

## **Responsible science with animals**

This is a document from the Leiden University Medical Centre (LUMC) and Leiden University.

**Responsible science is essential in all scientific disciplines. In animal research, taking responsibility is even more important, because animals are sentient beings. The LUMC and Leiden University together promote a *culture of care* that is based on *responsible science with animals*. Animals are only used for science when this is unavoidable due to a lack of alternatives. In that case, the quality of the research and minimizing the discomfort for the animals are paramount.**

### **Background**

With this document, the LUMC and Leiden University share their view on the use of animals in research to our colleagues at the institutions, the research community, external collaborators and interested outsiders. Both the LUMC and Leiden University are leading institutes in the development of innovative treatments and translational and fundamental science. The most recent information can be found at [www.lumc.nl/research](http://www.lumc.nl/research) and [www.universiteitleiden.nl/en/research](http://www.universiteitleiden.nl/en/research). This research also includes studies wherein critical information could only be obtained with the use of experimental animals. Both the European directive on the protection of animals used for scientific purposes (EU directive no. 2010/63/EU) and the Dutch Experiments on Animals Act ('Wet op de Dierproeven' revision 2014 (Wod)) state that all involved in science with animals should actively engage in finding alternatives to animal experiments wherever possible. After all, an animal experiment is only justified when there are no alternatives available and the benefits outweigh the discomfort to the animals. In this context, all means should be used to reduce the number of animals used and improve animal welfare. Applying the 3R's is therefore essential for both institutes: Replacement where possible, Reduction of animals without compromising design and reproducibility, and Refinement by minimizing discomfort throughout the life of the animals.

### **Policy and organization**

All laboratory animals (rodents, zebrafish, birds and other small species) at the LUMC and Leiden University are housed within one of the four animal facilities. The animal husbandry/housing is according to the applicable legislation regarding the protection of animals used for scientific purposes (EU directive no. 2010/63/EU and Wod). All experiments are executed in these facilities or another Dutch licenced establishment, with the exception of experiments with animals in their natural habitat. Designated veterinarians specialised in the different species oversee the health of the animals in all facilities. At all animal facilities specially trained animal care technicians monitor and take care of the animals seven days a week. In addition to the animal caretakers, all personnel involved in the care or use of animals are appropriately trained in the relevant techniques, the ability to recognize abnormal behaviour, pain and/or signs of illness. In each animal facility, personal licenses and competencies are registered and checked by the education and training officers. In the context of lifelong learning, continued attention is paid to the skills of all staff through further training.

All animal experiments, including training of specific procedures, are being performed under a project license granted by the Dutch Central Authority for Scientific Procedures on Animals (CCD) after full ethical evaluation by an impartial Animal Experiments Committee Leiden (DEC). AWB Leiden advises the applicants in the preparation of project proposals before they are presented to the CCD. In the advice, AWB Leiden includes the advice of a scientist committed to the AWB and the advice of the designated veterinarian.

After a license is granted by the CCD, AWB Leiden reviews each individual research plan (experiment) before starting, including experimental design, procedures, accommodation and humane endpoints. Based on the specifics of the experiment, AWB Leiden actively asks for advice from the statistician, the designated veterinarian, the education and training officer, the animal facility and/or the biological safety officer. Additionally where necessary, other internal or external experts are consulted. This way, the AWB, together with the consultants, verifies that research plans fit the overall project license and that the research plan is in accordance with the 3R's (Reduction, Refinement and Replacement) for responsible science with animals.

All animals used in the experiments are monitored according to the need for that specific procedure as agreed upon in the research plan. All monitoring data and any unexpected welfare related events are registered in detail by the researcher. This data is available at all times for internal audits or inspection by the national inspectorate: the Dutch Food and Consumer Goods Authority (NVWA). If, for whatever reason, there is a deviation from the research plan, the researcher must inform the AWB and adjust the research plan accordingly.

There is a shared responsibility for all personal with animals in their care, and ultimately AWB Leiden, to intervene should they deem it necessary for the sake of animal welfare. Animals will be humanely killed in case the experiment's specifically defined end points are reached. Humane end points are never standard as they are designed to fit the experiment at hand to reduce unnecessary discomfort.

### **The Animal Welfare Body Leiden**

Responsible research with animals is in everyone's interest. In order to continue to promote this *culture of care*, stimulating, communicating and implementing the above policy is the key task of AWB Leiden. AWB Leiden has fulltime certified staff with ample experience in laboratory animal science and an animal welfare officer overseeing animal welfare in the establishments. This team is reinforced by a group of LUMC/Leiden University affiliated scientists with time dedicated to this task. AWB Leiden reports to the licence holders of both the LUMC and the Leiden University separately.

The AWB Leiden is a central point for researchers, employees and colleagues to clarify and record the scientific reasoning and background for the choices that have to be made during the design of animal experiments. AWB Leiden critically challenges scientists to justify their use of animals while at the same time helps to find solutions in experimental design that comply with high standards for research and animal welfare alike. Under supervision of the animal welfare officer, the AWB regularly monitors the execution of the research within the animal facilities. The members of AWB Leiden have a strong national and international network that can contribute to local discussions and solutions. In Leiden a team approach is encouraged in animal work by engaging in and stimulating active communication and collaboration between all involved in the care and welfare of animals through regular meetings and discussion. Additionally animal care takers, technicians and researchers invite the AWB Leiden to discuss technical, practical or design challenges, welfare issues and successes in animal welfare or science.

This *culture of care* ensures that the research quality is ensured and that the experiments can be completely and transparently listed in a scientific publication.