



The Bioanalytical Shared Resource/Pharmacokinetics Core (BSR/PK Core) provides an easy to access resource for performing analysis of small molecules in complex matrices at OHSU.

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Service Overview

The Bioanalytical Shared Resource/Pharmacokinetics Core (BSR/PK Core) provides these essential services:

- Provides access to specialized state-of-the-art analytical instrumentation for the analysis of small molecules. We also provide access to equipment needed for sample preparation for analysis in the BSR/PK Core.
- Provides access to specialized expertise essential for bioanalytical assay development and validation, sample preparation and analysis, training on instrumentation and interpretation of analytical data. To this end, we offer free consultations to identify preferred analytical methodologies, help with analytical instrument selection, and discuss optimal approaches for sample preparation and experimental design. We also provide letters of support outlining small molecule analytical services that can be provided for grant applications.
- If required, the BSR/PK Core can also function as a service laboratory to provide complete analysis of samples including the development and validation of bioanalytical methods, sample preparation and result analysis for clinical trials, as well as basic science investigations. The BSR/PK Core has many established methods available, including for the measurement of endogenous small molecules, please see our website for a list of available small molecule assays.
- The BSR/PK Core provides analytical services to all investigators at OHSU and affiliated centers, including to researchers that require complete assistance for analysis, and for those with the expertise to prepare and analyze their own samples, as well as to investigators seeking an environment for training students and fellows on analytical instrumentation. In addition to the OHSU research community, the BSR/PK Core provides access to instrumentation, bioanalytical expertise and sample analysis for clients outside of OHSU. We strive to provide easy access and rapid turnaround for sample analysis.

Equipment

Liquid Chromatography/Mass Spectrometry Systems include:

- One SCIEX 4000 QTRAP triple-quadrupole linear ion trap hybrid mass spectrometer provides quantitative and qualitative performance with UPLC capability available from an in-line Shimadzu Prominence system.
- Two SCIEX 5500 QTRAP triple-quadrupole linear ion trap hybrid mass spectrometer provides quantitative and qualitative performance with UPLC capability available from an in-line Shimadzu Prominence system. The QTRAP 5500 and 5500 PLUS offer greater sensitivity than the 4000 QTRAP and the ability to perform MS3 experiments.
- One high resolution accurate mass Thermo Orbitrap IQ-X instrument, equipped with a Vanquish Horizon UHPLC system, to allow for sensitive and selective quantification of small molecules in complex matrices, as well as provide the capability for confirmation of small molecule chemical formulas (and chemical structure) for identification of small molecules in complex sample mixtures. The unique architecture of the Orbitrap IQ-X Tribrid instrument incorporates three mass analyzers; a quadrupole mass filter, a dual-cell linear ion trap and an Orbitrap™ mass analyzer, allowing for ultra-high resolution analysis (240,000-500,000 FWHM), extremely fast acquisition rates and advanced scanning capabilities including MS/MS/MS analysis (or MS3) or MSn analysis (up to MS10).

Gas Chromatography/Mass Spectrometry System:

- An Agilent 7890B/5977A GC/MSD that includes an autosampler, split/splitless and multimode injectors for use with molecules requiring a gas chromatographic interface for separation. The instrument includes electron impact or chemical ionization modes as well as a separate flame ionization detector.

