

Specification & Optical Configuration

BD FACSAria Fusion

What is it?

Sensitive digital high-speed cell sorter

What can it do?

- Flow cytometry cell sorting
- 4-way bulk cell sorting
- Single cell sorting for cloning
- Detect 20 parameters; 18 colors
- 5 excitation lasers
 - 50mW 405nm violet
 - 50mW 488nm blue
 - 50mW 561nm yellow-green
 - 40mW 640nm red
 - 15mW 355nm UV

What can be run?

BSL I and BLS II samples

Customization?

- Interchangeable nozzle
- Interchangeable emission filters
- Adjustable sheath pressure

Who can run this instrument?

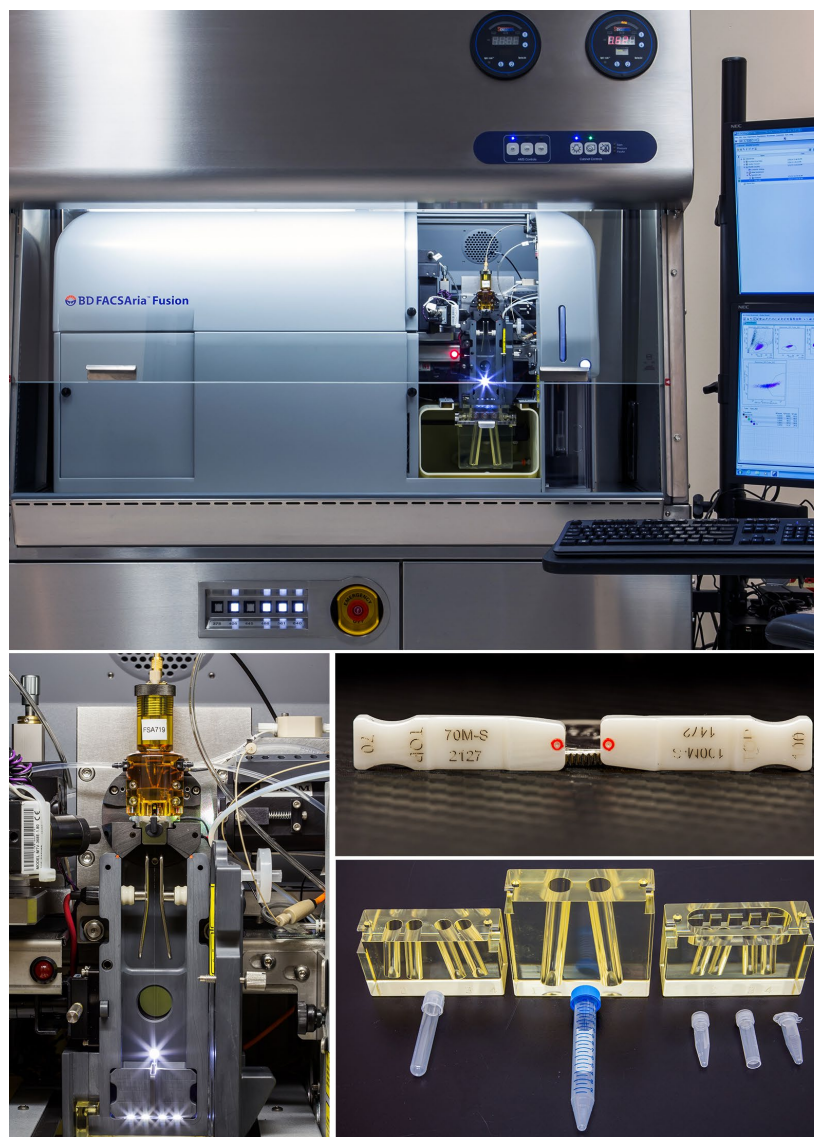
Facility staff only

How do I book this instrument?

Contact LDI Flow Cytometry Facility staff
Complete LDI Cell Sorting Request Form

Where is it located?

Jewish General Hospital
3999 Cote-Ste-Catherine
LDI, Segal Cancer Center
Room E-417 (inner room)



The BD FACSAria Fusion is a 20-parameter high-speed cell sorter capable of detecting 18 colors plus forward and side-scatter. Its gel-coupled cuvette allows for very accurate and sensitive measurements of fluorescence, comparable to our LSR Fortessa.

Cell sorters can perform multicolor analyses and also physically separate particles or cells of interest into a collection vessel. Up to 4 purified populations can simultaneously be sorted in different vessels from each sample. In addition, using the Automated Cell Deposition Unit (ACDU), a single cell can be deposited per well for cloning assays. It is fitted with a BSL II biological safety cabinet; allowing us to sort high risk samples, such as primary human and virus infected cells.

It can be adapted to accommodate the needs of the researcher. Nozzles of different sizes (70um, 85um and 100um) can be installed to sort various cell types. Sheath pressure can be optimized to minimize shear stress when sorting fragile samples. Dichroic mirrors and emission filters can be easily removed and exchanged to detect non-conventional fluorophores. In addition, dichroics and filters can readily be swapped between the LSR Fortessa and the FACSAria Fusion; enhancing cross-platform experiment reproducibility.

It is advised to troubleshoot an experimental panel on the LSR Fortessa prior to FACSAria Fusion cell sorting.

BD FACSAria Fusion Optical Configuration

Laser #	Excitation Lasers		Dichroic	Filter	Common Fluorochromes and Dyes	Filter Position
5	355nm	(UV)	N/A	379/28 BP	BUV395, Indo-1 (bound)	C
5	355nm	(UV)	450 LP	515/30 BP	BUV496, AF350, DAPI, Hoechst, BFP, Indo-1 (free)	B
5	355nm	(UV)	690 LP	740/35 BP	BUV737	A
4	405nm	(Violet)	N/A	450/50	AF405, BFP, BV421, DAPI, Dye Cycle Violet, e450, Hoechst, V450	F
4	405nm	(Violet)	505LP	525/50	AmCyan, Aqua, BV510, CFP, e506, Qdot 525, V500, PacificOrange	E
4	405nm	(Violet)	595LP	610/20	BV605	D
4	405nm	(Violet)	630LP	660/20	BV650	C
4	405nm	(Violet)	690LP	710/50	BV711	B
4	405nm	(Violet)	750LP	780/60	BV786, Qdot 800	A
3	488 nm	(Blue)	502LP	530/30	AF488, BB515, CFSE, FITC, GFP, Sytox Green, YFP, Clover	B
3	488 nm	(Blue)	655LP	695/40	PerCP-Cy5-5, PerCP-e710, BB700	A
2	561nm	(Yellow-Green)	N/A	582/15	Cy3, dsRed, PE, RFP, tdTomato	E
2	561nm	(Yellow-Green)	600LP	610/20	AF568, mCherry, PE-CF594, PI	D
2	561nm	(Yellow-Green)	630LP	670/14	7AAD, Katushka, mPlum, PE-Cy5	C
2	561nm	(Yellow-Green)	735LP	780/60	PE-Cy7	A
1	640 nm	(Red)	N/A	670/30	AF647, APC, Cy5, SytoxRed	C
1	640 nm	(Red)	690LP	730/45	AF700, APC-R700, DyeCycleRuby	B
1	640 nm	(Red)	755LP	780/60	AF750, APC-Cy7, APC-H7	A