



MASTER THESIS

Rudolf Boehm Institute of Pharmacology and Toxicology, Medical Faculty, Universität Leipzig

PROJECT

Analysis of diterpene congeners in biological samples and their pharmacokinetics

BACKGROUND

Balsams, essential oils, or incense materials that are traditionally used for inhalation contain biologically active compounds. By testing constituents of larch resin, some diterpene congeners demonstrated a selective and high-affinity inhibition of disease-related ion channels in cell systems. Therefore, such compounds represent promising candidates as biological tools or experimental therapeutics for further evaluation in disease models.

Up to now, the pharmacokinetic properties of the new identified congeners, which are the prerequisites for long-term treatments in preclinical disease models, are not known.

YOUR TASK

The proposed master thesis will support the drug discovery process by establishment of methods to quantify diterpene congeners in biological samples and to determine their pharmacokinetics.

This will include the following tasks:

- development of a suitable LC- and GC/MS-MS technique
- customizing suitable extraction and, if applicable, derivatization methods
- validation of analytic methods (LOD, LOQ and accuracy, assay precision)
- application of the analytic method for pharmacokinetics and bioavailability investigations
- search for potential metabolites
- conduct of pharmacokinetic and statistical analysis

YOUR PROFILE

We look for highly motivated master students with interest for chemical analysis and natural compounds as potential therapeutic tools.

WE OFFER

We assure a close and good care, exciting insights into drug development from “hit to lead” and a work in an interdisciplinary team.

If you are interested in undertaking a master thesis at the Rudolf Boehm Institute of Pharmacology and Toxicology or have further questions, please do not hesitate to contact PD Dr. Ute Krügel with a short cover letter and CV.