

Research Project

Investigation of toxicological properties of oligomers present in food contact materials

Third-party funded project

Project title Investigation of toxicological properties of oligomers present in food contact materials

Principal Investigator(s) [Odermatt, Alex](#) ;

Organisation / Research unit

Departement Pharmazeutische Wissenschaften / Molecular and Systems Toxicology (Odermatt)

Department

Departement Pharmazeutische Wissenschaften

Project start 01.05.2022

Probable end 30.11.2023

Status Completed

The project proposed for Dr. Serhii Kolesnyk is integrated in an ongoing project supported by the government (FOPH) and the Swiss Centre for Applied Human Toxicology to address an important knowledge gap by characterizing toxicological properties of oligomers released from food contact materials (FCM) such as plastics, adhesives, printing inks and coatings. Despite known high levels in FCM, these substances are toxicologically poorly investigated, preventing adequate risk assessment. In the project, in silico methods will be applied to predict physico-chemical and ADME properties, reactivity of building blocks, stability of oligomers, as well as endocrine disrupting potentials. Hazard profiles will be established for relevant selected oligomers using in vitro assays on general cytotoxicity, cellular stress pathways, macrophage activation, and endocrine regulation. Levels of concern will be estimated, information gaps identified, and recommendations for follow-on toxicological analyses and an evaluation concept for safety assessment of oligomers will be proposed. In the project, Dr. Kolesnyk will closely work with a postdoc, Dr. Verena Schreier. Prof. Martin Wilks (Swiss Centre for Applied Human Toxicology), PD Martin Smiesko (Computational Toxicology, University of Basel), and Prof. Alex Odermatt (Molecular and Systems Toxicology, University of Basel) will be responsible for guiding work in the field of regulatory toxicology, computational toxicology and biochemical toxicology, respectively.

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