Title: Influence of SLCO1B1 genotypes on coproporphyrin levels in healthy children

Description: The Organic Anion Transporting Polypeptide OATP1B1 is a drug transporter of known relevance in drug efficacy and safety. Besides clinically used drugs, this particular transporter also accepts the endogenously formed coproporphyrins (CPs)- namely CPI and CPIII- as substrates. The utility of CPI and CPIII as biomarkers of the OATP1B1 activity *in vivo* modified by drug-drug interactions involving this transporter is subject of ongoing studies in the field. The aim of this research project is to investigate whether CPs are also applicable as biomarkers of OATP1B1-function in children. Therefore, plasma samples are being collected from healthy children as part of a clinical study in collaboration with the Clinical Pharmacy at the UKBB (University Children's Hospital Basel). Each sample will then be measured for its CPI and CPIII content by UHPLC-MS/MS. In addition each individual will be genotyped for genetic variants within the *SLCO1B1* gene which encoded for the Organic Anion Transporting Polypeptide 1B1 (OATP1B1). The observed SLCO1B1 variants will be used to predict the OATP1B1 phenotype of the respective individual, to test whether there is a link between the OATP1B1 phenotype and the measured CP levels in children. This project combines clinical sample management with different laboratory methods including genotyping (DNA extraction, real-time PCR) as well as solid liquid extraction and UHPLC-MS/MS measurements in different matrices.

Advisor: Prof. Henriette Meyer zu Schwabedissen

Direct Supervisor: Leila Potzel