



# Review and report series of t<sup>4</sup> – the transatlantic think tank for toxicology

Kick-off paper:

Marcel Leist, Susanne Bremer, Patrik Brundin, Jürgen Hescheler, Agnete Kirkeby, Karl-Heinz Krause, Peter Pörzgen, Michel Pucéat, Mathias Schmidt, André Schrattenholz, Naomi B. Zak and Hannes Hentze:

## **The biological and ethical basis of the use of human embryonic stem cells for *in vitro* test systems or cell therapy**

ALTEX 25, 163-190.

*This paper describes the derivation and use of different pluripotent stem cells, including ethical implications of human embryonic stem cells and applications for toxicity testing.*

Report:

Costanza Rovida and Thomas Hartung:

## **Re-evaluation of animal numbers and costs for *in vivo* tests to accomplish REACH legislation requirements for chemicals – a report by the Transatlantic Think Tank for Toxicology (t<sup>4</sup>)**

ALTEX 26, 187-208.

*This paper describes the status of chemical pre-registration for REACH and recalculates costs, animal needs and test resources.*

Review:

Philipp B. Kuegler, Bastian Zimmer, Tanja Waldmann, Birte Baudis, Sten Ilmjärv, Jürgen Hescheler, Phil Gaughwin, Patrik Brundin, William Mundy, Anna K. Bal-Price, André Schrattenholz, Karl-Heinz Krause, Christoph van Thriel, Mahendra S. Rao, Suzanne Kadereit and Marcel Leist:

## **Markers of murine embryonic and neural stem cells, neurons and astrocytes: reference points for developmental neurotoxicity testing – a review by the Transatlantic Think Tank for Toxicology (t<sup>4</sup>)**

ALTEX 27, 16-42.

*This paper describes the background of DNT testing and the selection of transcription based markers for new test systems.*

All reviews and reports may be downloaded from the ALTEX website ([www.altex.ch](http://www.altex.ch)) and AltWeb (CAAT, [www.altweb.jhsph.edu](http://www.altweb.jhsph.edu)).

Further in depth reviews of all toxicologically-relevant topics are encouraged. The reviews are commissioned by any member of t<sup>4</sup> (list). Interested authors are advised to contact a relevant t<sup>4</sup> member directly with a review proposal. Publication is subject to a two-step peer review process. Reviews will be published and made available to the public free of charge. Authors are eligible for an honorarium.

## **t<sup>4</sup> – transatlantic think tank for toxicology: the concept**

t<sup>4</sup> was created with the following aims:

- to analyse current tools and programs and model / forecast the likely outcome with regard to safety and economical burden (cost/benefit analyses)
- to compare different approaches on an international scale (especially transatlantic) and support harmonization
- to further the concept of an evidence-based toxicology (EBT) following the role model of evidence-based medicine
- to develop and assess the conceptual needs to enable the change of approaches (predictive toxicology, integrated testing, systems toxicology, organotypic and stem cell cultures)
- to create and maintain the information platforms (AltWeb, ALTEX, TestSmart workshops etc.) to further the paradigm change in toxicology

## **t<sup>4</sup> – transatlantic think tank for toxicology: the members**

Alan Goldberg, Center for Alternatives to Animal Testing (CAAT), Johns Hopkins University, Baltimore, USA;  
Thomas Hartung, Doerenkamp-Zbinden Chair for Evidence-based Toxicology and CAAT, Johns Hopkins University, Baltimore, USA;

Marcel Leist, Doerenkamp-Zbinden Chair for *in vitro* Toxicology and Biomedicine and CAAT Europe, University of Konstanz, Germany;

Bas Blaauboer, Doerenkamp-Zbinden Chair on Alternatives to Animal Testing in Toxicological Risk Assessment, IRAS, University of Utrecht, The Netherlands