

VIDO Flow Cytometry Core Facility

User Information

VIDO's Flow Cytometry Core Facility at the University of Saskatchewan provides access to advanced flow cytometry instrumentation, technical expertise, training and data analysis support for researchers from academic institutions, government agencies, healthcare organizations and industry.

The facility is supported through funding from the Canada Foundation for Innovation (CFI-JELF), Major Science Initiative (formerly MSI), and the University of Saskatchewan.

Services and Support

The Flow Cytometry Core team can provide support throughout your project, including:

- Experimental design and optimization
- Flow cytometry panel design and development
- Reagent selection and protocol standardization
- Sample acquisition
- Full-spectrum cell sorting
- Data analysis and interpretation
- Instrument training and technical support

Experimental Design and Panel Development

The Core team can help plan, optimize and standardize flow cytometry experiments, including *in vitro* and *in vivo* experimental design, panel development, reagent selection and development of cytometric methods.

The Core has also developed validated 12-colour flow cytometry panels for identifying key immune cell populations in non-human primate and mouse models used in vaccine research:

- T follicular helper cells
- Th1 and Th2 cells
- Memory B cells

Instrumentation

Cytek Aurora CS Cell Sorter:

The Cytek Aurora CS is a five-laser, full-spectrum cell sorter with 64 fluorescence detection channels.

Lasers

- Ultraviolet (UV): 355 nm (20 mW)
- Violet: 405 nm (100 mW)
- Blue: 488 nm (50 mW)
- Yellow-Green: 561 nm (50 mW)
- Red: 640 nm (80 mW)

Fluorescence detection

- UV: 16 channels
- Violet: 16 channels
- Blue: 14 channels
- Yellow-Green: 10 channels
- Red: 8 channels

Cell sorting is staff-operated. The Core team can support the complete workflow, including pre-sort setup, spectral reference controls and unmixing, gating and sort criteria, sample monitoring, cell sorting, post-sort purity assessment and data transfer.

CytoFLEX S V4-B2-Y4-R3 Flow Cytometer cell analyzer:

The CytoFLEX S is a four-laser flow cytometer with 13 fluorescence detection channels.

Lasers

- Violet: 405 nm
- Blue: 488 nm
- Yellow-Green: 561 nm
- Red: 638 nm

Fluorescence detection

- Violet: 4 channels (450/45, 525/40, 610/20, 660/10)
- Blue: 2 channels (525/25, 690/50)
- Yellow-Green: 4 channels (585/42, 610/20, 690/50, 780/60)
- Red: 3 channels (660/10, 712/25, 780/60)

Sample Acquisition

The Core team can provide sample acquisition support or training for researchers who plan to use flow cytometry regularly.

Support can include instrument setup and quality control, software programming, compensation, sample acquisition, instrument cleaning and shutdown, and FCS data-file transfer.

For complex experiments, we recommend discussing your requirements with the Core team in advance.

Data Analysis

Data-analysis software is available through the Core Facility. Guidance and training are also available to help researchers analyze, interpret and present flow cytometry data.

Support can include:

- Gating strategy development
- Compensation
- Statistical analysis
- Dot-plot layout and figure preparation
- Manuscript preparation and critical review

Cell Sorting

All users must contact the Flow Cytometry Core Facility before scheduling cell sorting.

When contacting the Core, please provide a brief description of your project, including:

- Sample type
- Biosafety level
- Sorting requirements
- Planned downstream applications

The Core team will review your project, discuss experimental considerations, determine instrument suitability and work with you to schedule your sorting session.

Fees

The Flow Cytometry Core Facility operates on a fee-for-service basis. User fees contribute toward consumable supplies, instrument maintenance and service agreements. VIDO provides financial support for the Facility, helping to offset the full cost of providing these services.

	Internal (USask)	External (Contract)
Instrument training CytoFlex S	\$300/person	n/a
Cytoflex S (unassisted)	\$50/hour	n/a
Cytoflex S (assisted)	\$100/hour	\$200/hour
Cytek Aurora CS (assisted)	\$150/hour	\$300/hour
Data analysis	\$50/hour	\$100/hour

**User fees are calculated based on actual instrument login and logout times recorded on the instrument rather than scheduled booking times.*

Acknowledging the Core Facility

Please acknowledge VIDO's Flow Cytometry Core Facility in publications, presentations, posters and reports that use Core services or data. These acknowledgements help demonstrate the Facility's scientific impact and support continued investment in its services.

Suggested acknowledgement:

The authors acknowledge VIDO's Flow Cytometry Core Facility for its support with [experimental design, sample acquisition, cell sorting, and/or data analysis].

Questions or Support

New users are encouraged to contact the Flow Cytometry Core Facility before booking to discuss project requirements, training needs and service options. For assistance with experimental design, training, instrument use, cell sorting or data analysis, contact:

Email: vido-flowcyto@usask.ca