

MIFlowCyt

Fortessa Instrument Details

3. Instrument Details

3.1. Instrument Manufacturer

BD Biosciences

<https://www.bdbiosciences.com/en-us>

3.2. Instrument Model

BD LSRFortessa Special Order Research Product (SORP) Flow Cytometer

Serial number: H64717700080

3.3. Instrument Configuration and Settings

3.3.1 Flow Cell and Fluidics

3.3.1.1. Flow Cell Type

Instrument unaltered

Gel coupled fixed-alignment cuvette flow cell

Rectangular Quartz

Internal cross-section – 430 x 180 μm

3.3.1.2 Fluidics

Instrument unaltered

Attached to a BD FACSTFlow Supply System

3.3.2 Light Sources

Four-laser configuration

- 405 nm OBI LX solid state

Model: 405-100C

Serial #S210515001

Beam diameter: 700-900 μm

Beam divergence: <1 mrad

100 mW

- 488 nm Coherent Sapphire solid state

Model: SapphireHP-488

Serial #509669

Beam diameter: 650 -750 μm

Beam divergence: <1.2 mrad

100 mW

- 561 nm Coherent Sapphire solid state

Model: SapphireHP-561

Serial #510537

Beam diameter: 650 -750 μm

Beam divergence: <1.3 mrad

150 mW

- 628 nm OEM Laser solid state

Model: F04306-06

Serial #11301C113-03

Beam diameter: \approx 3.0 mm

Beam divergence: <1.0 mrad

200mW

3.3.3 Excitation Optics Configuration

Instrument unaltered

Blocker bar for detection of FSC on a PMT

3.3.4. Optical Filters

Four additional PMTs added to the 405 nm laser detection array (2019)

Swapped 488 nm Laser BP filter 530/30 for a 515/30 (2015)

All other filters are original to the instrument (2013)

3.3.5. Optical Detectors

3.3.5.3. Optical Detector Voltage

Detector voltages for the experiment has been set to:

Laser	Detector Name	BP Filter	Fluorochrome/Dye	Voltage
405 nm (Violet)	A	780/60		
	B	710/50		
	C	670/30		
	D	610/10		
	E	525/50		
	F	450/50		
488 nm (Blue)	A	695/40		
	B	610/20		
	C	515/30		
	D	SSC		
	E	FSC		
561 nm (Yellow-Green)	A	780/60		
	B	695/40		
	C	660/20		
	D	610/20		
	E	585/15		
628 nm (Red)	A	780/60		
	B	730/45		
	C	670/30		

3.3.6. Optical Paths

There have been two change to the optical paths since instrument installation

1. The Blue laser C detector band pass filter was changed from
BP530/30 to BP515/30 (Dec 2015)

2. Four additional PMTs were added to the Violet laser detection array
(July 2019)

The figures below show the current filter and detector configurations:

Last revised on April 18, 2023