

Biochemistry Shared Research Instrumentation

Location: MCW TBRC, second floor

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[Learn more about Biochemistry Shared Research Instrumentation](#)

Overview

The Biochemistry Department maintains several instruments for isolation and physical characterization of biomolecules and detection of their interactions. All are located on the second floor of the TBRC and include:

- **Jasco J-710 Circular dichroism spectropolarimeter**
The Jasco J-710 circular dichroism (CD) spectropolarimeter is equipped with a thermally regulated sample compartment. Monitoring of the far-UV and/or near-UV CD spectra can provide valuable information about the secondary structure, thermal stability, or conformational state of a protein.
- **Photon Technologies Inc. QuantaMaster™ spectrofluorometer**
The QuantaMaster™ spectrofluorometer is outfitted with dual excitation and emission monochromators for high sensitivity, a thermally regulated sample compartment, and Glan Thompson polarizers for fluorescence anisotropy measurements. The instrument is suitable for emission/excitation scanning experiments, fluorescence experiments requiring synchronous scanning of the excitation and emission monochromators, time based fluorescence measurements, fluorescence resonance energy transfer experiments and fluorescence anisotropy measurements.
- **MicroCal VP - Isothermal Titration Calorimetry**
The MicroCal VP-ITC is capable of measuring heat evolution as little as 0.4 nanoJ/sec. This instrument is suitable for the studies of protein-ligand and protein-protein interactions and provides the biochemists with reliable measurements of binding constants in the range of 10^3 - 10^9 M⁻¹ as well as the enthalpy and stoichiometry of interactions. ITC is a preferred technique to demonstrate the interaction between newly discovered binding partners *in vitro*.
- **Perseptive Biosystems Voyager DE-Pro MALDI mass spectrometer**
The matrix-assisted laser desorption ionization (MALDI) mass spectrometer is used for routine mass determination of peptides, proteins and other macromolecules.

- **Promega Maxwell-16 robot**

This benchtop instrument provides fast automation of routine DNA, RNA or protein extractions resulting in reproducible yields and purity. Parallel multi-channel operation permit automated purification of milligram yields of up to 16 different recombinant proteins in less than one hour.

- **Molecular Devices Flexstation 3 microplate reader**

This benchtop instrument is a 5-mode microplate reader for use in a wide range of biochemical- and cell-based assays for basic research and drug discovery. This instrument is equipped with an 8-channel pipettor for 96-well-based assays based on absorbance, fluorescence intensity, fluorescence polarization, luminescence, and time-resolved fluorescence assays. It has high-efficiency tunable monochromator optics and a dedicated photomultiplier tube for luminescence assays.

Equipment/Software	Accessibility
Jasco J-710 Circular dichroism spectropolarimeter	Please contact us
Photon Technologies Inc. QuantaMaster™ spectrofluorometer	Please contact us
MicroCal VP - Isothermal Titration Calorimetry	Please contact us
Perseptive Biosystems Voyager DE-Pro MALDI mass spectrometer	Please contact us
Promega Maxwell-16 robot	Please contact us
Molecular Devices Flexstation 3 microplate reader	Please contact us

Hours: please contact us

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