

## Supervision

University of Tübingen researchers work on the basis of national and international laws and guidelines. Accordingly, our researchers are required to follow basic ethical principles to question the necessity of animal experiments. Animal welfare officers supervise the application of all legal, ethical and veterinary standards. The animal welfare officers are not scientifically involved in the relevant animal research; they are not subject to directives and report directly to University management. In addition, the University of Tübingen has an animal welfare committee which supports the animal welfare officers and is composed of those responsible for animal care, Faculty representatives as well as the animal welfare officers and veterinarians. The committee's duties include setting out work processes involving the supervision and welfare of the animals. In addition, our animal facilities are regularly checked by veterinary officials.

## Adherence to these principles

We consider it very important to ensure that these principles are observed; we therefore call for open lines of communication. Every member of the University is called upon to express any personal doubts he or she may have regarding the welfare of experimental animals and to draw our attention to any failings in the care and keeping or treatment of the animals. No member of the University may be forced to carry out animal research. We respect any decision to reject animal research for religious or conscientious reasons.

No member of the University may be discriminated against or in any way disadvantaged because he or she has drawn the animal welfare officers' attention to concerns, failings or breaches of guidelines regarding the keeping, care or use of experimental animals.

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# Tübingen Principles

## of Animal Welfare and Animal Research



The University of Tübingen is one of Europe's leading universities specializing in biological, medical, neuroscientific and pharmacological research.

## THE RESULTS OF THIS RESEARCH AIM TO ADVANCE BASIC KNOWLEDGE ABOUT BIOLOGICAL PROCESSES, TO FIGHT DISEASE, AND TO HELP DEVELOP BETTER TREATMENTS.

The University of Tübingen believes that only unfettered research is able to meet the current challenges in medicine. This includes a profound understanding of the human organism and its underlying mechanisms in biological systems and in the identification and investigation of new biocatalysts and innovative treatments.

German law requires of us that all new biocatalysts, treatments and innovative operative methods must be effective, useful and safe. To this end, our researchers employ the most effective and appropriate methods in research and experiments. From the scientific perspective, animal research often provide the only way to achieve the goals outlined above. Similarly, the basic mechanisms in the functions of living organisms can frequently only be tested on living animals, due to the complexity of the interrelated processes involved. For this reason, the use of experimental animals will be a key element of biomedical and biological research and development.

### Significant findings

We only carry out animal experiments when significant findings are expected. We plan all such experiments carefully, at the same time checking carefully to ensure that the results could not be obtained using another method not involving animals. In this way we avoid unnecessary experimentation on animals.

University of Tübingen researchers carrying out animal experiments must have specialist knowledge of animal welfare and the care of experimental animals. To this end, the

University provides regular basic and advanced training in these areas.

### Species

We select the species of animal which is most suitable for the purpose of the experiment. That means that we always use the least highly-developed species which would allow reliable, relevant results in the experiment. When choosing a species, we also consider in particular the degree to which results could be relevant to humans. In highly complex research areas, this makes it essential to sometimes use higher vertebrates including primates.

### Alternative methods

Researchers at the University of Tübingen are involved in the development and application of alternatives to animal research. Such methods can help to cut back the use of animals in experiments. They cannot however completely replace the use of animal testing in biomedical basic research nor in applied clinical research in the foreseeable future. But the University of Tübingen requires the use of experimental animals to be cut back as far as possible in accordance with the "three Rs" principle of "replace, reduce, refine" wherever practicable.

### Number of experimental animals

One key goal is to keep the number of experimental animals as small as possible. We therefore check carefully before

every experiment to ascertain whether its aim could still be achieved with fewer animals while still attaining equally valid scientific data. We make an annual report to the authorities on the number of experimental animals used and publish this information on our website. Our experimental animals come from clearly documented sources.

### Conditions and care

We keep our experimental animals in appropriate conditions and treat them with respect – in accordance with all regional, national and European laws and guidelines. The animals are kept in surroundings which are as appropriate to their species as possible and in accordance with recognized scientific principles. They are cared for by specially trained and qualified personnel.

Our experimental animals are treated by veterinarians with additional qualifications for the treatment of experimental animals and who undergo regular further training on the particular medical needs of experimental animals. These veterinarians have equipment which is at least as good as that found in good veterinary surgeries. Neither the veterinarians nor the officer responsible for animal welfare are scientifically involved in the animal research.

### Stress on experimental animals

We keep the animals' stress levels as low as possible during experiments and do not expose them to unnecessary stress factors. For our studies we define endpoints and no-go criteria at which animals must be taken out of the experiment. Ill treatment of animals is not tolerated and could have legal ramifications for the person responsible. If experimental animals must be put down after an experiment, this is done with care and in line with recognized veterinary methods.