UMass Boston

Flow Cytometry Core Facility

Cell sorting and flow cytometry analysis services

About Us

The Flow Cytometry Core Facility at UMass Boston leverages cutting-edge technologies to support both research and clinical applications. It helps investigators and clinicians analyze tissue samples, identify and quantify diverse cell populations based on cell-specific fluorescent signatures, and collect cellular subsets of interest for further analyses.

The Core Facility's services are offered on a fee-for-service basis to internal and external investigators, as well as academic and industry collaborators, supporting basic and translational research in cellular and molecular biology.

Specialties

- Aseptic sorting of lenti-virus transfected cultured cells for population isolation and enrichment.
- Sorting and analyzing a variety of different cell types, including e.coli, sperm, germ cells, cancer cells, neurons from insect and mammalian models, and amphibian cells.
- Able to work with BSL2 samples upon request.

Equipment

The Flow Cytometry Core Facility is equipped with a BD FACSAria Fusion. The Aria Fusion is an avid cell sorter and analyzer located in a custom-built biosafety hood.

- Nozzles: 70, 85, 100, and 130-µm nozzles are removable and can be sonicated; capable of analyzing and sorting small (<5 micron) up to large (> 50 micron) particles
- Excitation of fluorescent dyes using yellow/green, red, blue, and near UV lasers
- Cellular analysis based on forward and side scatter and detection
- Wavelengths detected from the 375-nm laser: 450/20-nm Hoechst Blue, DAPI, 670 LP Hoechst Red
- Wavelengths detected from the 488-nm laser with the 561-nm laser installed: 530/30-nm FITC, 695/40-nm PerCP-Cy5.5 or PI, or 675/20-nm PerCP
- Wavelengths detected from the 640-nm laser: 670/30-nm APC, Alexa Fluor® 647, 780/60-nm APC-Cy7 or APC-H7
- Wavelengths detected from the 561-nm laser: 582/15-nm PE, DsRed, 610/20-nm PE-Texas Red®, mCherry, PI, 670/14-nm PE-Cy™5 or 710/50-nm PE-Cy5.5
- Sorting capabilities: 2 and 4-way sorting in 1.5 ml tubes and 15 ml conical vials, and sorting into 96-well plates
- Sorting can be temperature-regulated for sensitive cell populations
- Capable of aseptic cell sorting
- Capable of running BSL2 samples

Director: **Jill A. Macoska, PhD,** Director, Center for Personalized Cancer Therapy; Distinguished University Professor of Science and Mathematics; Alton J. Brann Endowed Chair; Professor of Biology

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UMass Boston Research Core Facilities

Contact us to find out more about our services!

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