



ANOUCK THIENPONT

Pharmacist
VUB (IVTD) – PhD student since October 2019

PROFILE

27 years old

Pharmacist

Member of IVTD and IC-3Rs

Passion for the skin and
dermato-cosmetic products

EDUCATION

Catholic University of Leuven

Pharmaceutical Sciences -
Master of Science in Drug
Development
2018 *Magna cum laude*

Catholic University of Leuven

Pharmaceutical Sciences -
Master of Pharmaceutical
Care 2019

CONTACT

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PROJECT OUTLINE

“Next Generation Risk Assessment” (NGRA) to assess the genotoxicity of chemical compounds without the use of experimental animals.
October 2019–2024: Initial - mid phase of the project.

Worldwide, the development of new strategic tools to test chemicals for human health adverse effects is high on the agenda. One of the reasons is the increasing ethical, economic and scientific pressure to reduce the use of experimental animals. In Europe, a regulatory testing and marketing ban even exists for dermato-cosmetic products. “Next Generation Risk Assessment” (NGRA) frameworks that puts more emphasis on exposure and mechanistic information can help to address the challenges associated with this “paradigm shift”. Consequently, interest to apply NGRA to replace different toxicological endpoints is rapidly growing. In this project, the applicability of a NGRA without the use of animals will be investigated for genotoxicity. Mechanistic information obtained with innovative non-animal methods, also known as new approach methodologies (NAMs) e.g *in chemico*, *in silico* and *in vitro*, will be integrated in an NGRA, based on the available “Adverse Outcome Pathways” (AOPs) for genotoxicity. Focus will be put on the possible role of transcriptomics-based biomarkers, and more specifically, on the GENOMARK tool. This biomarker expressed in human-derived metabolically competent cells can provide important mechanistic insights and will therefore be further optimized. The practical applicability of the NGRA framework enriched with mechanistic information within the risk assessment process will be investigated by means of two case studies using data-rich dermato-cosmetic substances.

RESEARCH OUTPUT

Research articles

Validated Alternative Methods Available for Human Health Safety Assessment of Cosmetic Products and Their Ingredients in the European Union. (submitted for publication)

A novel prediction model to evaluate genotoxicity based on a gene signature in metabolically competent human HepaRG™ cells. (in progress)

Oral presentation in progress

Virtual congress EUROTOX (2021)

Poster presentation

BELTOX annual scientific meeting (2019)

ACTIVITIES

- **Training courses:** Intensive course in Dermato-Cosmetic Sciences (2019); Safety assessment of cosmetics in the EU (2020); “in Silico Toxicology” (2020)
- **Workshops:** Summer school “Let’s Talk Science” (July 2021)
- **Teaching courses at the VUB:** Lijnproject, Dermato-cosmetics in the Community Pharmacy, Toxicology

