

## Ethics and Guidelines for Research Experiments on Animals

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Many of the scientific advances from human societies are the result of the use of animals across different taxa. A range of animals are used as 'model' species in many fields of science in order to generate new knowledge and to develop or confirm scientific theories. It is fundamentally important to consider the ethical principles of animal use, and to monitor the welfare of animals before, during and after experimental interventions. In this article, the three principles of Replacement, Reduction and Refinement for animal research are introduced. We also discuss practical and reliable existing guidelines for research experiments with an emphasis on compliance with best practice principles of animal ethics and welfare. Lastly, we discuss the importance of transparent, accurate reporting and cooperation between researchers and technicians when conducting animal experiments. The application of ethical principles and optimization of the living conditions of animals in captivity will enhance and improve the validity and reliability of scientific outcomes and progress.

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