# Details

## Translational Metabolomic Platform - Core Facility (MetaboCF)

The Translational Metabolomic Core Facility, MetaboCF, supports mass spectrometry-based metabolomic research. MetaboCF is based at the Laboratory of Metabolism, Department of Pediatrics, Neonatology and Adolescent Medicine, at University Hospital and Faculty of Medicine, University of Freiburg. MetaboCF is also open to users beyond the Faculty of Medicine, University of Freiburg. MetaboCF supports the following areas of metabolomics: (1) Profiling and comparative quantitation of the metabolite composition of complex biological systems such as cells, tissues, and biofluids. (2) Isotopic tracing of metabolites in cultured cells. (3) Development and standardization of disease-focused metabolite panels and small-molecule biomarkers.

**Address:** Elsässerstr. 2Q
79110 Freiburg
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**To website**

## Host Institution

**Universitätsklinikum Freiburg**
Hugstetter Strasse 55
79106 Freiburg
Baden-Württemberg
Deutschland
https://www.uniklinik-freiburg.de/de.html

## Scientific Domain

**Primary Subjects:**
- Biology
- Medicine

**Secondary Subjects:**
- Chemistry

## Category

Genomic, Transcriptomic, Proteomics and Metabolomics Facilities

## Scientific Services

1) Identification of metabolites with liquid chromatography electrospray tandem mass spectrometry (LC-MS/MS). 2) Absolute quantitation of metabolites with isotopic dilution methods. 3) Isotopic tracing and enrichment of target metabolites and biochemical pathways. 4) Quenching, identification and quantitation of unstable and transient metabolites. 5) Optimization of sample preparation and chromatographic separation of metabolites. 6) Data analysis and visualization: MaxQuant, Analyst (Sciex), Xcalibur (Thermo Fisher Scientific), R Studio visualization of high dimensional data (e.g. volcano plot analysis, PCA, HC). 7) Development and standardization of disease-focused metabolite panels and small-molecule biomarkers according to FDA and EMA guidelines. 8) Teaching and training in metabolomics, especially for doctoral students in medicine or science or post-graduates.

## Scientific Equipment

- QTRAP 6500+ (AB/Sciex) mass spectrometer
- TSQ Vantage mass spectrometer
- Quattro Premier XE1 mass spectrometer
- GC 7890 system coupled to a 5975C mass spectrometer (Agilent)
- Nexera X2 UHPLC (Shimadzu)
- Acquity UPLC

- UV/VIS plate reader
- Stopped-flow SX20 Applied Photophysics
- Server (10 CPUs) zur Datenanalyse

## Keywords

- Metabolomic
- Isotopic tracing
- Targeted metabolomics
- SRM/MRM
- Metabolite Panels
- Biomarker
- Disease-focused metabolite panels
- Standardization per FDA- and EMA guidelines

## Networks

## Users per annum

**Internal Users:** 15
**External Users in total:**
**External Users:** 2
**External Users in the EU:** 2
**External Users outside of EU:** 0