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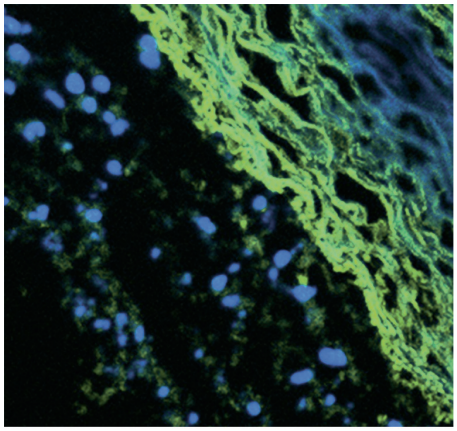
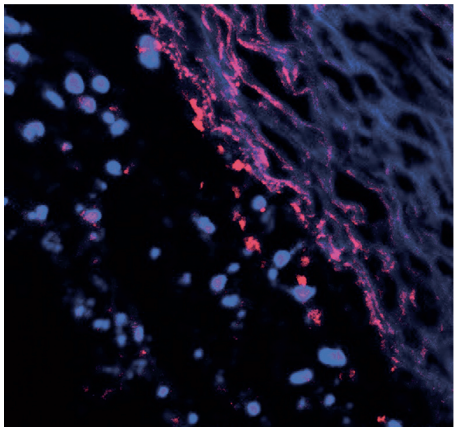
ALTEX

ALTERNATIVES TO ANIMAL EXPERIMENTATION





Springer Spektrum

Dear readers,

This issue of ALTEX contains big news for the 3Rs field. In Germany, two states have announced that they will do significantly more to support alternative methods by establishing the research center CERST in Düsseldorf and by setting up three 3Rs university chairs in Frankfurt and Giessen. At the same time, the federal state of Germany has expanded ZEBET at the BfR in Berlin into Bf3R, the German center for the protection of experimental animals. The Swiss Federal Council is considering the establishment of a national competence center on alternatives to animal experiments and the EU will finance the Horizon 2020 project EU-ToxRisk on animal-free chemical safety assessment. It is to be hoped that other countries will follow suit and improve the infrastructure needed to foster developments in the field of alternative methods at all levels and improve opportunities to work in and contribute to this exciting field.

Matching this theme, the Food for Thought … contribution by Mardas Daneshian and colleagues investigates the use of animals for scientific purposes in Europe. Next to analyzing the changes in animal numbers over the past 15 years, the authors describe how changes in the legal situation, scientific developments and societal demands are influencing experimental animal use. Lena Smirnova et al. introduce the concept of "cellular resilience" in their Food for Thought … contribution. Cells that have survived a toxic threat on account of their higher resilience may respond differently than naïve cells to subsequent threats and this may have positive or negative consequences for the manifestation of disease. The authors make suggestions on how this concept should be approached and investigated experimentally in a human-relevant manner without the use of animal experiments.

Veronica Ehrlich et al. demonstrate, using an estrogen receptor agonist and its derivatives as a case study, how information from *in vitro* experiments and *in silico* modeling techniques can be combined to group chemicals for read-across assessments of similar chemicals.

The transfer of an *in vitro* estrogen receptor transactivation method to a quantitative high throughput screening method for the detection of environmental chemicals that could activate estrogen receptors and cause endocrine disruption is the subject of a research article by Patricia Ceger and colleagues.

An alternative to the severe mouse bioassay required to determine the potency of batches of botulinum toxin intended for use in humans has been desired for a long time. Andrea Pathe-Neuschäfer-Rube and colleagues present a new *in vitro* approach in which the ability of the toxin to suppress the release of neurosecretory vesicles containing the marker luciferase from cells is measured. This assay, which can detect pM amounts of the toxin, has already won the authors the Berlin 3Rs Prize.

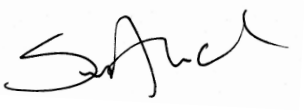
Restenosis is the blockage of stents inserted into arteries. Daniela Haase et al. present a method to repopulate decellularized arteries from slaughtered pigs with two types of human cells present in arteries to investigate the process of restenosis and potentially test and compare new stents *in vitro* over a time period of up to three months.

Two t^4 workshops compiled by large groups of experts deal with the challenge of defining quality standards for metabonomics studies and with the *status quo* of *in vitro* models of epithelial barriers, i.e., skin, intestine and lung, in both cases with respect to basic research, applied science and regulatory toxicology.

The short communication by Sebastian Hoffmann explains that the evaluation of skin sensitization methods and strategies by comparison with the local lymph node assay (LLNA) needs to consider the variability of the LLNA and gives estimates thereof based on repeated substance testing already documented in the NICEATM database. And, finally, the short communication by Fawzy Elnady illustrates the usefulness of a novel plastination method employed here to preserve the head and neck of a horse to train students in upper respiratory tract endoscopy.

Recent workshops in Tunisia, Romania and Germany are described and the corners update you on the activities of 3Rs relevant institutions. Note that the dates of WC10 have now been set as given in the calendar.

Thank you for your support of ALTEX in 2015. We look forward to more exciting developments in the 3Rs field in 2016.



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and the ALTEX Editorial Team: Franz P. Gruber, Thomas Hartung, Hans Peter Hoesli, Michael M. Hughes, Goran Krummenacher, Petra Mayr, Carolin Rauter and Joanne Zurlo with Mardas Daneshian and the ALTEX Board

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CAAT-Europe – University of Konstanz, Konstanz, Germany

Doerenkamp-Zbinden Chairs in Germany, India and USA

ecopa – European consensus-platform for alternatives, Brussels, Belgium

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IUF – Leibniz Research Institute for Environmental Medicine (IUF – Leibniz-Institut für umweltmedizinische Forschung), Düsseldorf, Germany

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Submissions
Follow instructions for authors posted on the ALTEX website.

Cover Picture
Reseeding of porcine artery with human coronary artery endothelial (HCAEC) and human coronary artery smooth muscle cells (HCASMC) mimics neointima proliferation. This image shows the immunofluorescence labelling of reseeded segments with (a) anti human α-smooth muscle actin (green) and (b) anti human CD31 (red) antibodies. Nuclei are stained with DAPI (blue); images were taken with the LSM510, Zeiss. Excerpt of Fig. 4 from Haase et al., 307-317.

Aims and Scope

ALTEX is devoted to the open access publication of scholarly articles on alternatives to the use of animals for scientific purposes according to the 3R concept of Russell and Burch: Replace, Reduce and Refine. Articles describing experiments involving the use of animals for scientific purposes must attest that experiments were performed according to the ethical standards set in the instructions to authors and must be described in detail in accordance with the ARRIVE or GSPC guidelines.

ALTEX publishes research articles, short communications, reviews, as well as comments, corners, news and meeting reports.

Manuscripts submitted to ALTEX are evaluated by two expert reviewers. The evaluation takes into account the scientific merit of a manuscript and its contribution to animal welfare and the 3R principle.

ALTEX Proceedings publishes Abstract Books and Proceedings of scientific conferences. TIERethik is a German-language journal devoted to the bioethics of the relationship between animals and humans.

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