News

EGYPT: Seeds of change planted on the banks of the Nile

There is exciting progress for alternatives in North Africa and the Middle East as initiatives in education and training take root. In February, the 1st North Africa and Middle East Seminar on Alternatives to Animal Experiments in Education and Training was held in Cairo, Egypt. The event built on the experience of InterNICHE outreach tours and alternatives demonstrations by dovetailing the organisation's collective skills and resources with the initiatives and local knowledge of campaigners and teachers in the host country. Organised by InterNICHE and the Egyptian Society of Animal Friends (ESAF), the initiative brought together teachers, students, researchers, veterinary professionals, campaigning organisations and others to promote and help implement replacement alternatives across North Africa and the Middle East. Representatives from 24 countries gathered for the seminar and the subsequent 2nd Middle East Network for Animal Welfare (MENAW) Conference. The Resolution passed unanimously at the seminar recognises the pedagogical, ethical, environmental and economic advantages of humane alternatives over harmful animal use in education and training, and calls for full replacement. It calls on North African and Middle Eastern governments and educational institutes to work towards removing harmful animal use from the life science syllabus, to develop and implement appropriate and effective laws, regulations and guidelines to bring about replacement, and to provide support for the implementation of alternatives. Other meetings were organised throughout March and April between InterNICHE and veterinarians from across the region, as well as with Egyptian government advisors and accreditation officials. A series of alternative presentations and meetings were then held with deans and department heads from several universities. At Cairo University Faculty of Veterinary Medicine over ten meetings and presentations were held with officials, teachers and students, with the message of alternatives reaching the whole faculty. Meanwhile, with support from InterNICHE, students established the group Cairo University Vets for Alternatives (CUVA), which has already made great strides in planning replacement and to enhance the quality of veterinary training. With the seeds planted by the Nile already taking root, the vision of an oasis of humane education across North Africa and the Middle East is no longer a mirage.

gk

GER: Equipment for the new OECD TG 437

Data on eye irritation are generally needed for hazard identification of chemicals and are traditionally examined using the rabbit eye test (Draize et al., 1944) according to the OECD test guideline 405 (TG437) (OECD, 2002).

As of September 2009 the OECD adopted the test guideline using isolated bovine cornea as a replacement for rabbit eyes *in vivo* for the identification of corrosive and severe ocular irritants (OECD, 2009). In the BCOP (Bovine Corneal Opacity and Permeability) test the potential of a test substance to cause eye irritation is determined by the *In Vitro* Irritancy Score (IVIS = opacity + 15 x permeability). The opacity is quantified in an opacitometer after substance application onto the epithelial side of the cornea. Subsequently the permeability is quantified by the amount of fluorescein permeating through the whole cornea.

In 2009, BASF successfully established and evaluated the BCOP test for its in-house routine testing using 52 test substances with a broad range of corneal opacity and permeability. For this, an old opacitometer was reactivated, because it was not possible to purchase new state-of-the-art equipment. Based on these experiences, BASF has designed a new opacitometer with a certified light-meter, calibration standards and a computer interface and -software. All improvements are in line with TG437, and the new instrument was tested with all 52 substances in parallel with opacitometers of the old design.

Since the adoption of OECD test guideline 437, many laboratories have encountered the same problem in purchasing a reliable and standardized opacitometer and have approached BASF. To ensure comparable and reliable data from the BCOP in different labs, BASF is offering the new opacitometer on a net cost basis. Upon request a complete set, including cornea holders, calibration standards, software and a short introduction into the BCOP

method at BASF laboratories in Ludwigshafen, Germany, is available (susanne.boehn@basf.com, robert.landsiedel@basf.com, toxoffice@basf.com).

References

Draize JH, Woodard G, Calvery HO (1944). Methods for the study of irritation and toxicity of substances applied topically to the skin and mucous membranes. *J. Pharmacol. Exp. Ther. 82(3)*, 377-390.

OECD (2002). OECD Guidelines for the Testing of Chemicals, Test No. 405: Acute Eye Irritation/Corrosion. 24.4.2002.

OECD (2009). OECD Guidelines for the Testing of Chemicals, Test No. 437: Bovine Corneal Opacity and Permeability (BCOP) Test Method for Identifying Ocular Corrosives and Severe Irritants. 7.9.2009.

RL, BASF

GER: Biotest launches PyroDetect

The PyroDetect System, a unique patented assay for detecting and quantifying diverse exogenous pyrogens, is based on the Monocyte-Activation Test (MAT) with an Interleukin-1β (IL-1β) response. As it uses human whole blood it simulates human pyrogen-induced fever reactions better than any animal test available on the market. An international validation study coordinated by the European Centre for the Validation of Alternative Methods (ECVAM) found the MAT to be an easy-to-use and reliable test system. As a consequence it was introduced into the European *Pharmacopoeia* (EP Chapter 2.6.30) in 2010 as an alternative to the rabbit test.

The PyroDetect System covers the same full range of pyrogens as the rabbit test and a much broader spectrum than the Limulus Amoebocyte Lysate (LAL) test, which detects only endotoxins (lipopolysaccharides in the outer membrane of gram-negative bacteria). In addition to endotoxins the PyroDetect System detects pyrogenic substances from gram-positive bacteria (lipoteichoic acid) as well as pyrogenic particles from moulds and yeasts, viruses and even environmental contaminants, such as packaging material. It supports a uniquely broad range of applications in pharmaceuticals, biologicals, medical devices and cell therapeutics.

"The PyroDetect System represents a quantum leap in pyrogen testing and is an outstanding addition to Biotest's portfolio of innovative test systems for laboratories in the pharmaceutical, medical devices, cosmetics and food industries," comments Dr Frank Schulze, Executive Vice President Microbiology at Biotest AG. "There are many products that the existing pyrogen tests cannot reliably test. For example, the rabbit test is unsuitable for cytostatic drugs, sedatives, cytokines, antibiotics, chemotherapeutics and proteins, the LAL test for blood, lipids, cell therapeutics and solids. PyroDetect puts an end to these constraints while, at the same time, advancing animal welfare".

Using the PyroDetect System involves two main steps: incubating the sample in human whole blood and performing the IL-1β ELISA. First the test sample is mixed with the pooled, freeze-stored cryoblood (or, alternatively, fresh blood) and incubated, during which the blood's monocytes produce IL-1β if the sample contains any pyrogens. For detection the mixture is transferred to a microplate coated with an antibody that specifically binds IL-1β. The subsequent ELISA allows the concentration of the bound IL-1β to be determined. The pyrogen concentration can then be determined using a standard curve.

The PyroDetect System is a humane, full-fledged substitute for the rabbit test and is ideally suited to complement the LAL test for testing newly approved research products.

Dr. Sabine Müller
Biotest AG
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e-mail: hycon@biotest.de
www.biocompare.com
Dreieich, 10th May 2010

GER: 3R Symposium at the TiHo Hannover

The *Zentrum für Ersatz und Ergänzungsmethoden* at the University of Veterinary Medicine Hannover (TiHo) announces a symposium on alternative and supplementary methods to animal experiments to be held on the 4th-5th of October 2010 at the *Hörsaal der Klinik für Kleintiere*, University of Veterinary Medicine Hannover, Bünteweg 9, 30559 Hannover.

Next to invited lectures by Hanno Würbel (Giessen), Michael Schemann (Munich), Ulrich Schäfer (Saarbrücken), Frauke Ohl (Utrecht), Horst Spielmann (Berlin) and Marcel Leist (Konstanz) 12 short communications on methods under development at the TiHo shall be presented.

The symposium will be held in German; participation is recognised by the *Akademie für Tierärztliche Fortbildung* (ATF credits: 10 hours). Further information and registration at:

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INT: Workshop on vaccine potency and safety testing

An "International Workshop on Alternative Methods to Reduce, Refine, and Replace the Use of Animals in Vaccine Potency and Safety Testing: State of the Science and Future Directions" shall be held on 14th – 16th September 2010 at the William H. Natcher Conference Center on the campus of the National Institutes of Health, Bethesda, MD, USA. The workshop will be organised by NICEATM and ICCVAM in partnership with ECVAM, JaCVAM and Health Canada, and is co-sponsored by the Society of Toxicology.

The workshop will bring together an international group of scientific experts from government, industry, and academia to review the current state of the science, availability, and future need for alternative methods that can reduce, refine, and replace the use of animals for human and veterinary vaccine post-licensing potency and safety testing. Plenary and breakout sessions will address current U.S. and international regulatory requirements, currently available alternatives, and future research, development, and validation activities needed to further advance the use of alternative methods for vaccine post-licensing potency and safety testing.

The workshop is free and open to the public with attendance limited only by the space available. Individuals who plan to attend are asked to register with NICEATM by 30th August 2010.

Abstracts for scientific posters for display at the workshop are invited. Posters should address current research, development, validation, and/or regulatory acceptance of alternative methods that may reduce, refine, and/or replace the use of animals in vaccine post-licensing potency and safety testing. The deadline for submission of poster abstracts is 29th July 2010.

Registration information, tentative agenda, and additional meeting information are available on the NICEATM-ICCVAM workshop website at:
http://iccvam.niehs.nih.gov/meetings/BiologicsWksp-2010/BiologicsWksp.htm

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INT: OECD approval of skin irritation test guideline

The *in vitro* reconstructed human epidermis (RhE) test method for skin irritation was finally accepted by the 22nd meeting of the Working Group of National Coordinators of the Test Guidelines Programme in Paris, France on 23rd to 25th March 2010 as an OECD Test Guideline (TG). The latest version of the draft guideline was accepted without further changes. The TG will next be submitted to the OECD Joint Meeting of the Chemicals Committee and then the OECD Council for final adoption and the background document will be submitted to the Joint Meeting for declassification and publication. The acceptance of the TG is the crowning achievement after the development, prevalidation, optimisation and validation of the method.

Skin irritation is the production of reversible damage to the skin after application of a test chemical for up to four hours. It has formerly been assessed using laboratory animals (TG 404); a revision of TG 404 in 2002 allowed the determination of skin corrosion/irritation by a tiered testing strategy using validated *in vitro* and *ex vivo* methods to avoid pain and suffering of animals for the corrosivity part of the strategy.

Reconstructed human epidermis mimics biochemical and physiological properties of the upper parts of the human skin. The commercially available EpiSkin™ RhE model has been designated the Validated Reference Method, while two other commercially available RhE models, EpiDerm™ SIT and SkinEthic™ , showed similar results in a Performance Standards-based validation. The new test method may be used to determine the skin irritancy of chemicals as a stand-alone replacement of the *in vivo* test or as a partial replacement within the tiered testing strategy.

The meeting also approved a project proposal from Germany to further develop the skin irritation/corrosion tiered testing strategy; the first meeting shall be held at ZEBET in Berlin this autumn.

sva

CAAT*feed*

This is the first joint CAATfeed from CAAT-US and CAAT-EU, after the latter was inaugurated in March 2010 (see *ALTEX* 1/2010 and this issue).

CAAT begins t⁴ workshop series

With the generous support of the Doerenkamp-Zbinden Foundation, the Transatlantic Think Tank for Toxicology (t^4) was created in 2009 as a collaboration between the DZF chairs in Konstanz, Utrecht, and Baltimore. The t^4 will carry out a series of workshops with reports to be published in *ALTEX*, which are by invitation only. Currently planned workshops include:

– October 2010, Baltimore: Nanotoxicology Testing Strategies (host: Ellen Silbergeld)
– October 2010, Konstanz: Education and 3R Approaches (hosts: Marcel Leist and Thomas Hartung)
– November 2010, Konstanz: Marine Biotoxins (host: Daniel Dietrich)
– December 2010, Utrecht: Biomarkers in Tox-21c (host: Bas Blaauboer)
– Early 2011, Baltimore: Dog Use in Toxicology (host: Joanne Zurlo)

New staff at CAAT

Joanne Zurlo has rejoined CAAT after ten years at the National Academy of Sciences. As Director of Science Strategy, she will oversee CAAT's work on t^4 and evidence-based toxicology. Helena Hogberg joined as a post-doc for CAAT developmental neurotoxicology research after she completed her PhD at ECVAM. She was recently awarded a grant from the Swedish Research Council.

Two information events held on US participation opportunities in FP7 projects

The Bloomberg School of Public Health at the Johns Hopkins University (JHU) hosted a seminar on March 4th to discuss opportunities for transatlantic research collaboration. The seminar was introduced by Dr Thomas Hartung (CAAT). Dr Laurent Bochereau, Head of the Science, Technology and Education Section at the Delegation of the European Union to the US, described the overall structure of the FP7 Research Program a funding opportunities in the Cooperation (primarily under the Health theme), Idea, and People categories. The two other speakers, Dr Thomas Hartung and Dr Vladimir Canudas-Romo, provided complementary testimonials based on their experience in several European research networks. Dr Canudas-Romo discussed the successful submission of an application for a Starting Grant of the European Research Council.

On May 7 at Johns Hopkins Medicine, Dr Ruxandra Draghia-Akli, the European Commission director for the European Union Framework Program 7, presented a $ 1.3 billion-per-year funding program in biomedicine. A memorandum of understanding between the European Commission and the U.S. National Institutes of Health allows American research groups to participate as fully funded partners in these research projects.

We are pleased to announce upcoming meetings furthering the discussion on toxicity testing in the 21st century.

Contact Betsy Merrill at bmerrill@jhsph.edu for details.

June 21, 2010: Chemical toxicity testing: the US and beyond

National Press Club, 529 14th St., NW, Washington DC

The Future of Chemical Toxicity Testing in the United States: Creating a Roadmap to Implement the NRC's Vision and Strategy

Three years after the National Research Council issued its landmark vision and strategy for toxicity testing, what comes next? What steps must lawyers, regulators, and policymakers take to ensure that chemical testing protects public health and the environment – using twenty-first century toxicology?

June 22, 2010: Implementing the US NAS toxicity testing report: an EU perspective on the way forward

Kenney Auditorium, Johns Hopkins School of Advanced International Studies, Washington, DC
Jointly Sponsored by ACES and JHU CAAT

EU regulations such as REACH and the 7th Amendment to the Cosmetics Directive have highlighted the crucial role of EU-US relations in the field of humane science. This symposium is intended to examine humane science and toxicity testing from the point of view of important EU stakeholders and experts. This half-day program features speakers from the European Commission, as well as policy leaders from major European corporations, member countries, and academic institutions.

July 13-14, 2010: 21st century validation strategies for 21st century tools

Johns Hopkins Bloomberg School of Public Health, Baltimore MD

Chemical safety testing has come into the limelight. The emerging discussion of the TSCA reauthorization in the US and the start of REACH registration in the EU leave no doubt that a new approach to toxicology is a necessity. That new approach was neatly outlined in the 2007 NRC report *Toxicity Testing in the 21st Century: A Vision and a Strategy*. Now it is time to put that vision into practice with a two-day forum on the new approach and its scientific challenges. The program will address the following topics: Integrated Testing Strategies, Modern Technology Integration, Evidence-based Toxicology, and Endocrine Disruption as a possible pilot area. A half-day session will be devoted to each of these four pertinent aspects of the Tox-21c implementation. An opinion leader in each in field will present a keynote paper, to be followed by three renowned respondents and then an open one-hour discussion in the plenary.

The number of participants has been limited to allow intensive discussions. The event will be documented for publication and streamed on the Web.

Sponsored by: Johns Hopkins CAAT, Doerenkamp-Zbinden Foundation, Society of Toxicology, American Chemistry Council, CropLife America, Society of Chemical Manufacturers and Affiliates, Soap and Detergent Association, American Petroleum Institute, Grocery Manufacturers Association, Consumer Specialty Products Association, Personal Care Product Council, Chemical Producers and Distributors Association, Styrene Information and Research Center.

August 26-27, 2010: Animals, research, and alternatives conference

Washington, D.C.
http://www.ResearchAlternatives.org.

Fifty years after the development of the model to reduce, refine, and replace animals in research, join global experts to discuss the progress that has been made – and the opportunities that lie ahead. The conference is sponsored by Physicians Committee for Responsible Medicine and the George Washington University Medical Center, along with Johns Hopkins CAAT, the Institute for In Vitro Sciences, and the Kennedy Institute of Ethics at Georgetown University. The Conference will explore animal experimentation, changing cultural perspectives about the status of animals in society, and new alternatives to animal research.

October 18-19, 2010: 2010 *in vitro* alternatives forum

Old Town Alexandria VA, USA

The emergence of new national and international programs mandating increased toxicological safety testing of products and ingredients is a major driving force for the development of a "new toxicology." From the REACH program in Europe to the reauthorization of the Toxic Substances Control Act (TSCA) in the US, new legislation is making faster, and more reliable testing methods essential. Non-animal, human focused, *in vitro* approaches are foreseen as the only realistic way to provide the required information. The National Academy of Sciences' report, *Toxicity Testing in the 21st Century: A Vision and Strategy*, clearly outlines why scientists need to understand the availability and application of in vitro test methods.

Join us for the 2010 In Vitro Alternatives Forum to learn about upcoming toxicity testing challenges and the current activities designed to meet them. In addition to presentations on a number of *in vitro* and *in silico* approaches, special emphasis will be placed on integrated testing strategies to identify skin sensitizers – an extremely important area of toxicity testing covered by the European Union's 7th Amendment to the Cosmetics Directive.

New publications

Daneshian, M., Leist, M. and Hartung, T. (2010). Center for alternatives to animal testing – Europe (CAAT-EU): a transatlantic bridge for the paradigm shift in toxicology. *ALTEX 27*, 63-69.

Dehus, O., Pfitzenmaier, M., Stuebs, G. et al. (2010). Growth temperature-dependent expression of structural variants of Listeria monocytogenes lipoteichoic acid. *Immunobiol*., in press.

Forti, E., Bulgheroni, A., Cetin, Y. et al. (2010). Characterisation of cadmium chloride induced molecular and functional alterations in bronchial epithelial cells. *Cell Physiol. Biochem. 25*, 159-168.

Frimat, J. P., Sisnaiske, J., Subbiah, S. et al. (2010). The network formation assay: a spatially standardized neurite outgrowth analytical display for neurotoxicity screening. *Lab Chip 10*, 701-709, DOI: 10.1039/b922193j.

Hartung, T. and Sabbioni, E. (2010). Alternative in vitro assays in nanomaterial toxicology. WIREs Nanomed. *Nanobiotechnol*., in press.

USA: IIVS update

Rodger Curren appointed to ESAC

Dr. Rodger Curren, co-founder and president of the Institute for In Vitro Sciences (IIVS), has been appointed as a member of the newly re-organized ECVAM Science Advisory Committee (ESAC). Dr. Curren is one of only two non-European members selected for the committee. The ESAC provides ECVAM with scientific and technical advice concerning alternative test methods under review by ECVAM. ESAC opinions serve as the basis for the development of detailed ECVAM Test Method Recommendations which summarize the method's applicability, limitations, and use for a given purpose.

The committee is currently comprised of 15 external scientists working in academia, industry, and public institutions or as independent consultants. The first meeting of the newly organized committee took place at the Joint Research Centre in Ispra, Italy 12-13 April. ESAC's conclusions on test method validation studies and the validity of the methods will be published as ESAC Opinions on the ECVAM website.

The Mouse Embryonic Stem Cell Test: technical challenges and recent advance

The practicality of *in vivo* tests for reproductive toxicity has been the subject of much recent discussion. Besides an interest in reducing animal use for ethical concerns, this discussion has been driven by the massive number of chemicals subject to REACH legislation and a general desire to develop a more predictive paradigm for toxicity testing that includes more *in vitro* models and computational approaches. Though no single *in vitro* test is ever expected to replace animal models for reproductive toxicity, *in vitro* methods designed to model discrete events within the reproductive continuum are available. The mouse Embryonic Stem Cell Test (EST) is a formally validated[1] test for early embryotoxicity that uses stable mouse cell lines, sidestepping the need to sacrifice pregnant animals. Mouse embryonic stem cells (D3) form contracting myocardiocytes that are easily observed microscopically after a 10-day differentiation program. The test article concentration that inhibits differentiation by 50% (ID50) is calculated relative to control cultures. Cytotoxicity assays using undifferentiated D3 cells and an adult mouse cell line (3T3) are performed in parallel to generate IC_{50} values. The values for the ID_{50}, the IC_{50} 3T3, and the IC_{50} D3 are then evaluated using a validated prediction model to classify the test article as a nonembryotoxin, moderate embryotoxin, or strong embryotoxin. If the EST is to become widely used, it must be readily transferable among laboratories throughout the world.

Issues affecting transfer of the assay to new laboratories

To induce differentiation, D3 cells are seeded onto the lid of a culture dish and grown for three days in a "hanging drop" culture, which allows the cells to aggregate and form embryoid bodies, which are then transferred to bacterial petri dishes to continue growing in suspension culture. They are then transferred to a 24-well cell culture plate and allowed to form attachment cultures, in which contracting myocardiocytes can be observed microscopically after several days. During standardization of the assay at IIVS, we were able to find solutions for several technical problems that arose, and we'd like to share our findings with other laboratories. For example, we initially had difficulty consistently generating contracting myocardiocytes in the differentiation assay. We often found embryoid bodies attached to the surface of the petri dishes despite using the exact catalog number and supplier specified in the validated protocol. The attachment problem was resolved by specifying nonsterile untreated bacterial petri dishes, which had a different catalog number in the United States. We also found that using Fetal Calf Serum (FCS) at a concentration of 15%, rather than the 20% specified in the protocol, increased the number of cultures that developed contracting myocardiocytes. We also developed a serum qualification procedure to identify US sources whose serum supports differentiation. After success with these modifications, we now offer the EST assay as part of our standard catalog of *in vitro* assays. The currently validated assay is labor intensive, technically demanding, and fairly low throughput. However, improvements to increase throughput and lower the labor costs associated with the assay have recently been published. These include adapting the differentiation assay to a 96-well plate format[2] and using cell surface markers analyzed by flow cytometry[3] to assess myocardiocyte differentiation. An adaptation of the differentiation assay to produce neural cells rather than cardiomyocytes has also been published[4]. We recommend establishing a public online forum for researchers who are working with the EST to communicate about serum qualification efforts, technical difficulties laboratories may encounter when setting up the EST, and to discuss recent technological advancements or new data. The AltTox website (http://www.alttox.org/forums/) offers an excellent space for such a forum.

By Erica Dahl, Ph.D., D.A.B.T.
IIVS Study Director

IIVS training workshops

A key educational program at IIVS is our annual training course, *Practical Methods for In Vitro Toxicology*. For the past 13 years IIVS staff have instructed indi-

1 Embryonic Stem Cell Test (EST) INVITTOX n° 113, ECVAM 2006. http://ecvam-dbalm.jrc.ec.europa.eu/
2 Peters AK et. al. Toxicol Sci. 2008 Oct;105(2):342-5
3 Buesen R et. al. Toxicol Sci. 2009 Apr;108(2):389-400.
4 Stummann TC et.al. Toxicology. 2007 Dec5;242(1-3):130-43

viduals on the proper techniques needed to conduct *in vitro* assays in the laboratory, and have assisted them in learning how to interpret the resulting data. During the multi-day program, participants are exposed to a variety of *in vitro* methods through lectures and hands-on work with our highly trained biologists. The success of this program has led to requests from individual companies and organizations for IIVS to create custom-designed workshops directed at their specific needs.

One such custom-designed workshop was held in January of this year for a group of scientists and regulators from China. Six individuals from various CDC (Center for Disease Control) laboratories (Guandong province, Shanghai, and Beijing) and 4 people from the AQSIQ (Administration of Quality Supervision, Inspection, and Quarantine) visited the IIVS laboratories to share experiences with *in vitro* methods and to learn how these methods are applied in the United States. Topics covered *in vitro* dermal and ocular testing methods, including 3-D tissue models and the BCOP model, as well as phototoxicity. Similar to many areas of the world, China is interested in adopting new and better methods that be can used for regulatory toxicology, while simultaneously reducing their use of animal models. Enthusiastic participation at the workshop illustrated the eagerness of the Chinese scientists to learn new methodologies and how they can be applied to a regulatory setting. Additional efforts in this area include an upcoming publication in China of the Current Status of 3Rs Research, as well as two meetings on alternatives scheduled for later this year.

Upcoming meetings:

2010 *In Vitro* Alternatives Forum – registration now open

18-19 October Old Town Alexandria, VA USA
Sponsored by IIVS
www.iivs.org

Join us for the 2010 *In Vitro* Alternatives Forum to learn about upcoming toxicity testing challenges and the current activities designed to meet them. In addition to presentations on a number of *in vitro* and *in silico* approaches, special emphasis will be placed on integrated testing strategies to identify skin sensitizers – an extremely important area of toxicity testing covered by the European Union's 7th Amendment to the Cosmetics Directive.

Call for abstracts: A limited number of relevant abstracts for poster presentations will be accepted.
For further information please visit www.iivs.org.

Animals, research & alternatives: measuring progress 50 years later

26-27 August – Washington D.C.
Organized by PCRM; Co-sponsored by IIVS
www.researchalternatives.org

Fifty years after the development of the key model for the refinement, reduction, and replacement of animals in research, often referred to as the "3 Rs," The George Washington University Medical Center and the Physicians Committee for Responsible Medicine, along with the Johns Hopkins University Center for Alternatives to Animal Testing, the Institute for In Vitro Sciences, and the Kennedy Institute for Ethics at Georgetown University, invite you to Animals, Research, and Alternatives: Measuring Progress 50 Years Later.

This multidisciplinary conference will bring together experts from around the world to discuss the scientific and ethical imperatives associated with animal research, changing cultural perspectives about the status of animals in society, and burgeoning alternatives to animal research.

Erin Hill, IIVS

USA: New stem cells will reduce the need for animal testing

Powerful stem cells made by reprogramming adult tissue could reduce the need for animal testing of new drugs, according to Jamie Thomson of the University of Wisconsin, USA, a scientific pioneer of the technology.

In vitro trials based on so-called induced pluripotent stem (IPS) cells refine pharmaceutical development so that fewer animal experiments would be required. The cells were already being used as a source of human tissue for testing candidate drugs for safety and effectiveness. As a result, fewer unworkable drugs would advance to animal studies, and some animal tests may become unnecessary. This will dramatically reduce animal testing, and maybe towards the end of our lifespan actually eliminate it for some things, Professor Thomson said. I think we will have much better models for these things.

altweb

USA: Agency responses to ICCVAM recommendations on the LLNA

The National Toxicology Program Interagency Center for the Evaluation of Alternative Toxicological Methods (NICEATM) announces the availability of Federal agency responses to recommendations on the use of alternative test methods that can reduce and refine animal use for assessing the allergic contact dermatitis (ACD) hazard potential of chemicals and products. The test methods are:

An updated test method protocol for the murine local lymph node assay (LLNA), which uses 20% fewer animals than the original LLNA protocol recommended in 1999 and the reduced murine local lymph node assay (rLLNA), which can reduce animal use by 40% compared to the standard LLNA.

The responses from Federal agencies are available on the NICEATM-ICCVAM website, as announced on 10th May 2010 in the Federal Register (75 FR 25866).

The Interagency Coordinating Committee on the Validation of Alternative Methods (ICCVAM) forwarded recommendations on the rLLNA and the updated LLNA protocol to Federal agencies and made these recommendations available to the public (74 FR 50212). ICCVAM also recommended LLNA test method performance standards that can be used to efficiently evaluate the validity of modified test methods that are mechanistically and functionally similar to the traditional LLNA. Agencies have now notified ICCVAM in writing of their findings, and ICCVAM is making these responses available to the public.

ICCVAM recommends that the rLLNA be routinely considered as the initial test to determine the ACD potential of chemicals and products, and should be used where determined appropriate. The ICCVAM evaluation and complete recommendations on the updated test method protocol and the rLLNA procedure may be found in the "ICCVAM Test Method Evaluation Report: The Reduced Murine Local Lymph Node Assay: An Alternative Test Method Using Fewer Animals to Assess the Allergic Contact Dermatitis Potential of Chemicals and Products" (NIH Publication No. 09-6439). The report and Federal agency responses to the ICCVAM recommendations are available on the NICEATM-ICCVAM website.

The LLNA test method performance standards are provided in the ICCVAM report, "Recommended Performance Standards: Murine Local Lymph Node Assay" (NIH Publication No. 09-7357). The performance standards document and Federal agency responses to the ICCVAM recommendations are available.

NICEATM and ICCVAM are currently evaluating other methods for their potential to further reduce and eventually replace the need for animals for allergic contact dermatitis safety testing. Additional information on these activities can be found on the NICEATM-ICCVAM website.

ICCVAM has contributed to the approval or endorsement of 33 alternative safety-testing methods by Federal regulatory agencies since its establishment in 1997. Appropriate use of these test methods can significantly reduce animal use and improve animal welfare. ICCVAM has also identified critical research, development and validation efforts needed to further advance numerous other alternative methods.

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Peru: Activities to promote alternatives to the use of animals in the life sciences

In March 2010 a series of speeches, meetings and demonstrations took place at four veterinary faculties in Lima, Peru. The event was organised by *Unidos por los Animales* (UPA) in collaboration with the faculties and the InterNICHE Regional Network Supporter in Latin America with the support of the Doerenkamp-Zbinden Foundation. The main objectives were to follow up on the 1st InterNICHE Latin-American Tour and to prepare a major event on alternatives planned for August.

Sofía Ponce, the regional network supporter of InterNICHE in Latin America and head of the Centre for Animal Alternatives in Education in Mexico, and the UPA members held a series of oral presentations, demonstrations of alternatives, such as mannequins, simulators and models, and meetings with teachers for further introduction and discussion of the implementation of alternatives in education and research. Much progress has been made as a result of the 1st Interniche Latin-American Tour in 2008 and the continuous engagement and work of UPA. All four faculties showed a great interest and willingness to transform their curricula to provide a more humane education. Hardly any resistance to change was encountered, and teachers see alternatives, besides being more humane, as a way to modernise their teaching. Some of the faculties have established an animal body donation program to ethically source animal cadavers for use in anatomy and pathology courses, the number of dogs and mice used in teaching and training in the physiology course has been reduced considerably, and some faculties even plan to introduce a virtual classroom on alternatives.

The event was very well accepted in all the faculties. It was closely followed and supported by a local radio station, which also broadcast an interview on alternatives to animal use.

In August 2010 Latin-American teachers will share their initiatives and experience in working with alternatives that they have developed or implemented themselves. This will undoubtedly cement the use of alternatives in education in Latin America further.

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