Dear readers,

To 3Rs research, developing alternatives to systemic toxicity testing approaches is like finding the Holy Grail. If this can be achieved, we can be confident that all animal experiments in toxicity testing can one day be replaced.

The aim of systemic toxicity testing is to determine whether a chemical has any toxic effects on the whole organism, even when administered over a long time. It aims to gather information on all the things we know can go wrong, i.e. allergic reactions of the skin (skin sensitization), toxic effects on organs upon long-term exposure (repeated dose toxicity), cancer (carcinogenicity), and detrimental effects on fertility or offspring (reproductive toxicity). The fifth aspect, called toxicokinetics, puts all such findings into perspective: It deals with the amount of test chemical which organs can actually be exposed to via different exposure routes and how we can extrapolate findings in animal experiments to risk assessment in humans. All of these aspects are highly complex and incompletely understood.

Although current legislation foresees a ban on the use of systemic toxicity tests on animals for cosmetic ingredients to be sold in the European Union in 2013, two separate panels with a total of 73 experts in this field came to the conclusion that it will not be possible to completely replace any of these five areas of systemic toxicity testing by next year; in fact, a timeframe for replacement in three of the areas could not even be estimated. We are waiting to see whether or not the ban will now be postponed, an option built into the legislation. If the ban remains in place, no cosmetic products containing new ingredients could be introduced onto the European market for the next years. Also, cosmetic ingredients tested on animals elsewhere in the world after March 2013 would never be allowed onto the European cosmetics market.

Systemic toxicity testing is also highly relevant in the development and safety assessment of drugs, pesticides and chemicals. In fact, the number of animal tests performed in these areas far exceeds the number currently performed for cosmetic ingredients. The REACH legislation calls for the risk assessment of about 30,000 chemicals already on the European market and those which are produced in very high quantities or are of high concern also need to be assessed for their systemic toxicity.

The main article of this year's first issue lists 35 authors, including numerous members of both report panels mentioned above, who have taken up the challenge of defining the steps now needed to get the five areas of systemic toxicity testing from their agreed *status quo* to the point where animal testing will no longer be required and risk assessment will be better and more relevant to humans than before. This document will be presented by a number of cohosting stakeholder organizations on March 20-21, 2012 in Brussels.

The main article is a report of t^4 – the transatlantic think tank for toxicology. A compilation of the t^4 reports and workshop reports is printed on the inner cover of this issue. Please note that interested parties can submit proposals for reports to the t^4 members.

Andrew Knight comments on the latest assessment of the need for chimpanzee research in the US, which has led to an announcement by the NIH that no new chimpanzee research projects will be funded or co-funded and that ongoing projects will be reviewed. Two conferences are summarized and our Corners and News items bring you up to date with the latest international developments in the 3Rs field.

Hoping this issue of ALTEX will help to streamline efforts on the path to alternatives for systemic toxicity testing,

Sonja von Aulock
Editor in chief, ALTEX