



Proteins & Mass Spectrometry

quantitative mass spectrometry facility (qMSF)

OVERVIEW

Since 2003, the quantitative Mass Spectrometry Facility (qMSF) located at the CHUV is available to all biomedical investigators, but mainly researchers from the Faculty of Biology and Medicine (FBM).

Its goal is to assist users in basic, clinical and biomedical research in the development of routine and diagnostic applications.

Its technology allows quantitative identification and analysis of small molecules (i.e. drugs), endogenous substances, hormones or even peptides.

INFORMATION & CONTACT

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SERVICES

State of the art in LC-MS/MS analysis at qMSF

- Quantitative methods for drugs, peptides, endogenous compounds at very low levels in plasma or other matrices.
- Analyses following FDA guidelines.
- Identification of biotransformation products of drugs and peptides.
- Kinetic studies of the fate of drugs or peptides in in vitro incubations or patients.

qMSF supports partners in their research

Project discussion and usefulness of LC-MS/MS.

qMSF performs routine or research analyses for partners

- Quantification of biomarkers or drugs in biomatrices.
- Quantification of peptides at picomolar levels in human blood samples.
- Identification of metabolites of drugs or peptides.
- LC-MS/MS method validation.

qMSF develops its own research

- Study the fate of anti-cancer agents in human and tumor cells.
- Study the biotransformation of anticancer drugs and identification of their metabolites.
- Upgrade in LC-MS/MS analysis and technology.

Typical applications

- Quantification of neuropeptide Y, brain natriuretic peptide and substance P in cell culture medium, plasma and tissues.
- Structure elucidation of imatinib metabolites by MS/MS fragmentation.
- Fate of imatinib or neuropeptide Y in in vitro incubations and cell cultures.
- Routine analysis of antifungal drugs such as caspofungin, posaconazole, etc.

Training in LC-MS/MS

Master students to post-doc fellows.

Available LC-MS/MS instruments at qMSF

- 2D-UPLC – Triple Quadrupole (Thermo).
- 2D-UPLC – Linear Ion Trap (Thermo).

