

BD LSRFortessa™ SORP

Description

The BD LSRFortessa™ SORP is a benchtop digital flow cytometer. Equipped with 5 spatially separated lasers, 18 fluorescent detectors and 2 light scatter detectors for fast multicolour analysis with accurate data acquisition rate at up to 40,000 events per second (with beads). The BD LSRFortessa™ has a BD™ High Throughput Sampler (HTS) for increased lab productivity by acquiring samples from a 96- or 384-well plates.

Applications

Multicolour flow cytometry analysis.

Excitation Optics

Laser power

355 nm: 20 mW

405 nm: 50 mW

488 nm: 100 mW

561 nm: 50 mW

640 nm: 40 mW

Emission Optics

Forward Scatter Detector: photodiode with 488/10 bandpass filter for the 488-nm laser.

Side Scatter Detector: photomultiplier with a 488/10 bandpass filter for the 488-nm laser.

Fluorescence Detectors and Filters:

UV Laser 355			YellGreen laser 561		
Indo-1 blue	BP530/30	505LP	PE-Cy7	BP780/60	750LP
Indo-1 violet	BP450/50		PE-Cy5.5	BP710/50	685LP
			PE-Cy5	BP670/30	635LP
Violet laser 405			PE-Texas Red	BP610/20	600LP
			PE	BP586/15	
BV786	BP780/60	750LP			
Qdot655	BP670/30	630LP	Red laser 640		
Qdot605	BP610/20	600LP			
Qdot585	BP585/15	570LP	APC-Cy7	BP780/60	750LP
AmCyan	BP525/50	505LP	Alexa Fluor 700	BP730/45	690LP
Pacific Blue	BP450/50		APC	BP670/14	
Blue laser 488					
PerCP-Cy5.5	BP710/50	685LP			
FITC	BP530/30	505LP			
SSC	BP488/10				

Available filters

LP	BP	ND
670	685/35	1.5 in use Aria
635	675/50	1.0 in use Fortessa
595	670/30	2.0
545	660/20	2.0
535	585/42	1.5
	560/20	1
	560/40	1
	540/30	
	424/44	

Fluidics

Sample flow rates

Front key panel provides three modes: RUN, STANDBY, and PRIME

Continuously adjustable flow rates, plus three preset flow rates:

LO: 12 $\mu\text{L}/\text{min}$

MED: 35 $\mu\text{L}/\text{min}$

HI: 60 $\mu\text{L}/\text{min}$

Performance

Fluorescence Sensitivity

- FITC : 80 molecules of equivalent soluble fluorochrome (MESF-FITC)
- PE: 30 molecules of equivalent soluble fluorochrome (MESF-PE)
- PE-CyTM5: 10 molecules of equivalent soluble fluorochrome (MESF-PE-Cy5)
- APC: 70 molecules of equivalent soluble fluorochrome (MESF-APC)

FITC and PE measurements performed using SPHEROTM Rainbow Calibration Particles (RCP-30-5A) PE-Cy5 and APC measurements performed using SPHERO Ultra Rainbow Calibration Particles (URCP-38-2K)

Fluorescence Resolution

Coefficient of variation (CV) PI: Area, <3.0%, full G0/G1 peak for PI-stained chicken erythrocyte nuclei (CEN)

Fluorescence Linearity

Doublet/singlet ratio CEN stained with PI: 1.95–2.05 (488-nm laser)

Forward and Side Scatter Sensitivity

Sensitivity enables separation of fixed platelets from noise, identification of bacteria, and detection of 0.5- μm beads.

Forward and Side Scatter Resolution

Scatter performance is optimized for resolving lymphocytes, monocytes, and granulocytes.

Signal Processing

Converter

10-MHz analog-to-digital converter.

Workstation Resolution 262,144 channels

Pulse Processing: height, area, and width measurements available for any parameter. Ratio measurements are also available.

Time can be correlated to any parameter for kinetic experiments or other applications.

BDTM High Throughput Sampler (HTS)

is available to increase your lab productivity by acquiring samples from a 96- or 384-well microtiter plate.

HTS throughput

Acquisition: less than 15 minutes per microtiter plate in high throughput mode using a 2-second acquisition,
less than 44 minutes in standard mode using a 10-second acquisition

Carryover: <0.5% HT mode

<0.75% STD mode

Link to the manufacturer [BD Biosciences](#)

Recommended tool for multicolour experiment design: [SpectrumViewer](#)