Which Cell Sorter Should You Use

There are a handful of essential details that will help you determine which sorter is most appropriate for your application. First of all, we now have one Aria cell sorter located in HCI and the other is located in Wintrobe. All of our instruments are available to anybody, but geographically speaking one may be a better fit. Next, look over the instrument configuration comparison and make sure you choose the instrument with the correct excitation lasers and emission filters (See Below). We have simplified this in that both Arias have virtually the same filters except only the HCI sorter has the UV laser!! Beyond that there are a couple other features to the instruments that would limit your options

If any of these 3 criteria are applicable to your experiment you must use one of the BD Aria's.

1. The BD Arias are the only instruments that can sort into 96 or 384 well plates!!!
2. The BD Arias are the only instruments that can sort into 4 populations at once!!!
3. The BD Arias are the only instruments that have 70um, 85um, or 100um nozzles!!!

Who could/should use the Avalon?
The Avalon comes with a standard 100um nozzle and is designed primarily for sorting GFP, and/or RFP (dsRed, mCherry, tdTomato etc…). But keep in mind that you can only sort 2 populations at once and only into 5ml tubes. So, if you need GFP single pos, RFP single pos, and double positives all from the same tube you should probably use one of the Arias. The only other tiny drawback is that you can fit about 900,000 cells per collection tube. So, if you need 10 million cells back you may want to consider sorting on the Arias which can sort into 15ml tubes and will give you less tubes to spin down in the end. But overall the Avalon is a nice little instrument and will also save you some money since it's cheaper.

And finally, a bit more info on BD Aria Nozzle sizes.

70um- 60psi- Acquisition rates up to 25,000 events/ second (90million/hr). Generally reserved for samples requiring processing over 100million cells.

85um- 45psi- Acquisition rates up to 12,000 events/ second (43million/hr). This is our standard nozzle. It's a little slower than the 70 but also potentially a little more gentle. This nozzle should work for a very wide range of cells.

100um- 30psi- Acquisition rates up to 8,000 events/ second (23million/hr). This nozzle is an option for very fragile cells that have known viability issues post sort.

Option #1

HCI Aria (5 Laser) 17 color				
Laser	Optical Filters			
488nm				
	525/50	FITC	GFP	Alexa 488
	710/50	PerCP	PerCP Cy5.5	
561nm	585/15	PE		
	610/20	mCherry		
	660/20	PE-Cy5		
	710/50	PE-Cy5.5		
	780/60	PE-CY7		
640nm	670/30	APC	Alexa 647	
	710/30	Alexa700		
	780/60	APC H7		
408nm	450/50	BV421	CFP	DAPI
	525/50	BV510	AmCyan	Aqua live/dead
	610/20	BV605		
	670/30	BV650		
	780/40	BV786		
UV	450/50	SP Blue	Alexa 350	DAPI
	670LP	SP Red		

Comments: This sorter can do it all!
Available for self Run Options with appropriate training
Key Features: Sorting into 96/384 well plates
70um, 85um, 100um, 130um Tip Sizes
Sort up to 4 populations at once

Option #2

Wintrobe Aria (4 laser) 12 color				
488nm				
	525/50	FITC	GFP	Alexa 488
	710/50	PerCP	PerCP Cy5.5	
561nm	585/15	PE		
	610/20	mCherry		
	710/50	PE-Cy5.5		
	780/60	PE-CY7		
640nm	670/30	APC	Alexa 647	
	710/30	Alexa700		
	780/60	APC H7		
408nm	450/50	BV421	CFP	DAPI
	525/50	BV510	AmCyan	Aqua live/dead
	610/20	BV605		
	670/30	BV650		
	780/40	BV786		

Comments:
Available for self Run Options with appropriate training
Key Features: Sorting into 96/384 well plates
70um, 85um, 100um, 130um Tip Sizes
Sort up to 4 populations at once

Option #3

Avalon Cell Sorter 4 color Filter Set 1				
488nm	525/50	GFP	FITC	
561nm	585/15	PE		
	610/20	RFP		
	660LP	Percp		

Comments: Great for Cell lines expressing GFP and/or RFP proteins
Key Features: NO sorting into 96 well plates
Only has 100um tip
Can only sort 2 populations at once

Avalon Cell Sorter 4 color Filter Set 2			
488nm	525/50	GFP	FITC
561nm	585/15	PE	
	660/70	PerCp Cy5.5	APC***
	780/60	PECY7	

***APC is not excited very well, only use for bright markers