

# Survey

The principles of the 3Rs in biological and biomedical research laboratories

Research for Life

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«Research for Life» was founded in 1990. The association provides information on the aims, functions and importance of research in the fields of molecular biology, medicine and plant physiology. It also seeks to address and discuss ethical questions concerning the advances associated with these fields

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### **MASTHEAD**

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Association Research for Life  
President: Prof. Dr. Michael Hottiger  
[www.forschung-leben.ch](http://www.forschung-leben.ch)

#### **Authors**

Prof. Dr. Michael Hottiger  
Dr. Michaela Thallmair  
Dr. Maïke Heimann  
PD Dr. Birgit Ledermann  
Astrid Kugler

#### **Editor**

Astrid Kugler

#### **Layout**

Ramona Mentha

#### **Registered office**

Forschung für Leben  
Aargauerstrasse 250  
8048 Zürich  
[www.forschung-leben.ch](http://www.forschung-leben.ch)

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## Introduction

«Research for Life» has been speaking up for Switzerland as a centre for research since 1990. For this reason, the association has consistently argued the case against a total ban on animal experiments and informed society about the need for animal experiments. It has likewise repeatedly voiced its commitment to animal welfare and the responsible handling of animals by those who conduct experiments with regard to both quality and quantity (the principle of the 3Rs: Replacement, Reduction and Refinement). For many years, animal protection groups have criticized what they see as an inadequate implementation of the 3Rs in biological and biomedical research laboratories.

«Research for Life» has therefore conducted a survey to determine whether and to what extent this criticism is justified. The results should help to ensure that the principles of the 3Rs are even more firmly anchored in animal experiment laboratories and their implementation improved to enhance the quality of research results still further. A repeat survey later on should also allow any changes to be documented with regard to the 3Rs in Switzerland.

The electronic questionnaire was sent out between the end of December 2015 and mid-January 2016 to researchers in Switzerland who work in basic or clinical research involving laboratory animals, livestock, wild or domestic animals. Of the 600 responses received, 526 could be included in the analysis of the survey. Those that were not included were questionnaires not completed in full and responses from researchers working abroad. Some questions in the survey included the option of adding comments. These comments helped to understand why something is done, not done or done differently and were summarized where it was deemed appropriate.

### Summary of results:

- Researchers who work with animals in Switzerland are largely familiar with the 3Rs. The training and continuing education required by law constitute an important instrument for the implementation of the 3Rs at all levels of hierarchy. The animal welfare officers have become an important institution in those facilities where they are part of the research establishment. They are respected and acknowledged.
- The overwhelming majority of researchers use in vitro/in silico (alternative) methods mainly either before or in combination with (supplementary to) animal experiments. But it is only in the rarest of cases that alternative methods can completely replace animal experiments.
- Pilot studies are seen as a very useful and sensible way of achieving a reduction in animal experiments within the meaning of the 3Rs. Animals are bred professionally and in compliance with the standards laid down in law. Just under half of all respondents see the advantages of centralized breeding.
- The legal framework in Switzerland for keeping animals is already very strict. But a gratifyingly high proportion of researchers nevertheless endeavour to improve conditions in the handling of animals further still (extended refinement).
- Unfortunately researchers hardly ever talk about their efforts to implement the 3Rs. Researchers are not informed enough to form an opinion on a possible national centre for the 3Rs.

### Recommendations:

- There is room for improvement as regards the full implementation of the 3Rs. Training and continuing education should be further intensified on all levels of the hierarchy. Non-academic staff (such as animal technicians) should also be informed more about the 3Rs and trained appropriately. The appointment of animal welfare officers should be made compulsory in the relevant legislation.
- Researchers should be further encouraged to use in vitro/in silico (alternative) methods, especially before animal experiments. The development of further alternative methods is necessary in order to reduce or replace animal experiments.
- To reduce the number of animals, researchers should be informed more about the importance and possibility of pilot studies. Researchers who work with rodents and also breed them should be better and more comprehensively informed about possible ways of reducing the number of laboratory animals used and also lowering costs. All researchers should be able to source organs and/or animals through exchanges.
- Research institutions should provide researchers with the support of biostatisticians, who can be consulted when planning an experiment. Researchers should be better informed about the possibility of randomizing and blinding studies. The use of score sheets should be made compulsory in all Swiss cantons at severity grades of 2 or more. We note a high degree of willingness to make improvements in housing conditions beyond the minimum required by law. Researchers should be given appropriate support in this respect through regular information.
- Authors should be encouraged to report systematically on the implementation of the 3Rs in their research work. Forschung für Leben believes it is important that researchers in Switzerland are better informed about a possible national competence centre for the 3Rs.