

3R Research Foundation Switzerland

Annual Report | 2007

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The Administrative Board

The Administrative Board of the Foundation is made up of nine members, three representing the Parliamentary Group for Animal Experimentation Questions (1 seat vacant), two representing animal protection, two from Interpharma and two from the Federal Veterinary Office. Current members are:

- Dr. Hugo Wick
Basle (Chair until 31.12.2007)
- Christine Egerszegi-Obrist
member of the Council of States, Mellingen
Deputy Chair (Chair as from 1.1.2008)
- Chantal Galladé
member of the National Council, Winterthur
- Dr. Peter Bossard
Horw
- Dr. Franz P. Gruber
Küsnacht
- Dr. Peter Heer
Corporate Communications
F. Hoffmann-La Roche Ltd., Basle
(until 31.12.2007)
- Prof. Paul Herrling
Head of Research, Novartis International,
Basle
- Silvia Matile-Steiner
lawyer, F. Hoffmann-La Roche Ltd., Basle
(as from 1.1.2008)
- 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, Chair

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. Marianne Geiser Kamber
Institute of Anatomy, University of Berne

Dr. Kurt Lingenhöhl
Novartis Pharma AG, Basle

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

Scientific advisor

Prof. Peter Maier, Uster

Auditors

KPMG AG, Gümliigen-Berne

Supervisory body

Federal Department of Home Affairs

Articles and statutes of the Foundation

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

Origin of the Foundation

The Foundation is a cooperative institution set up by the Parliamentary Group for Animal Experimentation Questions (public organ), Interpharma (Actelion Ltd, Merck Serono Ltd, Novartis Pharma Ltd, F. Hoffmann-La Roche Ltd, and the associated members Cilag Ltd and Vifor Ltd) and the Foundation for Animalfree Research (animal protection). It was entered in the commercial register on 18th 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. A survey of the Foundation's website revealed that it received more visitors, thanks to the new format for the homepage. On average, 73 people visit the website every day. Questions are asked in all three languages featured on the website (English: 38%, German: 38%, French: 24%). Enquiries come from 150 different countries, with the most originating in the USA (35%), Switzerland (17.5%), Germany (10%), the UK (6.6%), France (5%), India (3.5%), Canada (3.3%), Ireland (2.7%) and Sweden (2.4%).

18 projects subsidised

A total amount of CHF 643,795.75 was paid out for 14 ongoing projects and 4 that were completed during 2007.

3 new projects

Three new projects were approved for funding during the past year for which a total of CHF 336,191 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).

Standardization and Pre-validation of MucilAir: A novel in vitro cell model of the human airway epithelium for testing acute and chronic effects of chemical compounds (106/07) Dr. Song Huang, Epithelix Ltd., Plan-les-Ouates. The firm Epithelix has developed a cell culture system using human epithelial cells to test lung toxicity (MucilAir). The initial step is to pre-validate this in vitro process so that it can be considered by ECVAM for pan-European validation.

Evaluation of an in vitro model to identify host parameters associated with virulence of Toxoplasma gondii strains (107/07) Dr. Sushila D'Souza, Pasteur Institute, Brussels. The aim of this project is to determine the virulence of Toxoplasma gondii strains in cultures of human intestinal cells. At present the only way of determining virulence is by using a mouse test. This method could in the future be replaced by testing with cell cultures.

In vitro fish hepatocytes as source of metabolic clearance data in alternative approaches for the reduction or replacement of in vivo bioaccumulation testing with fish (108/07) Prof. Helmut Segner, Center for Fish and Wildlife Health, University of Berne. Predicting the bioaccumulation of pollutants in vitro is not reliable if the pollutants are metabolised. This project aims to standardise fish hepatocyte cultures to such an extent that they can be used for in vitro metabolism of test substances. The metabolism capacity of the cultures is characterised using 5 different reference substances.

3 projects successfully completed

A non-mammalian system to study bacterial infections (90/03) Prof. Pierre Cosson, University Medical Centre, Geneva. The virulence of bacteria was demonstrated using single-cell amoebae (*Dictyostelium*). It was observed that the virulence of selected bacteria was similar in amoebae and rodents. The same genes play a role in the immune system in amoebae and mammals. This method will make it possible to replace many of the highly stressful infection experiments using rodents.

The Transport of Active Substances in the Choroid Plexus (91/04) Prof. Gert Fricker, Ruprecht-Karls University, Heidelberg. A cell culture system was developed that accurately simulates the cell barrier in an intact organism (the choroid plexus epithelium). This method makes it possible to examine in vitro the processes involved in the exchange of substances between the brain/bone marrow fluid and the

blood, and in many cases the use of laboratory animals will no longer be necessary.

Development of QSAR-Models for Classification and Prediction of Baseline Toxicity and of Uncoupling of Energy Transduction (95/05) Dr. Beate Escher, EAWAG, Dübendorf. The baseline or unspecific toxicity of environmental substances may be caused by a disturbance of energy transduction in cells and/or the disintegration of the membrane potential. It was possible to develop a quantitative structure-activity relationship (QSAR) for such substances. In this way the toxicity of these substances could be mathematically estimated and a large number of animal experiments could be avoided.

3R-Info-Bulletins

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

Exploring the natural anticoagulation by endothelial cells: A novel in vitro model (No. 34, January 2007) A description of how Prof. Robert Rieben and Dr. Yara Banz from the University of Berne (project 81/02) succeeded in obtaining the naturally anticoagulant effect of vascular endothelial cells in cell cultures. Consequently it is possible, for example, to identify substances that protect the endothelial cells from damage. Only such substances need then be tested on laboratory animals.

From blood to brain and vice versa: Transport processes in choroid plexus can be studied in vitro (No. 35, May 2007) A description of how Prof. Gert Fricker and his team from the University of Heidelberg (project 91/04) succeeded in developing a cell culture system that accurately simulates the cell barrier in an intact organism (the choroid plexus epithelium). This method makes it possible to examine in vitro the exchange of substances between the brain/bone marrow fluid and the blood, and in many cases the use of laboratory animals is no longer necessary.

20th Anniversary of the Creation of the 3R Research Foundation

Press conference on 29 August 2007: Dr. Hugo Wick, Chairman of the Foundation, Christine Egerszegi, Speaker of the National Council in 2007 and Deputy Chair of the Foundation, Thomas Hartung, Director of ECVAM, Hans Wyss, Director of the Federal Veterinary Office and Thomas Cueni, Secretary General of Interpharma, each gave their impression of 20 years of pioneering promotion of research and dialogue in the service of animal protection and science. At the same time the new 3R brochure was presented.

New 3R brochure entitled "Good science with less animal experimentation": This brochure sets out the 3R principles (replace, reduce, refine) from today's point of view in a publication aimed at the general public. Its 36 pages cover the problems and limitations of replacing animal experimentation by alternative research methods, what has been achieved so far and possibilities and expectations for the future.

Scientific Jubilee Meeting, 3-4 September 2007: The 3R Research Foundation and the Swiss Laboratory Animal Science Association organised a scientific meeting at the Zurich-Inseln University under the slogan "3R = Better Science". Over 400 visitors were recorded over the 2 days. In all 39 speakers presented papers and led workshops.

Special issue of ALTEX: This special English-language edition of ALTEX comprises reports of 20 successfully completed projects as well as the 17 ongoing ones. It also describes the sustainability of the completed projects and indicates what results can be expected in the future. Edited by Peter Maier (3R Research Foundation) and Franz P. Gruber (ALTEX).

Activities during 2007

In its twenty-first year of existence the Administrative Board met twice, namely in March and December, for a half-day meeting. Apart from the statutory business concerning the end of the business year 2006, the Board addressed the following issues.

Research funds for 2007 were allotted to 14 projects already underway. In addition, 3 new projects were approved, while 11 applications were rejected. The Board also took note of the final assessment by the Evaluation Committee of 3 projects which had been completed in the previous years. In order to be able to ensure a solid financial basis for the future activities of the Foundation it was decided to ask Interpharma for a new, fifth promise of funding.

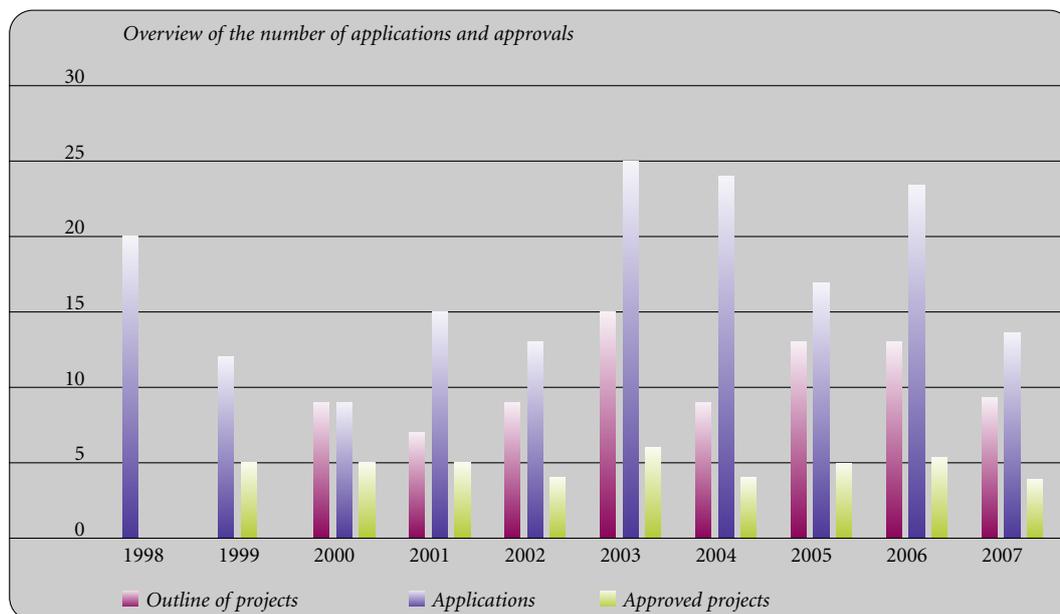
At the meeting in March 2007, discussions focused on the financial statements for 2006 as well as the celebrations to mark the 20th anniversary of the Foundation and the new 3R brochure. A further item on the agenda was the election of the Foundation's officers for the period 2007 to 2010.

At its December meeting, the Board said goodbye to Dr. Hugo Wick, who had been Chairman since 1995 and was one of the founders, and elected Christine Egerszegi, a member of the Council of States, to succeed him. In addition, apart from the approval of new projects and final reports, the Board discussed financial issues in relation to the 2007 financial statements and the budget for 2008. The Scientific Adviser presented his report on the various events he had attended as the Foundation's representative and the Board thanked him for his good work. They authorised him to organise a workshop in Basle in 2008 with guest speakers from the pharmaceutical industry as part of the Ecopa „Start-up” project Scientific and technological issues in 3Rs: Alternative research in the process of drug development and union politics.

As far as concerns the activities surrounding the 20th anniversary of the Foundation, the Board was pleased to report a satisfactory outcome. While the press conference and the dinner on 29 August 2007 had attracted a relatively small number of people, the scientific meeting held on 3 and 4 September 2007 had been attended by over 400 people. The special edition of ALTEX, in which Prof. Maier and Dr. Gruber described 20 successfully completed projects as well as the 17 ongoing ones, also roused a good deal of interest in scientific circles. The highlight of public interest, however, was undoubtedly the new 3R brochure entitled „Good science with less animal experimentation”, which was sent out to some 10,000 people and extremely well received.

With the support of the scientific adviser being now chairman, 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), 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. 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. Finally, he 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://www.ecopa.eu>) in Brussels, as well as at the 6th World Congress on Alternatives and Animal Use in the Life Science, in Tokyo. As a member of the Advisory Board of the AcuteTox Consortium he attended a meeting in Stockholm. The Scientific Adviser also put a lot of work into helping to organise



the scientific meeting at the Zurich-Irchel University, producing the special edition of ALTEX and helping to put together the new 3R brochure.

Personnel

All the members of the Board and the Evaluation Committee were willing to stand for reelection for the period 2007-2010. Dr. Hugo Wick and Dr. Peter Heer announced that they would be resigning at the end of the year. In December the Board wished them well and thanked them for all their good work on behalf of the Foundation. Dr. Wick, a former member of the National Council (CVP), was one of the instigators of the 3R Research Foundation and had been a member of the Board since it was set up in 1987. He took over as chairman in 1995. Dr. Heer joined the Board at the beginning of 1998 as a representative of Roche and Interpharma. He has been replaced by Silvia Matile-Steiner, who is a lawyer at F. Hoffmann-La Roche Ltd. No replacement for Dr. Wick from among parliamentarians has yet been found. As from 1 January 2008 the Board will be chaired by Christine Egerszegi, a member of the Council of States, who has been Deputy Chair until now.

Projects subsidised

During the year 3 projects were completed (90/03, 91/04, 95/05). 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, 76-80/01, 81/02, 83/02, 85-88/03) this brings the total of finished projects to 89 out of 108.

The bar-chart shows a downward trend in the number of applications received as well as an irregular pattern in the proportion approved. This can be explained by the fact that although in vitro projects are proposed, they are often not relevant to animal experimentation. If relevance to the 3R principles is to be taken in the strictest sense, it becomes increasingly difficult to design good projects. The long-term approval rate for applications is 30%.

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. This course has been recognised officially as a further training course under the terms of the Federal Veterinary Office's Ordinance of 12th October 1998 on the basic and further training of persons involved in animal experimentation (SR 455.171.2). Over the past year, 17 certificates were issued to people who passed the on-line examination.

Scientific Meeting

The 3R Research Foundation and the Swiss Laboratory Animal Science Association (SGV) together with the Association for Training in Laboratory Animal Welfare and the Animal Keepers' and Technical Staff Interest Group, organised a scientific meeting on 3 and 4 September 2007 at the Zurich-Irchel University based around the slogan 3R = Better Science.

Over 400 people attended the 2-day meeting to hear 39 speakers who gave papers and led workshops. The 3R sessions, organised by the Foundation, drew 260 visitors. The 14 guest speakers succeeded in addressing the interdisciplinary topics in a fascinating way. The summaries of the papers have been published in a 70-page brochure. Special thanks are due to the Foundation's Scientific Adviser, Prof. Peter Maier, who instigated and organised this successful event.

Special Issue of ALTEX

Prof. Peter Maier (3R Research Foundation) and Dr. Franz Gruber (editor of ALTEX) put together a special edition of ALTEX (Alternatives to Animal Experimentation, Vol. 24, Special Issue 2007). This special edition comprises 104 pages in scientific English and describes 20 successfully completed projects as well as the 17 ongoing ones. The 20 projects selected, which have been completed during the Foundation's 20-year existence, are proof of its sustainability. This edition is also used in the training course and can be ordered free-of-charge from the Foundation or downloaded in pdf form from our website.

New 3R brochure

"Good science with less animal experimentation" is the title of the new 36-page 3R brochure. The current stance on the 3Rs principle (replace, reduce, refine) promoted by the Foundation over the past 20 years is explained in general terms for interested lay readers. The brochure addresses the problems and limitations of replacing animal experiments with alternative research methods, describes what has been achieved so far and sets out future possibilities and expectations. The brochure is available in three languages (German, French and English) and has been put together in collaboration with Advocacy Ltd. and Continue Ltd, both based in Basle, by an editorial board consisting of Dr. Franz P. Gruber, Ursula Moser, Prof. Peter Maier, Dr. Heinz Müller, Adrian Heuss and Ernst P. Diener. It is also used in training courses for people who carry out experiments involving live animals. It can be ordered free-of-charge from the Foundation or downloaded in pdf form from our website.

Financial business

A total of some CHF 812,200 was paid out for research in 2007 (CHF 643,800 grants to research projects, CHF 154,600 for activities in connection with the 20th anniversary celebrations, CHF 8,200 for the internet training programme and CHF 5,600 for participation in conferences). Some further CHF 103,100 was spent on project monitoring and information, of which CHF 13,300 was used for the 3R-Info-Bulletin and the Annual Report. A sum of CHF 94,100 was spent on administration. Total expenditure therefore amounted to around CHF 1,009,400.

Expenditure on current projects (CHF 643,800) was some CHF 34,000 under budget (CHF 677,800); this was principally due to the fact that approximately CHF 104,000 was paid out for two new projects, while some CHF 110,000 earmarked for 3 projects was not used because the amounts budgeted for were not required in full. Of the 5% reserve (budgeted at CHF 45,500) CHF 18,000 was paid out upon the completion of certain projects. A sum of CHF 5,600 was applied for in relation to participation in three conferences. The total of approximately CHF 197,200 for project monitoring, information and administration was in line with budget (CHF 198,900).

On the income side, Interpharma generously agreed to pay CHF 55,328.50 towards the total expenditure of CHF 246,965 in connection with the 20th anniversary celebrations, while the Federal Veterinary Office donated CHF 12,000 towards the cost of distributing the 3R brochure. This left the Foundation with outgoings of CHF 179,636.50 (3R brochure CHF 119,216.70, printing CHF 29,241.35, contribution towards distribution CHF 3,000, ALTEX special issue CHF 20,101.90, scientific meeting CHF 8,076.55).

The equal financial commitment of the federal authorities and Interpharma represents the basic funding for the Foundation's activities. With its fifth promise of funding on 20 December 2007, Interpharma once again declared its willingness to provide the Foundation with a total amount of CHF 2,400,000. This will be transferred in annual instalments (maximum CHF 600,000) on condition that the Foundation receives an equal amount from the Confederation. At the end of 2007 the Federal Veterinary Office promised an additional amount of CHF 60,000, which was received at the beginning of 2008.

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 of up to 12 months, which resulted in interest earned of CHF 10,500.

Total income was therefore around CHF 944,500 (funding from the Confederation and Interpharma together being CHF 930,000, interest earned amounting to CHF 11,700, 3R training course exam fees yielding CHF 1,700 and reimbursement of expenses in connection with the Ecopa survey CHF 1,100) while total expenditure amounted to CHF 1,009,400. This gives an excess of expenditure over income of around CHF 64,900. The unused contributions item therefore fell from approximately CHF 537,100 at the end of 2006 to CHF 472,200 at the end of 2007.

At the end of 2007 the total earmarked for projects approved by the Board but not yet paid out amounted to CHF 908,044.55. This future liability is covered by Interpharma's new promise of funding. Together with Interpharma's funding which finished at the end of 2007, the Foundation's credit with this institution amounted to CHF 2,741,000 at the end of 2007.

The budget for 2008 includes around CHF 623,000 for current projects and a maximum amount of CHF 500,000 for new projects.

Financial statements

<i>Profit and loss account 2007</i>	<i>Expenditure</i>	<i>Income</i>
<i>Income</i>		
Federal contribution		465,000.00
Contribution from Interpharma		465,000.00
Total contributions		930,000.00
Interest on bank account		11,676.10
Reimbursement of research grants		0.00
Other income		2,862.00
Total income		944,538.10
<i>Expenditure</i>		
Research grants	812,165.35	
Project supervision and information	103,102.65	
Administrative expenses	94,122.95	
Total expenditure	1,009,390.95	
Excess expenditure over income	-64,852.85	
	944,538.10	
 <i>Balance as per 31st December 2007</i>		
	<i>Assets</i>	<i>Liabilities</i>
<i>Liquid Assets</i>		
Bank	467,740.84	
Accounts payable	4,086.60	
Accounting apportionment assets	10,930.80	
<i>Liabilities</i>		
Accounting apportionment liabilities		9,473.20
Unused research funds		
– Carried forward 1. 1. 2007	537,138.09	
– Excess expenditure over income	-64,852.85	472,285.24
Capital of the Foundation		1,000.00
	482,758.24	482,758.24

Contingent liabilities

Approved research grants not yet paid out CHF 908,044.55.

Münsingen, 7 April 2008

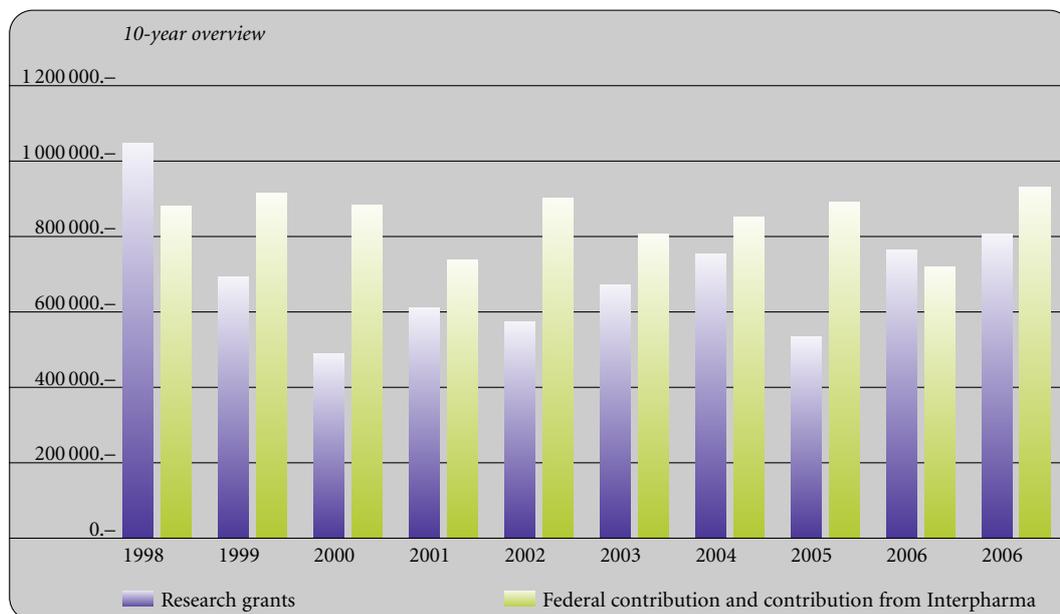
3R RESEARCH FOUNDATION

President

signed C. Egerszegi

Secretary

signed E. Diener



Overview of grants awarded between 1987 and 2007

At the end of 2007 a total of CHF 15,118,026.30 had been granted for projects and other subsidies, of which CHF 14,209,981.75 has been paid out so far. Together the federal authorities and Interpharma have contributed CHF 16,818,000 to the Foundation since 1987.

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-Info-Bulletin

In 2007 two 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).

The latest 3R-Info-Bulletins

N^o 36, January 08

Host pathogen interactions can be studied in amoebae instead of animals

N^o 35, May 07

From blood to brain and vice versa: Transport Processes in Choroid Plexus can be studied in vitro

N^o 34, January 07

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

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
- N° 31, January 2006*
Improvement of Pain Therapy in Laboratory Mice
- N° 32, May 06*
Non-Invasive Methods: Investigation of Air-ways Diseases by MRI in Rats
- N° 33, September 06*
Predicting drug hypersensitivity by in vitro tests

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).

The brief scientific project reports in English on the website, which are updated once a year, indicate that almost all projects have progressed well. These reports published on the internet are much appreciated by those involved in the research projects as a platform for presenting their work. From the opposite point of view, this system also enables other researchers all over the world to discover new 3R methods without delay.

List of new projects approved in 2007

- 108/07 Prof. Helmut Segner
Center for Fish and Wildlife Health,
University of Berne
In vitro fish hepatocytes as source of metabolic clearance data in alternative approaches for the reduction or replacement of in vivo bioaccumulation testing with fish
- 107/07 Dr. Sushila D'Souza
Pasteur Institute of Brussels
Evaluation of an in vitro model to identify host parameters associated with virulence of Toxoplasma gondii strains
- 106/07 Dr. Song Huang
Epithelix Sàrl, Plan-les-Ouates
Standardization and Pre-validation of MucilAir: A novel in vitro cell model of the human airway epithelium for testing acute and chronic effects of chemical compounds

List of current projects and those completed in 2006 and 2007

- 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
- 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
- 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
- 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
Completed in 2007
- 91/04 Prof. Gert Fricker
Ruprecht-Karls-Universität, Heidelberg
Transport of active substances in the choroid plexus
Completed in 2007
- 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
Completed in 2007
- 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 enteric cell culture model for in vitro studies of the intestinal eukaryotic parasites *Cryptosporidium* 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 Centre, Geneva
Non-mammalian Experimental Models for the study of bacterial infections (NEMO network)
- 100/06 Dr. Beate Escher
Federal Institute for Environmental Science and Technology, EAWAG, Dübendorf
Development of an in-vitro system for modelling bioaccumulation of neutral, ionizable, and metabolically active organic pollutants in fish
- 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
- 102/06 Dr. Anna Bogdanova
Institute of Veterinary Physiology, University of Zurich
Isolated, autologous blood-perfused heart: Replacement of heterotopic heart transplantation
- 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

104/06 Prof. Regina Hofmann-Lehmann

Clinical Laboratory, Vetsuisse Faculty,
University of Zurich

Development of in vitro strategies to propagate and characterize hemotrophic mycoplasmas

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

