UIP25-Vetmed - LC-MS/MS System Erneuerung

Abstract

Mass spectrometry (MS) coupled with liquid chromatography (LC) is a highly sensitive and precise method used in the field of metabolomics to identify and quantify metabolites and other small-molecule substances in complex biological samples.

In 2022, the “VetCore Facility for Research” technology platform at Vetmeduni Vienna, supported by UIP funding, established the targeted quantification of small molecules using a triple-quadrupole ion trap mass spectrometer at the VetCore Facility. In addition, the remaining useful life of a high-resolution Orbitrap MS system for metabolite and toxin analyses has been utilized in recent years. With the establishment of the “Veterinary Metabolomics” professorship in 2025, expertise in this new field of research has been firmly anchored at Vetmeduni for the long term.

The proposed high-resolution LC-MS/MS system will replace the existing QExactive Plus mass spectrometer with a state-of-the-art model. It is intended to meet the increasing demands on the quality of qualitative and quantitative metabolomics analyses, increase analytical capacity through the use of the latest technology, and thereby enhance research efficiency.

The system will be installed at VetCore (Mass Spectrometry) in accordance with Vetmeduni’s core facility strategy. This ensures open access for all Vetmeduni research groups and clinics while also promoting cost-effectiveness and the pooling of resources. Support for users provided by qualified VetCore facility staff will enable the full potential of the proposed instrument to be harnessed as efficiently as possible to enhance Vetmeduni’s research output.

In addition to campus-wide use, the requested LC-MS/MS system will be available to researchers throughout Vienna and beyond as part of collaborative efforts. The Chair of “Veterinary Metabolomics” will serve as a key interface for these collaborations.

Principal Investigator:

Institution:

Status: Completed (01.01.2025 – 31.12.2025)

Further links to the persons involved and to the project can be found under
https://www.wwtf.at/funding/programmes/uip/UIP25-Vetmed/