

**3R Research Foundation Switzerland**

*Annual Report* | **2006**

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**Articles and statutes**

- Deed of foundation dated 13<sup>th</sup> February, 1987
- Regulations dated 15<sup>th</sup> May, 1987
- Guidelines for awarding research grants dated 15<sup>th</sup> May, 1987

**The Administrative Board**

The Administrative Board of the Foundation is made up of nine members, three representing the Parliamentary Group for Animal Experimentation Questions, two representing animal protection, two from Interpharma and two from the Federal Veterinary Office. Current members are:

- Dr. Hugo Wick  
Basle, Chairman
- Christine Egerszegi-Obrist  
member of the National Council, Mellingen  
Deputy Chairwoman
- Chantal Galladé  
member of the National Council, Winterthur
- Dr. Peter Bossard  
Horw
- Dr. Franz P. Gruber  
Zurich
- Dr. Peter Heer  
Corporate Communications  
F. Hoffmann-La Roche Ltd., Basle
- Prof. Paul Herrling  
Head of Research, Novartis International,  
Basle
- Ursula Moser, B.Sc., Federal Veterinary Office,  
Berne-Liebefeld
- Dr. Hans Wyss, Director of the Federal  
Veterinary Office, Berne-Liebefeld

**The Evaluation Committee**

- Prof. Peter Maier  
Uster (as from 1.1.07), Chairman
- Dr. Franziska Boess  
F. Hoffmann-La Roche Ltd, Basle
- Prof. Kurt Bürki  
Institute of Laboratory Animal Science,  
University of Zurich
- Prof. Clemens A. Dahinden  
Institute of Immunology and Allergology,  
University Hospital, Berne
- Prof. Max Gassmann  
Institute of Veterinary Physiology,  
University of Zurich (until 2.3.06)
- Prof. Marianne Geiser Kamber  
Institute of Anatomy, University of Berne
- Dr. Franz P. Gruber  
Zurich (until 31.12.06)
- Dr. Kurt Lingenhöhl  
Novartis Pharma AG, Basle (as from 21.3.06)
- Prof. Thomas Lutz  
Institute of Veterinary Physiology,  
University of Zurich
- Ursula Moser, B.Sc.  
Federal Veterinary Office, Berne-Liebefeld
- Susanne Scheiwiller, B.Sc.,  
Animalfree Research, Zurich (as from 1.1.07)
- Dr. Alfred Schweizer  
Friedrich Miescher-Institute, Basle  
(until 31.12.06)

**Scientific advisor**

Prof. Peter Maier, Uster

**Auditors**

KPMG AG, Gümligen-Berne

**Supervisory body**

Federal Department of Home Affairs

**Origin of the Foundation**

The Foundation is a cooperative institution set up by the Parliamentary Group for Animal Experimentation Questions (public organ), Interpharma (Novartis Pharma Ltd, F. Hoffmann-La Roche Ltd, Seroxo Ltd and the associated members Actelion Ltd, Cilag Ltd and Vifor Ltd) and the Foundation Animalfree Research (animal protection). It was entered in the commercial register on 18<sup>th</sup> August, 1987.

The funds for subsidising research are provided principally by the Federal Veterinary Office and Interpharma.

**Purpose of the Foundation**

The purpose of the 3R Research Foundation Switzerland is to promote alternative research methods which avoid the use of animals, through grants for research projects. The organisation supports first and foremost projects aimed at developing new methods or refining accepted methods (validation) which offer practical improvements vis-à-vis standard animal experimentation in line with the 3R motto Reduce, Refine, Replace.

A broad range of projects is sponsored on the condition that they are likely to reduce the number of animals used or the stress and/or pain suffered. Projects considered must be based on the Foundation's three principles and are mainly in the bio-medical multidisciplinary field.

## Summary of the Year's Activities

### Improvements to the Foundation's website

Extensive information about all the Foundation's activities can be found on its website at [www.forschung3r.ch](http://www.forschung3r.ch). The homepage was improved during 2006.

### 20 projects subsidised

A total amount of CHF 726,100 was paid out for 13 ongoing projects and 7 that were completed during 2006.

### Six new projects

Six new projects were approved for funding during the past year for which a total of CHF 735,000 was earmarked. These new projects are described in detail in the list of funded projects on the Foundation's website ([www.forschung3r.ch/en/projects/index.html](http://www.forschung3r.ch/en/projects/index.html)).

*Development of an in-vitro system for modeling bioaccumulation of neutral, ionizable, and metabolically active organic pollutants in fish* (100/06) B. Escher, Dept. of Environmental Toxicology, EAWAG, Dübendorf. The aim of this project is to develop a method of fulfilling the stipulations of OECD guideline 305 concerning the bioaccumulation of chemicals using an adapted artificial membrane system instead of fish.

*Organotypic CNS slice cultures as an in-vitro model for immune mediated tissue damage and repair in multiple sclerosis.* (101/06) N. Goebels, Dept. of Neurology and Neuroimmunology, University Hospital, Zurich. This project aims to use organotypic slice cultures from mouse brain, in conjunction with electrophysiological measurements, to examine certain aspects of multiple sclerosis in vitro in order to alleviate the need for laboratory animals.

*Isolated, autologous blood-perfused heart: replacement of heterotopic heart transplantation.* (102/06) A. Bogdanova, Institute of Veterinary Physiology, University of Zurich. This project aims to develop a heart-lung machine that will enable isolated rodent hearts to be used to investigate pathological processes following ischaemia without using laboratory animals.

*An in vitro model of central nervous system infection and regeneration: neuronal stem cells as targets of brain damage and regenerative therapies in bacterial meningitis.* (103/06) S. Leib, Institute of Infectious Diseases, University of Berne. The aim of this project is to replace live animals by cultured neuronal stem cells and organ slices from rats for examining the cell processes and regenerative therapies in bacterial meningitis.

*Development of in vitro strategies to propagate and characterize hemotropic mycoplasmas.* (104/06) R. Hofmann-Lehmann, Clinical Laboratory, Vetsuisse Faculty, University of Zurich. Cell culture methods are to be developed in order to avoid using animals to obtain hemoplasmas to examine contagiousness.

*Establishment of an in vitro system for the prediction of the degree of virulence of classical swine fever virus isolates.* (105/06) N. Ruggli, Institute of Virology and Immunoprophylaxis, Mithelhäusern. Here the aim is to predict the degree of virulence in cell cultures instead of using live animals.

## Four projects successfully completed

*Induction of a primary T-cell mediated immune response against drugs and drug metabolites in vitro.* (80/01) W. J. Pichler, Dept. for Rheumatology and clin. Immunology/Allergology, University Hospital, Berne. The results show that the immunogenic (and allergenic) potential of a drug can be determined using the T-cell activation test. This represents an important basis for developing a test that could alleviate the need for laboratory animals.

*Development of an in vitro culture model to generate Neospora caninum and Toxoplasma gondii oocysts and sporozoites.* (85/03) A. Hemphill, Institute of Parasitology, Vetsuisse Faculty and Faculty of Medicine, University of Berne. This project has expanded the necessary basic knowledge in this field and opened the way to culturing oocysts in vitro instead of in dogs.

*Information on serum-free cell lines: an interactive database.* (87/03) C. Strebel, CePower GmbH, Wädenswil. The interactive SEFREC database is now accessible on the internet ([www.sefrec.com](http://www.sefrec.com)).

*Assessing animal health and welfare and recognising pain and distress.* (88/03) P. Flecknell, Comparative Biology Centre, University of Newcastle, England. This project resulted in an e-learning module: the AHWLA (Assessing the Health and Welfare of Laboratory Animals) ([www.ahwla.org.uk](http://www.ahwla.org.uk)). The Foundation used this to create a module on pain recognition for its internet training course ([http://3r-training.tierversuch.ch/en/module\\_3r/pain.html](http://3r-training.tierversuch.ch/en/module_3r/pain.html)). This uses video sequences and images to enable researchers to train students to recognise pathological pain in laboratory animals so that they will be able to take measures to alleviate pain and distress in good time.

## 3R-Info bulletins

3R-Info bulletins are published on the Foundation's website ([www.forschung3r.ch/en/publications/index.html](http://www.forschung3r.ch/en/publications/index.html)).

*Improving pain therapy in laboratory mice* (issue no. 31, January 2006) The problem of pain recognition is defined and addressed on the basis of project 71/00 (Dr. Margarete Arras, Institute for Laboratory Animal Science, University of Zurich); behaviour and physiological and molecular parameters (stress gene) are considered as recognition factors.

*The use of non-invasive methods in animal experimentation for examining diseases of the respiratory tract* (issue no. 32, May 2006) This article describes how Dr. N. Beckmann (Novartis Pharma, Basle; project 82/02) succeeded in using asthma research to show how the use of MRI can drastically reduce the number of animals required, as well as attenuating stress and shortening the duration of the experiments.

*Predicting the allergic reaction to medication in vitro* (issue no. 33, September 2006) This feature shows how Prof. W. Pichler (University Hospital, Berne; project 80/01) was able to demonstrate that even substances that are not considered hapten-carrier complexes can stimulate T-cell division, i.e. the substances act as immunogens solely by reason of their chemical structure.

## Activities during 2006

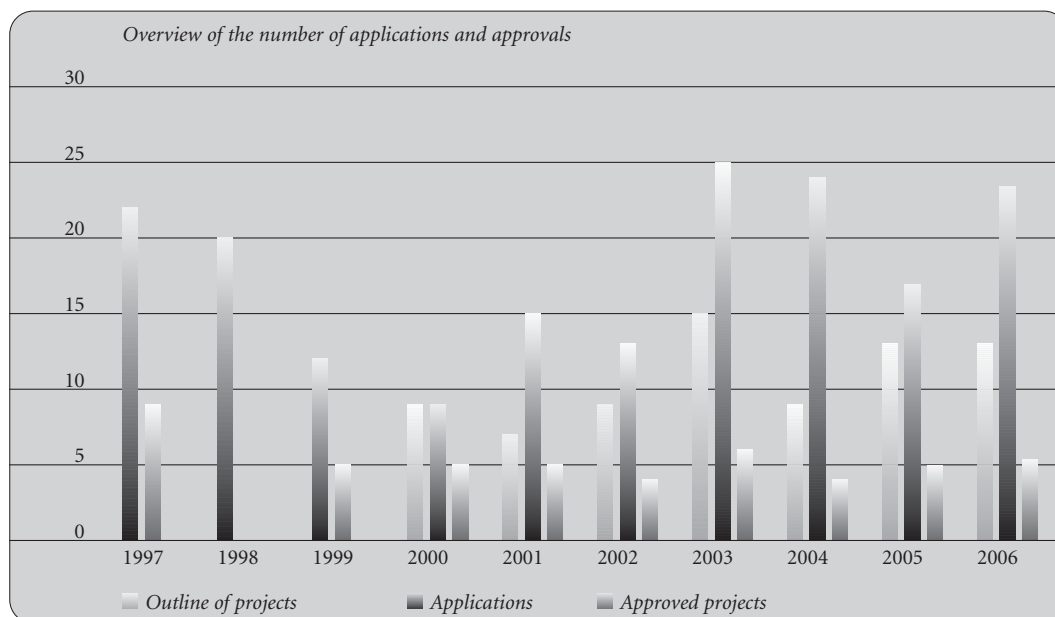
In its twentieth year of existence the Administrative Board met three times, namely in March, June and December, for a half-day meeting. Apart from the statutory business concerning the end of the business year 2005, the Board addressed the following issues.

Research funds for 2006 were allotted to 12 projects already underway. In addition, 6 new projects were approved, while 17 applications were rejected. The Board also took note of the final assessment by the Evaluation Committee of 4 projects which had been completed in the previous years.

In March 2006 discussions focused on the financial statements for 2005 as well as how to mark the 20<sup>th</sup> anniversary of the Foundation, and the guidelines for allotting research funds in relation to the submission of applications were defined. During its meeting in June the Administrative Board concentrated mainly on the 20<sup>th</sup> anniversary and the new 3R brochure. It approved the outline for the 3R brochure and gave the go-ahead for signing a contract with the agency in question. Moreover, the Board decided to organise a scientific meeting in autumn 2007 and to mark the occasion by bringing out a special issue of ALTEX describing the sustainability of funding research projects. This issue is to be based on the 3R-Info-bulletins, which will be updated by the various authors. Summaries of current projects are to be published. Finally, the Foundation's regulations concerning the status and function of the Evaluation Committee were revised. As an independent organ of the Foundation, chaired by the scientific adviser, from 2007 on the Evaluation Committee will assess applications for research grants and pass its recommendations on to the Administrative Board. At the meeting held in december 2006, as well as approving new and completed projects, the Board discussed issues relating to the financial statements for 2006 and the budget for 2007. The Administrative Board accepted the scientific adviser's report on the Foundation's presence at various events and thanked him for his commitment.

With the support of the scientific adviser, the Evaluation Committee held two meetings during the year, where in particular they assessed new applications and evaluated completed projects. The voluntary work of the members of the Evaluation Committee in this connection is much appreciated.

The scientific adviser's tasks included publishing the 3R Info Bulletin (as a brochure and on the Foundation's website at [www.forschung3r.ch](http://www.forschung3r.ch)), writing brief scientific reports in English which present the projects receiving funding and regularly updating the Foundation's website. He was also kept busy monitoring the 3R Training Course internet learning programme and integrated the new pain recognition module ([http://3r-training.tierversuch.ch/en/module\\_3r/pain.html](http://3r-training.tierversuch.ch/en/module_3r/pain.html)). In addition, he spent much time – as always – advising applicants and project managers, obtaining intermediate reports, evaluating project outlines, dealing with enquiries and explaining why projects had been rejected. The scientific adviser was also closely involved in the preparations for the new 3R brochure, which is due to come out mid-2007, as well as the scientific meeting planned for autumn 2007 to mark the Foundation's 20th anniversary. Preparations are also underway for the special issue of ALTEX, due to be published at the end of August 2007. Finally, the scientific adviser represented the Foundation at several scientific meetings in Switzerland and abroad, namely as a member of the board at the Annual Meeting of the European Consensus Platform for 3R Alternatives to Animal Experimentation (<http://ecopa.vub.ac.be>) in Brussels. Special mention should also be made of his appointment to the Advisory Board of the AcuteTox Consortium Meetings, which met in Ostend in 2006.



### Projects subsidised

During the year 4 projects were completed (80/01, 85/03, 87/03, 88/03). Together with those projects completed earlier (1-5/87, 6-15/88, 16/89, 17-20/90, 21-24/91, 25-42/92, 43-44/95, 45-55/96, 56-64/97, 65/98, 66-70/99, 71-75/00, 76-79/01, 81/02, 83/02, 86/03) this brings the total of finished projects to 86 out of 105.

### Quality of the projects

Various factors indicate the quality of the completed and current projects:

### Renowned scientists

The specialised knowledge of the project managers and the infrastructure that is available are two key factors. The names of the project managers and institutes involved show that the commitment to the 3R principles has strong support in scientific and research circles. News about academic accolades for our project managers is proof of their ranking. In 2006 Dr. N. Beckmann became eligible for a professorship and Dr. M. Geiser Kamber and Dr. R. Rieben were awarded honorary professorships by the University of Berne.

### Publication of results

The number of publications resulting from a project and the frequency with which they are cited imply that the results obtained are being properly evaluated. A glance at the summaries of the projects shows a satisfactory number of publications that we are expecting or that have already been added to our list.

### Awards and public reactions

Various projects funded by the Foundation have already won prizes or been mentioned in the press. In 2006 Prof. A. Hemphill (project 85/03) was awarded the Egon Naef Prize. The publication of T. Kröber and P. M. Guerin's paper, An in vitro feeding assay to test acaricides for control of hard ticks, in *Pest Management Science* (63, 17-22, 2006), which resulted from project 79/01, was heralded in the Swiss, German and English press as a breakthrough in replacing animals in research.

## Financial business

A total of some CHF 753,000 was paid out for research in 2006 (CHF 726,000 grants to research projects, CHF 25,000 for the 3R brochure and CHF 2,000 for participation in conferences). Some further CHF 110,000 was spent on project monitoring and information, of which CHF 19,000 served to improve the 3R internet training course. A sum of CHF 93,000 was spent on administration. Total expenditure therefore amounted to around CHF 956,000.

Expenditure on current projects (CHF 726,100) was some CHF 63,700 over budget (CHF 662,400); this was principally due to the fact that CHF 120,000 was paid out for three new projects and the 5% reserve (budgeted at CHF 66,200) was paid out on numerous projects that were completed, amounting to CHF 47,400 in all. On the other hand, CHF 54,000 earmarked for one project was not used because the payments were put in abeyance until certain problems are solved. Only one grant of CHF 2,000 was applied for in relation to participation in a conference. The total of approximately CHF 203,400 for project monitoring, information and administration was around CHF 7,000 over budget (CHF 196,500), CHF 11,500 less than budget being spent on the internet training course and CHF 23,600 more than budget being required for administrative expenses. This excess expenditure was mainly accounted for by costs incurred by the secretariat relating to the additional meeting of the Administrative Board and updating the Foundation's website. Another item involved preparatory work on the 3R brochure.

On the income side, the equal financial commitment of the federal authorities and Interpharma represents the basic funding for the Foundation's activities. The Confederation and Interpharma each provided the Foundation with CHF 365,000 in 2006. At the end of the year the Federal Veterinary Office promised to donate an additional amount of CHF 100,000, which was entered at the beginning of 2007. The Foundation will also be applying for a corresponding increase in the amount received from Interpharma in 2007.

Thanks to the rise in interest rates, it was to the Foundation's advantage to invest cash not required immediately in several different time deposits, which resulted in a considerable rise in interest earned in comparison with the previous year.

Total income was therefore around CHF 736,100 (funding from the Confederation and Interpharma together being CHF 730,000, interest earned amounting to CHF 4,700 and 3R training course fees yielding CHF 1,400) while total expenditure amounted to CHF 956,000. This gives an excess of expenditure over income of around CHF 220,100. The unused contributions item therefore fell from approximately CHF 757,200 at the end of 2005 to CHF 537,100 at the end of 2006.

The budget for 2007 includes around CHF 678,000 for current projects and a maximum amount of CHF 500,000 for new projects.



**Financial statements**

<i>Profit and loss account 2006</i>	<i>Expenditure</i>	<i>Income</i>
<i>Income</i>		
Federal contribution		365,000.00
Contribution from Interpharma		365,000.00
Total contributions		730,000.00
Interest on bank account		4,682.60
Reimbursement of research grants		0.00
Other income		1,471.00
Total income		736,153.60
<i>Expenditure</i>		
Research grants	753,139.95	
Project supervision and information	109,428.85	
Administrative expenses	93,693.50	
Total expenditure	956,262.30	
Excess expenditure over income	220,108.70	
	736,153.60	
<i>Balance as per 31<sup>st</sup> December 2006</i>		
<i>Liquid Assets</i>		
Bank	577,086.39	
Accounts payable	1,638.90	
Accounting apportionment assets	27.00	
<i>Liabilities</i>		
Accounting apportionment liabilities		40,614.20
Unused research funds		
– Carried forward 1. 1. 2006	757,246.79	
– Excess expenditure over income	–220,108.70	537,138.09
Capital of the Foundation		1,000.00
	578,752.29	578,752.29

**Contingent liabilities**

Approved research grants not yet paid out CHF 1,248,919.40.

Münsingen, 26<sup>st</sup> March 2007

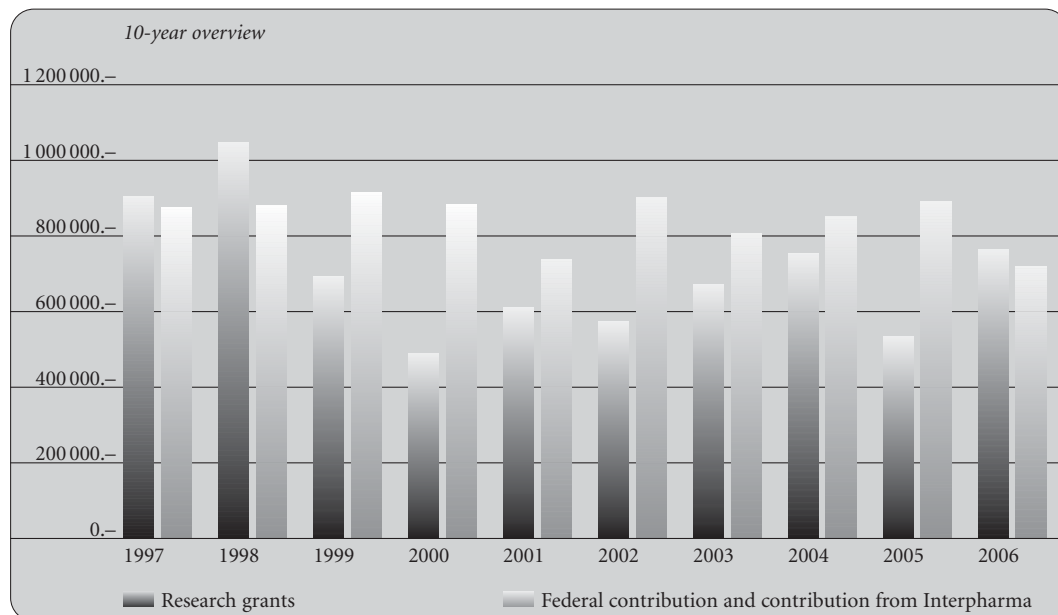
3R RESEARCH FOUNDATION

*President*

*Secretary*

signed Dr. Hugo Wick

signed E. Diener



### Overview of grants awarded between 1987 and 2006

At the end of 2006 a total of CHF 14,646,735.80 had been granted for projects and other subsidies, of which CHF 13,397,816.40 has been paid out so far. Together the federal authorities and Interpharma have contributed CHF 15,888,000 to the Foundation since 1987

### Personnel

There were some important changes in the Evaluation Committee during 2006. Prof. Max Gassmann, Dr. Franz P. Gruber and Dr. Alfred Schweizer resigned from the Committee and the Foundation expressed its appreciation of their work on its behalf. Dr. Kurt Lingenhöhl (Novartis Pharma AG, Basle) and Susanne Scheiwiler, B.Sc. (co-chair of the Foundation for Animalfree Research, in Zurich) were elected as new members. Prof. Peter Maier was elected chairman of the Evaluation Committee as from 1 January 2007.

### Auditors' report to the Administrative Board

As 3R Research Foundation's auditors, KPMG AG in Gümligen-Berne has examined the books and the annual financial statements on the basis of current financial reporting standards and recommends that they be approved.

### 3R Training Course

The Foundation has set up the 3R Training Course internet learning programme to offer individual, specialised further training for people who carry out or supervise animal experiments. This course is available in German and English at <http://3R-training.tierversuch.ch>. Texts, images, links and documents provide visitors to the site with information on alternatives to animal experimentation.

The 3R Training Course has been recognised by the Association of Cantonal Veterinary Surgeons as a further training course within the meaning of the Federal Veterinary Office's ordinance of 12<sup>th</sup> October 1998 on the basic and further training of persons involved in animal experimentation (SR 455.171.2). During 2006 fifteen certificates confirming that people had passed the on-line examination were issued.

**3R-Info-Bulletin**

In 2006 three more new 3R-Info bulletins were published with a print-run of 1,000 copies each in English, and distributed among interested parties. The information bulletins are also published on the Foundation's website ([www.forschung3r.ch/en/publications/index.html](http://www.forschung3r.ch/en/publications/index.html)).

**The latest 3R-Info bulletins are**

*N° 34, January 07*

Exploring natural anticoagulation by endothelial cells: A novel in vitro model

*N° 33, September 06*

Predicting drug hypersensitivity by in vitro tests

*N° 32, May 06*

Non-Invasive Methods: Investigation of Airways Diseases by MRI in Rats

*N° 31, January 2006*

Improvement of Pain Therapy in Laboratory Mice

**List of the other 3R-INFO BULLETINS**

*N° 1, June 1994*

Foundation Research 3R

*N° 2, September 1994*

mAbs without mice?

*N° 3, December 1994*

Prof. Gerhard Zbinden and 3R

*N° 4, April 1995*

Predicting human drug metabolism

*N° 5, August 1995*

Human recombinant antibodies

*N° 6, September 1995*

Call for 3R research proposals

*N° 7, March 1996*

The three 'R's of Russell and Burch, 1959

*N° 8, August 1996*

Regulation of digestion in cell culture

*N° 9, October 1996*

Permanent fish cell cultures as novel tools in environmental toxicology

*N° 10, August 1997*

10 years 3R Research Foundation

*N° 11, March 1999*

Immunization of laboratory animals

*N° 12, September 1999*

Leishmaniasis: development of an in vitro assay for drug screening

*N° 13, January 2000*

Identification of neurotoxic chemicals in cell cultures

*N° 14, May 2000*

Transgenic protozoa as an alternative to transgenic animals

*N° 15, September 2000*

Aggregating brain cell cultures: Investigation of stroke related brain damage

*N° 16, January 2001*

Housing and husbandry conditions affect stereotypic behaviour in laboratory gerbils

*N° 17, May 2001*

Fever in the test tube – towards a human(e) pyrogen test

*N° 18, September 2001*

Prevention of adverse effects in pigs after vaccination

*N° 19, January 2002*

Phenotype characterisation and welfare assessment of transgenic mice

- N° 20, May 2002*  
Animal-free screening of biological materials for contamination by rodent viruses
- N° 21, September 2002*  
Identification of new human skin irritation markers for tests with human skin recon-structs
- N° 22, January 2003*  
Environmental enrichment does not affect the variability of animal experimentation data in the Light/Dark test
- N° 23, May 2003*  
Simulation of stroke related damage in cul-tured human nerve cells
- N° 24, September 2003*  
Generation of parasite cysts in cultured cells instead of living animals
- N° 25, January 2004*  
Formation of new blood vessels in the heart can be studied in cell cultures
- N° 26, May 2004*  
Immune cells in the liver: The generation and use of a mouse Kupffer cell line
- N° 27, September 2005*  
The tick blood meal: From a living animal or from a silicone membrane?
- N° 28, January 2005*  
Bone metabolism and bone-biomaterial in-teractions can be studied ex vivo
- N° 29, May 2005*  
Computer-based quantification of (adverse) effects triggered by drugs and chemicals
- N° 30, September 2005*  
Environmental enrichment does not disrupt standardization

### List of Projects

A complete list of projects with summaries of each can be found on the Foundation's website ([www.forschung3r.ch/en/projects/index.html](http://www.forschung3r.ch/en/projects/index.html)).

The brief scientific project reports in English, which are updated once a year, also appear on the website and indicate that almost all projects have progressed well. The project managers' reports tend increasingly to include helpful im-ages. These reports published on the internet are much appreciated by those involved in the re-search projects as a platform for presenting their work. From the opposite point of view, this sys-tem also enables other researchers all over the world to discover new 3R methods without delay.

## List of new projects approved in 2006

- 105/06 Dr. Nicolas Ruggli  
Institute of Virology and Immunoprophylaxis (IVI), Mittelhäusern  
*Establishment of an in vitro system for the prediction of the degree of virulence of classical swine fever virus isolates*
- 104/06 Prof. Regina Hofmann-Lehmann  
Clinical Laboratory, Vetsuisse Faculty, University of Zurich  
*Development of in vitro strategies to propagate and characterize hemotrophic mycoplasmas*
- 103/06 Prof. Stephen Leib  
Institute of Infectious Diseases, University of Berne  
*An in vitro Model of Central Nervous System Infection and Regeneration: Neuronal Stem Cells as Targets of Brain Damage and Regenerative Therapies in Bacterial Meningitis*
- 102/06 Dr. Anna Bogdanova  
Institute of Veterinary Physiology, University of Zurich  
*Isolated, autologous blood-perfused heart: Replacement of heterotopic heart transplantation*
- 101/06 Prof. Norbert Goebels  
Dept. of Neurology and Neuroimmunology, University Hospital Zurich  
*Organotypic CNS slice cultures as an in vitro model for immune mediated tissue damage and repair in multiple sclerosis*
- 100/06 Dr. Beate Escher  
Dept. of Environmental Toxicology, EAWAG, Dübendorf  
*Development of an in-vitro system for modelling bioaccumulation of neutral, ionizable, and metabolically active organic pollutants in fish*

## List of current projects and those completed in 2005 and 2006

- 56/97 Prof. Beda M. Stadler  
Institute of Immunology and Allergology, Inselspital, University of Berne  
*Development of a mimotope-based tetanus and diphtheria vaccine.*  
Completed in 2005
- 67/99 Dr. Peter Ulrich  
Preclinical safety/GENEX-Experimental Toxicology, Novartis Pharma Ltd, Basle  
*Human monocyte-derived dendritic cells as in vitro indicators for contact allergic potential of chemicals.*  
Completed in 2005
- 70/99 Prof. Thomas Baumann  
Oregon Health Sciences University, Portland, USA  
*Sensory irritant screening using a stable cell line expressing the vanilloid receptor.*  
Completed in 2005
- 77/01 Prof. Hanno Würbel  
Institute for Laboratory Animal Science  
*Reproducibility and generalisation of implications of findings from animal experiments: Influence on housing conditions.*  
Completed in 2005
- 78/01 Dr. R. Geoff Richards, M.Sc.  
AO Research Institute, Davos  
*Validation of a combined perfusion/loading chamber for ex-vivo bone metabolic studies and bone-biomaterial interactions to reduce live animal experimentation.*  
Completed in 2005
- 80/01 Prof. Werner Pichler  
Rheumatology and Clinical Immunology/Allergology Clinic, Berne University Hospital  
*Induction of a primary T cell mediated immune response against drugs and drug metabolites in vitro.*  
Completed in 2006

- 81/02 Prof. Robert Rieben  
Cardiac Transplant Laboratory, Department of Cardiology, Berne University Hospital  
*In vitro model for the testing of endothelial cell activation and damage in whole blood*  
Completed in 2005
- 82/02 Dr. Nicolau Beckmann  
Novartis Institute of Biomedical Research, Basle  
*Magnetic resonance imaging (MRI) for the non-invasive assessment of lung inflammation and pulmonary function in the rat*
- 83/02 Dr. Cynthia Lee / Prof. Mauro Alini  
Biomaterials and Tissue Engineering Program, AO Research Institute, Davos  
*The development of an in vitro intervertebral disc organ culture system*
- 84/02 Dr. Urs Wirthmüller / Prof. Clemens A Dahinden  
Institute of Immunology, Berne University Hospital  
*Direct cloning of human monoclonal antibodies from purified specific B-cells*
- 85/03 Prof. Andrew Hemphill  
Institute of Parasitology, University of Berne  
*Development of an in vitro culture model to generate Neospora caninum and Toxoplasma gondii oocysts and sporozoites*  
Completed in 2006
- 86/03 Dr. R. Geoff Richards, M.Sc.  
AO Research Institute, Davos  
*Bone formation in a combined circumfusion/loading chamber for ex-vivo bone culture (Prolongation)*  
Completed in 2005
- 87/03 Claudio Strebel  
CePower GmbH, Wädenswil  
*Interactive data base on serum-free cell lines and media*  
Completed in 2006
- 88/03 Prof. Paul Flecknell  
Comparative Biology Centre Medical School Framlington Place, University of Newcastle, UK  
*Assessing animal health and welfare and recognising pain and distress*  
Completed in 2006
- 89/03 Prof. Marianne Geiser Kamber  
Institute of Anatomy, University of Berne  
*In vitro replica of the inner surface of the lungs to study particle-cell interaction*
- 90/03 Prof. Pierre Cosson  
Medical Faculty, University Medical Centre, Geneva  
*A non-mammalian system to study bacterial infections*
- 91/04 Prof. Gert Fricker  
Ruprecht-Karls-Universität, Heidelberg  
*Transport of active substances in the choroid plexus*
- 92/04 Prof. Elisabetta Padovan  
Gulbenkian Institute of Science, Oeiras, Portugal  
*Adjuvanticity of microbial-derived particles and synthetic analogs in vitro*
- 93/04 Dr. Omolara Ogunshola  
Institute of Animal Physiology, University of Zurich  
*Development of a novel multicellular 3-dimensional blood brain barrier in vitro model*
- 94/04 Dr. Stephan Vorburger  
Department of Clinical Research, Clinic for Visceral and Transplant Surgery, Inselspital, University of Berne  
*Tumor targeted reporter gene expression to improve and refine traditional models of tumor growth and metastasis*
- 95/05 Dr. Beate Escher  
Swiss Federal Institute for Environmental Science and Technology (EAWAG), Dübendorf  
*Development of QSAR-Models for Classification and Prediction of Baseline Toxicity and of Uncoupling of Energy Transduction*
- 96/05 Dr. sc. nat. Paolo Cinelli  
Institute for Laboratory Animal Science  
*Assessment of pain and stress in mice by monitoring gene expression changes*

- 97/05 Dr. sc. nat. ETH Alexander Mathis  
Institute of Parasitology, University of  
Zurich  
*Development of a three-dimensional en-  
teric cell culture model for in vitro studies  
of the intestinal eukaryotic parasites Cryp-  
tosporidium spp.*
- 98/05 Prof. Christoph Müller  
Institute of Pathology, University of  
Berne  
*Establishment of a murine syngeneic co-  
culture system of intestinal epithelial cells  
with intraepithelial T-lymphocyte subsets*
- 99/05 Prof. Pierre Cosson  
Medical Faculty, University Medical Cen-  
tre, Geneva  
*Non-mammalian Experimental Models  
for the study of bacterial infections  
(NEMO network)*



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