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Evaluation of the zebrafish embryo as an alternative model for hepatotoxicity testing

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STELLINGEN

behorend bij het proefschrift

Evaluation of the zebrafish embryo as an alternative model for hepatotoxicity testing

1. The zebrafish embryo is a suitable alternative model to improve the prediction of hepatotoxicity in humans (this thesis)
2. Zebrafish embryos are able to differentiate between hepatotoxicity and non-hepatotoxicity, but they are not able to express the human hepatotoxicity phenotypes (cholestasis, steatosis, necrosis) (this thesis)
3. The zebrafish embryo model can be used to prioritize compounds which need further toxicological testing (this thesis)
4. Different toxicogenomics techniques, including transcriptomics and proteomics, can be applied in the whole zebrafish embryo for hepatotoxicity hazard evaluation (this thesis)
5. Zebrafish embryos are suitable replacement or refinement methods according to the 3Rs concepts (EFSA J 2005;292:1–46.).
6. Transgenic animal models should become powerful tools for developing a more detailed understanding of the roles of specific genes in biological pathways that functionally define toxic outcome (Boverhof DR et al. Toxicol Sci. 2011 Jun;121(2):207-33)
7. The zebrafish is a reliable preclinical model for various human diseases (Ablain, Trends in Cell Biology December 2013, vol 23, no 12).
8. Mechanistic biomarkers are important for the future improved diagnosis and prognosis of hepatotoxicity (McGill and Jaeschke, Expert Opin. Drug Metab.Toxicol (2014);10;7)
9. Sturen op de motor doe je met je ogen.
10. De uitdrukking "Ohne Kaffee läuft hier nichts" zet je op het verkeerde been.