

Editorial:

REGULATORY TOXICOLOGY

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Currently, large EU-funded activities are ongoing to replace animal testing by alternative methods. A mini review by Vanhaecke et al. (2009) gives an overview of ongoing EU activities. The foundations surrounding the assumption of linear dose response relationships for carcinogens, together with concepts for thresholds have been intensively discussed during the past decade (Bolt et al., 2005; Oesch et al., 2004; Hengstler et al., 2003). A recently published review critically assesses the scientific background on how linearity at low dose became accepted by the scientific community. The table compiles the take home messages from recently published articles on regulatory aspects of toxicology.

Table 1: Recent publications on regulatory aspects of toxicology

Key message	Reference
The minireview gives an overview over the current EU research activities in alternative (in vitro) testing.	Vanhaecke et al., 2009
A “threshold of sensitization concern” (TSC) concept is described which allows classification of chemicals with respect to their ability to induce allergic contact dermatitis.	Keller et al., 2009
The maximum tolerable intake (TDI) for methylmercury was estimated to be 0.025 Hg mg/kg/day for monkeys and 0.0046 Hg mg/kg/day for humans.	Yamamoto and Shima, 2009
A modified protocol of the local lymph node assay can be used to study the sensitizing potential of a chemical also following the oral route of exposure.	Ahuja et al., 2009
This review critically assesses the foundations of how linearity at low dose became accepted by the scientific community. Although its foundations have been challenged, there has been little practical change in regulatory policy.	Calabrese, 2009a (review) Bolt et al., 2009 (editorial) Pesch et al., 2009 (editorial)
This minireview summarizes the state of the art as well as perspectives in using induced pluripotent stem cells for toxicology screening.	Heng et al., 2009
This review challenges the threshold model of dose-response relationships and presents evidence that the hormesis model has performed better in the low dose range.	Calabrese, 2009b
A user-friendly, freely available software for the statistical evaluation of the in vivo micronucleus test is presented.	Hothorn and Gerhard, 2009
This editorial gives a short summary of the discussion on the role of alternative methods in the context of REACH.	Gundert-Remy et al., 2009

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