ARE MAINLY DOGS AND MONKEYS**

Research animals are mainly mice, rats and fish. Fewer than one in 500 research animals are dogs, cats or primates.

### **MYTH: COSMETICS ARE TESTED ON ANIMALS**

In the UK, it is illegal to test cosmetics or their ingredients, on animals or to import cosmetics that have been tested in this way. It has been illegal to test cosmetics on animals since 1998.



### **MYTH: ANIMALS ARE USED BECAUSE THEY'RE CHEAP**

Using animals is one of the most expensive ways of conducting research. Research animals are specially bred and kept free from unwanted infections, which makes their upbringing much more costly than animals raised to be farmed or pets. Once in the lab, they require 24-hour access to veterinary care, animal technicians, food, accommodation, special toys and other enrichment for their housing, infection-free living conditions and, in many cases, special lighting and ventilation systems to be installed.



There are many more myths about animal research, so it is important to seek information from reputable sources such as scientific institutions, the NC3Rs and the RSPCA. More myths are explored at [www.uar.org.uk](http://www.uar.org.uk) which also has extensive information about why and how animals are used in research.