

FLOW CYTOMETRY CORE

Instrument Optical Configuration

Analyzers

Aurora A & B (5 lasers)

Analyzers

Cytek Biosciences



The **Aurora analyzers** (Cytek Biosciences) are spectral cytometers equipped with 5 lasers (355, 405, 488, 561, and 640 nm), 64 fluorescence channels and 3 light scatter detectors (FSC, SSC blue and SSC violet).

Since practically any fluorochrome with emission ranging between 365 and 830 nm can be detected on these instruments, we do not list here a table of fluorochromes.

Aurora A is located in ARC 1207i

Aurora B is located in CTRB 10107

CytoFLEX LX (6 lasers)

Analyzer

Beckman-Coulter



ARC 1207

Laser	Ex (nm)	Em (nm)	Channel	Fluorochromes
Near UV	375	405/30	NUV405	BUV395
Near UV	375	450/50	NUV450	DAPI, Hoechst blue, L/D blue, Zombie UV
Near UV	375	675/30	NUV675	BUV661, Hoechst red
Violet	405	450/45	V450	Pacific Blue, BV421, Horizon V450, eFluor 450, SB436
Violet	405	525/40	V525	L/D Aqua, BV510, AmCyan, Qdot 525, V500
Violet	405	610/20	V610	BV605, SB600, Qdot 605
Violet	405	660/20	V660	BV650, SB645, Qdot 655
Violet	405	763/42	V763	BV786, SB780
Blue	488	525/40	B525	FITC, AF488, GFP, CFSE, Fluo-4
Blue	488	610/20	B610	MitoSOX red, PE-CF594, PE-Texas Red, PI
Blue	488	690/50	B690	PerCP, PerCP-Cy5.5
Yellow-Green	561	585/42	Y585	PE, dTomato, RFP, dsRed, mOrange
Yellow-Green	561	610/20	Y610	mCherry, PE-CF594, PE-Texas Red, PI
Yellow-Green	561	675/30	Y675	PE-Cy5, 7AAD, mPlum, PE-AF647, PC5
Yellow-Green	561	710/50	Y710	PE-Cy5.5, PE-AF680, PC5.5
Yellow-Green	561	763/42	Y763	PE-Cy7, PC7
Red	638	660/10	R660	APC, AF647, DRAQ5
Red	638	712/25	R712	AF700, APC-R700
Red	638	763/42	R763	APC-Cy7, APC-H7, APC-Fire750, DRAQ7
Infrared	808	840/20	IR840	AF790, IRDye 800CW
Infrared	808	885/40	IR885	PromoFluor-840

CytoFLEX S (4 lasers)

Analyzer

Beckman-Coulter



ARC 1214C

Laser	Ex (nm)	Em (nm)	Channel	Fluorochromes
Violet	405	450/45	V450	Pacific Blue, BV421, Horizon V450, eFluor 450, SB436
Violet	405	525/40	V525	L/D Aqua, BV510, AmCyan, Qdot 525, V500
Violet	405	610/20	V610	BV605, SB600, Qdot 605
Violet	405	660/20	V660	BV650, SB645, Qdot 655
Blue	488	525/40	B525	FITC, AF488, GFP, CFSE, Fluo-4
Blue	488	690/50	B690	PerCP, PerCP-Cy5.5
Yellow-Green	561	585/42	Y585	PE, dTomato, RFP, dsRed, mOrange
Yellow-Green	561	610/20	Y610	mCherry, PE-CF594, PE-Texas Red, PI
Yellow-Green	561	690/50	Y690	PE-Cy5.5, PE-AF680, PC5.5
Yellow-Green	561	763/42	Y763	PE-Cy7, PC7
Red	638	660/10	R660	APC, AF647, DRAQ5
Red	638	712/25	R712	AF700, APC-R700
Red	638	763/42	R763	APC-Cy7, APC-H7, APC-Fire750, APC-eFluor 780, DRAQ7

*BV = Brilliant Violet; SB = Super Bright; AF = Alexa Fluor; L/D = Live/Dead.

FLOW CYTOMETRY CORE

Instrument Optical Configuration

Analyzers

CytoFLEX S (3 lasers)

Analyzer

Beckman-Coulter



ARC1207

Laser	Ex (nm)	Em (nm)	Channel	Fluorochromes
Violet	405	450/45	V450	Pacific Blue, BV421, Horizon V450, eFluor 450, SB436
Violet	405	525/40	V525	L/D Aqua, BV510, AmCyan, Qdot 525, V500
Violet	405	610/20	V610	BV605, SB600, Qdot 605
Violet	405	660/20	V660	BV650, SB645, Qdot 655
Violet	405	763/42	V610	BV785
Blue	488	525/40	B525	FITC, AF488, GFP, CFSE, Fluo-4
Blue	488	585/42	B585	PE
Blue	488	610/20	B610	PE-CF594, PE-Texas Red, PI
Blue	488	690/50	B690	PerCP, PerCP-Cy5.5
Blue	488	763/42	B763	PE-Cy7, PC7
Red	638	660/10	R660	APC, AF647, DRAQ5
Red	638	712/25	R712	AF700, APC-R700
Red	638	763/42	R763	APC-Cy7, APC-H7, APC-Fire750, APC-eFluor 780, DRAQ7

*BV = Brilliant Violet; SB = Super Bright; AF = Alexa Fluor; L/D = Live/Dead.

Accuri C6

Analyzer

BD Biosciences



ARC 1207

Laser	Ex (nm)	Em (nm)	Channel	Fluorochromes
Blue	488	530/30	FL-1	FITC, AF488, GFP, YFP, CFSE, Fluo-4
Blue	488	585/40	FL-2	PE, PI
Blue	488	670 LP	FL-3	PerCP-Cy5.5, PE-Cy7, PE-Cy5, 7AAD, PI, Fura red
Red	640	675/25	FL-4	APC, AF647, DRAQ5, Cy5

FACSCalibur

Analyzer

BD Biosciences




ARC 313

Laser	Ex (nm)	Em (nm)	Channel	Fluorochromes
Blue	488	530/30	FL-1	FITC, AF488, GFP, YFP, CFSE, Fluo-4
Blue	488	585/42	FL-2	PE, PI
Blue	488	670LP	FL-3	PerCP-Cy5.5, PE-Cy5, PI, PE-Cy7, 7AAD
Red	640	661/16	FL-4	APC, AF647, DRAQ5, Cy5


FLOW CYTOMETRY CORE

Instrument Optical Configuration

Analyzers

LSR Fortessa	Analyzer				BD Biosciences
	Laser	Ex (nm)	Em (nm)	Channel	
	Ultra-violet	355	379/28	355-B	BUV395
	Ultra-violet	355	450/50	355-A	DAPI, L/D blue, Zombie UV, Hoechst 33342
	Violet	405	450/50	405-F	Pacific Blue, BV421, eFluor450, SB436
	Violet	405	525/50	405-E	L/D Aqua, BV510, AmCyan
	Violet	405	610/20	405-D	BV605, SB600
	Violet	405	655/8	405-C	BV650, SB645
	Violet	405	710/50	405-B	BV711, SB702
	Violet	405	780/60	405-A	BV786, SB780
	Blue	488	530/30	488-B	FITC, AF488, GFP, CFSE, Fluo-4
	Blue	488	695/40	488-A	PerCP, PerCP-Cy5.5, PerCP-eFluor710
	Yellow-Green	561	582/15	561-E	PE, dTomato, RFP
	Yellow-Green	561	610/20	561-D	PE-Texas Red, PI, mCherry, PE-CF594
	Yellow-Green	561	660/20	561-C	PE-Cy5, 7AAD, mPlum, PE-AF647
	Yellow-Green	561	710/50	561-B	PE-Cy5.5
	Yellow-Green	561	780/60	561-A	PE-Cy7
	Red	640	670/14	561-C	APC, AF647, DRAQ5
	Red	640	710/50	561-B	AF700
	Red	640	780/60	561-A	APC-Cy7, APC-H7, APC-Fire750, APC-eFluor 780, DRAQ7

ARC 1207

LSR II	Analyzer				BD Biosciences
	Laser	Ex (nm)	Em (nm)	Channel	
	Ultra-violet	355	379/28	355-B	BUV395
	Ultra-violet	355	450/50	355-A	DAPI, L/D blue, Zombie UV, Hoechst 33342
	Violet	405	450/50	405-F	Pacific Blue, BV421, Horizon V450, eFluor450
	Violet	405	525/50	405-E	L/D Aqua, BV510, AmCyan
	Violet	405	610/20	405-D	BV605, SB600
	Violet	405	660/20	405-C	BV650, SB645
	Violet	405	710/50	405-B	BV711, SB702
	Violet	405	780/60	405-A	BV786, SB780
	Blue	488	530/30	488-D	FITC, AF488, GFP, CFSE, Fluo-4
	Blue	488	575/26	488-C	PE, dTomato, RFP, PI
	Blue	488	695/40	488-B	PerCP, PerCP-Cy5.5, PerCP-eFluor710, 7AAD
	Blue	488	780/60	488-A	PE-Cy7
	Red	633	660/20	488-C	APC, AF647, DRAQ5
	Red	633	720/40	633-B	AF700
	Red	633	780/60	633-A	APC-Cy7, APC-H7, APC-Fire750, APC-eFluor 780, DRAQ7

ARC 1207

FLOW CYTOMETRY CORE

Instrument Optical Configuration

*BV = Brilliant Violet; SB = Super Bright; AF = Alexa Fluor; L/D = Live/Dead.

Imaging system

Evos FL Auto		Imaging system		ThermoFisher
Light cubes:	Ex (nm)	Em (nm)	Fluorochromes	
DAPI	357/44	447/60	DAPI, Hoechst	
DAPI	357/44	447/60	DAPI, Hoechst	
GFP	470/22	510/42	GFP, AF488	
YFP	500/24	524/27	YFP	
RFP	531/40	593/40	RFP, AF546, DsRed, Cy3	
Texas Red	585/29	624/40	Texas Red, AF568, AF594, MitoTracker Red, mCherry, Cy3.5	
Cy5	628/40	692/40	AF647, AF660, DRAQ5, Cy5	



ARC 1207

Evos FL Auto is a fully-automated, inverted, multi-channel fluorescence / transmitted light imaging system.

- Long working distance objectives: 1.25x, 4x, 10x, 20x, 40x
- Color camera for bright field and phase imaging.
- Monochrome camera for fluorescence detection.
- Motorized 3D stage.
- Built-in software for counting cells, scanning slides or plates, time-lapse imaging, Z stacks.
- All light cubes may be swapped between Evos and the Countess.

Cell counter

Countess II FL		Cell counter		ThermoFisher
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ARC 1207

- Automatic hemocytometer based on bright field and fluorescence imaging.
- Count live / dead cells and measure average cell size in as little as 10 seconds.
- Reusable slide available in the flow lab.
- Compatible single-use slides: Invitrogen cat.# C10228; BioRad cat.# 1450011
- Up to two light cubes can be installed on the Countess for fluorescence detection.

Sorter for large particles

Biosorter		Sorter for large particles		Union Biometrica
Laser	Ex (nm)	Em (nm)	Fluorochromes	



ARC 1207 H

Blue	488	510/23	GFP, FITC, AF488, CFSE, Fluo-4	
Blue	488	543/22	YFP	
Yellow-Green	561	615/24	dsRed, mCherry, PI	

The Biosorter is designed for sorting large particles (40 - 700 µm): cell clusters, C. elegans, zebrafish etc. It cannot be used for cells with diameters < 40 µm because they are below the detection limit of this device. The sorting speed on this instrument is very low (20 events/second). This device is not encased in a biosafety cabinet.

FLOW CYTOMETRY CORE

Instrument Optical Configuration

Sorters

Aurora CS

Cell sorter

BD Biosciences



ARC 1207i

Aurora CS is a spectral **cell sorter** with 5 lasers (355, 405, 488, 561, nd 640 nm), 64 fluorescence channels and 3 light scatter detectors (FSC, SSC blue and SSC violet).

Since practically any fluorochrome with emission ranging between 365 and 830 nm can be detected on this device, we do not list here a table of fluorochromes.

- Very complex and also very simple panels (e.g. GFP) sorts can be performed.

- Two nozzle sizes are available (70 and 100 µm).

- Four-way sorting can be done in FACS tubes; six-way sorting only in Eppendorf tubes.

FACSJazz

Cell sorter

BD Biosciences



ARC 1207 A/B

Laser	Ex (nm)	Em (nm)	Fluorochromes
Blue	488	530/40	FITC, AF488, GFP, YFP
Blue	488	670LP	PerCP-Cy5.5, 7AAD, PE-Cy7
Yellow-Green	561	585/29	PE, dTomato, DsRed, RFP, Cy3
Yellow-Green	561	610/20	mCherry, PE-CF594, PE-Texas Red, PI
Red	640	660/20	APC, AF647, DRAQ5, Cy5
Red	640	750LP	APC-Cy7, APC-H7, APC Fire750, DRAQ7

FACSAria Fusion

Cell sorter

BD Biosciences



ARC 1207H

Laser	Ex (nm)	Em (nm)	Fluorochromes
Violet	405	450/50	Pacific Blue, BV421, Horizon V450, eFluor450, BFP
Violet	405	525/50	L/D Aqua, BV510, AmCyan, Qdot 525
Violet	405	610/20	BV605, SB600
Violet	405	660/20	BV650, SB645
Violet	405	710/50	BV711, Qdot 705
Violet	405	780/60	BV786
Blue	488	530/30	FITC, AF488, GFP, CFSE, Fluo-4
Blue	488	695/40	PerCP, PerCP-Cy5.5
Yellow-Green	561	582/15	PE, dTomato, mOrange, RFP
Yellow-Green	561	610/20	PE-Texas Red, PI, mCherry, PE-CF594
Yellow-Green	561	670/14	PE-Cy5, 7AAD
Yellow-Green	561	780/60	PE-Cy7
Red	640	670/30	APC, AF647, DRAQ5, Cy5
Red	640	730/45	AF700
Red	640	780/60	APC-Cy7, APC-H7, APC Fire750, DRAQ7

FLOW CYTOMETRY CORE

Instrument Optical Configuration

MoFlo Astrios EQ Cell sorter Beckman-Coulter



ARC 1207 A/B

Laser	Ex (nm)	Em (nm)	Fluorochromes
Violet	405	448/59	Pacific Blue, BV421, Cascade Blue, BFP
Violet	405	525/50	L/D Aqua, BV510, AmCyan, CFP
Violet	405	670/30	BV650, SB645
Violet	405	710/45	BV711
Blue	488	513/26	FITC, AF488, GFP, CFSE, Fluo-4
Blue	488	540/20	YFP
Blue	488	695/40	PerCP-Cy5.5
Yellow-Green	561	579/16	PE, dTomato, RFP, Cy3
Yellow-Green	561	620/29	PE-Texas Red, PI, mCherry, PE-CF594
Yellow-Green	561	664/22	PE-Cy5, 7AAD
Yellow-Green	561	795/70	PE-Cy7
Red	640	671/30	APC, AF647, DRAQ5, Cy5
Red	640	722/44	AF700
Red	640	795/70	APC-Cy7, APC-H7, APC Fire750, DRAQ7

Data analysis workstation



ARC 1207i

A **Data Analysis Workstation** is available for an hourly fee.

The following software packages are installed:

- FlowJo
- FCS Express
- CytExpert
- SpectroFlo

Check our iLab website for additional information

https://my.ilabsolutions.com/service_center/show_external?id=4691

