

Fluorophore selection guide

BD FACSDiscover S8 Cell Sorter

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BD FACSDiscover™ S8 Cell Sorter					
Laser	Channel	Channel start–end (nm)	Recommended Invitrogen™ dye for antibody conjugates	Abs/Em (nm)	Relative brightness
Ultraviolet 349 nm	UV1–UV2	365–400			
	UV3	410–425	Brilliant Ultra Violet™ 395 Dye	347/399	Low
	UV4–UV6	425–495			
	UV7	495–510	Brilliant Ultra Violet™ 496 Dye	348/493	Medium
	UV8–UV10	510–555			
	UV11	570–585	Brilliant Ultra Violet™ 563 Dye	349/563	Medium
	UV12	585–600			
	UV13	600–620	Brilliant Ultra Violet™ 615 Dye	350/607	High
	UV14	620–640			
	UV15	640–660	Brilliant Ultra Violet™ 661 Dye	349/659	High
	UV16–UV17	660–710			
	UV18	710–740	Brilliant Ultra Violet™ 737 Dye	350/740	High
	UV19	740–770	eBioscience™ NovaFluor™ UltraViolet 765 Dye	358/763	Medium
	UV20	770–800			
UV21	800–830	Brilliant Ultra Violet™ 805 Dye	349/804	Medium	
UV22	830–860				
Violet 405 nm	V1	410–430	Brilliant Violet™ 421 Dye	406/423	High
	V2	430–450	eBioscience™ Super Bright™ 436 Dye eBioscience™ eFluor™ 450 Dye	413/431 405/445	High Low
	V3	450–475	Pacific Blue™ Dye	404/455	Low
	V4	475–495	Brilliant Violet™ 480 Dye	437/478	Medium
	V5	495–510			
	V6	510–525	eBioscience™ eFluor™ 506 Dye	419/508	Low
	V7–V8	525–555			
	V9	570–585	Pacific Orange™ Dye	400/551	Low
	V10	585–600			
	V11	600–620	eBioscience™ Super Bright™ 600 Dye Brilliant Violet™ 605 Dye	414/601 405/605	Low Medium
	V12	620–640	eBioscience™ Super Bright™ 645 Dye	414/645	Low
	V13	640–660	Brilliant Violet™ 650 Dye	407/646	High
	V14	660–680			
	V15	680–710	eBioscience™ NovaFluor™ Violet 690 Dye eBioscience™ Super Bright™ 702 Dye Brilliant Violet™ 711 Dye	408/691 413/702 406/711	Medium Medium Low
	V16	710–740			
	V17	740–770	eBioscience™ NovaFluor™ Violet 745 Dye	391/743	Low
	V18	770–800	eBioscience™ Super Bright™ 780 Dye Brilliant Violet™ 786 Dye	413/780 406/788	High High
	V19	800–830	eBioscience™ NovaFluor™ Violet 800 Dye	408/800	Low
	V20	830–860			
	Blue 488 nm	B1	495–510		
B2		510–525	eBioscience™ NovaFluor™ Blue 510 Dye Alexa Fluor™ 488 Dye; Fluorescein (FITC)	493/513 490/520	Medium Medium
B3		525–540	eBioscience™ NovaFluor™ Blue 530 Dye	508/527	Low
B4		540–555	eBioscience™ NovaFluor™ Blue 555 Dye; Alexa Fluor™ 532 Dye	493/555	Low
B5–B6		570–600			
B7		600–620	eBioscience™ NovaFluor™ Blue 585 Dye eBioscience™ NovaFluor™ Blue 610-70S Dye	493/586 492/616	Low Low
B8–B9		620–660			
B10		660–680	eBioscience™ NovaFluor™ Blue 660-120S Dye	508/664	Medium
B11		680–710	PerCP-Cyanine5.5 Dye; PerCP-eFluor™ 710 Dye eBioscience™ NovaFluor™ Blue 690 Dye	489/679 494/690	Low Low
B12		710–740	eBioscience™ NovaFluor™ Blue 725 Dye	492/725	Medium
B13		740–770	eBioscience™ NovaFluor™ Blue 760 Dye	490/764	Medium
B14		770–800	eBioscience™ NovaFluor™ Blue 800 Dye	493/806	High
B15–B16		800–860			
Yellow-green 561 nm		YG1	570–585	eBioscience™ NovaFluor™ Yellow 570 Dye; Alexa Fluor™ 561 Dye R-Phycoerythrin (R-PE)	551/566 565/576
	YG2	585–600			
	YG3	600–620	eBioscience™ NovaFluor™ Yellow 610 Dye eBioscience™ PE-eFluor™ 610 Dye	551/614 565/606	High High
	YG4	620–640			
	YG5	640–660	eBioscience™ NovaFluor™ Yellow 660 Dye	550/664	High
	YG6	660–680	PE-Cyanine5 Dye	565/680	High
	YG7	680–710	eBioscience™ NovaFluor™ Yellow 690 Dye PE-Cyanine5.5 Dye eBioscience™ NovaFluor™ Yellow 700 Dye	551/691 565/700 551/701	High High High
	YG8	710–740	eBioscience™ NovaFluor™ Yellow 730 Dye	551/730	Medium
	YG9	740–770	eBioscience™ NovaFluor™ Yellow 755 Dye	552/755	Medium
	YG10	770–800	PE-Cyanine7 Dye	569/780	High
	YG11	800–830	eBioscience™ NovaFluor™ Yellow 810 Dye	551/813	High
	YG12	830–860			
Red 637 nm	R1	640–660	Allophycocyanin (APC)	651/660	High
	R2	660–680	eBioscience™ eFluor™ 660 Dye; Alexa Fluor™ 647 Dye	651/668	High
	R3	680–710	eBioscience™ NovaFluor™ Red 685 Dye	637/685	High
			Alexa Fluor™ 660 Dye	663/691	Medium
			eBioscience™ NovaFluor™ Red 710 Dye	637/713	High
	R4	710–740	Alexa Fluor™ 700 Dye	696/719	Medium
	R5	740–770	eBioscience™ NovaFluor™ Red 725 Dye	636/725	High
	R6	770–800	eBioscience™ NovaFluor™ Red 755 Dye	636/755	High
R7–R8	800–860	eBioscience™ APC-eFluor™ 780 Dye	651/785	High	

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Reagent selection guide

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Laser	Channel	Channel start–end (nm)	Invitrogen™ functional reagent	Abs/Em (nm)	Reagent category	
Ultraviolet 349 nm	UV1–UV2	365–400				
	UV3	410–425	CellTrace™ Blue Cell Proliferation Stain Vybrant™ DyeCycle™ Violet Stain	350/450 355/410	Proliferation tracking stain DNA stain	
	UV4	425–450	LIVE/DEAD™ Fixable Blue Dead Cell Stain Click-iT™ Plus EdU Alexa Fluor™ 350 Stain Annexin V–Alexa Fluor™ 350 Conjugate	343/441 343/441 369/437	Fixable viability stain DNA stain Apoptosis tracking stain	
	UV5	450–475	FxCycle™ Violet Stain DAPI (4',6-diamidino-2-phenylindole) Nucleic Acid Stain Hoechst 33342 Nucleic Acid Stain	358/461 358/461 361/497	DNA stain DNA stain DNA stain	
	UV6–UV22	475–860				
	Violet 405 nm	V1	410–430			
	V2	430–450	eBioscience™ Annexin V–eFluor™ 450 7-AAD Stain PO-PRO™-1 Iodide (435/455) Stain	405/445 435/455	Apoptosis tracking stain DNA stain	
	V3	450–475	LIVE/DEAD™ Fixable Violet Dead Cell Stain CellTrace™ Violet Cell Proliferation Stain Annexin V–Pacific Blue™ Conjugate Click-iT™ Plus EdU Pacific Blue™ Stain	416/451 405/450 404/455 404/455	Fixable viability stain Proliferation tracking stain Apoptosis tracking DNA stain	
	V4	475–495	SYTOX™ Blue Nucleic Acid Stain	444/480	DNA stain	
	V5	495–510	LIVE/DEAD™ Fixable Lime (506) Viability Stain	405/506	Fixable viability stain	
	V6	510–525	Violet Ratiometric Stain LIVE/DEAD™ Fixable Aqua Dead Cell Stain	425/530, 585 375/526	Fixable viability stain Apoptosis tracking	
	V7–V8	525–555				
	V9	570–585	LIVE/DEAD™ Fixable Yellow Dead Cell Stain	400/575	Fixable viability stain	
	V10–V20	585–860				
Blue 488 nm	B1	495–510	MitoProbe™ DiOC ₂ (3) Stain YO-PRO™-1 Iodide Stain Annexin V–FITC Conjugate CellTrace™ CFSE Cell Proliferation Stain Annexin V–Alexa Fluor™ 488 Conjugate	482/497 491/509 498/517 495/519 499/520	Mitochondria stain DNA stain Apoptosis tracking stain Proliferation tracking stain Apoptosis tracking stain	
	B2	510–525	APO-BrdU™ TUNEL with Alexa Fluor™ 488 Anti-BrdU Click-iT™ Plus EdU Alexa Fluor™ 488 Conjugate CellROX™ Green Reagent SYTOX™ Green Nucleic Acid Stain	499/520 499/520 485/520 504/523	DNA stain, apoptosis tracking stain DNA stain Oxidation tracking stain DNA stain	
	B3	525–540	LIVE/DEAD™ Fixable Green Dead Cell Stain MitoProbe™ JC-1 Assay pHrodo™ Green Maleimide <i>E. coli</i> BioParticles Conjugate pHrodo™ Green Maleimide <i>S. aureus</i> BioParticles Conjugate CellEvent™ Caspase-3/7 Green Detection Reagent Vybrant™ DyeCycle™ Green Stain	495/520 514/529, 590 509/533 509/533 502/530 506/534	Fixable viability stain Mitochondria stain Endocytosis tracking stain Endocytosis tracking stain Apoptosis tracking stain DNA stain	
	B4	540–555				
	B5	570–585	LIVE/DEAD™ Fixable Olive (557) Viability Stain Vybrant™ DyeCycle™ Orange Stain	480/557 519/563	Fixable viability stain DNA stain	
	B6–B10	585–680				
	B11	680–710	eBioscience™ Annexin V–PerCP–eFluor™ 710 Conjugate	482/708	Apoptosis tracking stain	
	B12–B16	710–860				
	Yellow-green 561 nm	YG1	570–585	CellROX™ Orange Stain Annexin-V Alexa Fluor™ 555 Conjugate SYTOX™ Orange Nucleic Acid Stain Tetramethylrhodamine, Methyl Ester, Perchlorate (TMRM) Annexin V–PE Conjugate CellTrace™ Yellow Cell Proliferation Stain pHrodo™ Red Maleimide <i>E. coli</i> BioParticles Conjugate Tetramethylrhodamine, Ethyl Ester, Perchlorate (TMRE)	545/565 553/568 547/570 549/574 565/576 546/579 560/585 549/574	Oxidation tracking stain Apoptosis tracking stain DNA stain Mitochondria stain Apoptosis tracking stain Proliferation tracking stain Endocytosis tracking stain Mitochondria stain
		YG2	585–600	LIVE/DEAD™ Fixable Orange (602) Viability Stain Annexin V–Alexa Fluor™ 568 Conjugate LIVE/DEAD™ Fixable Red Dead Cell Stain FxCycle™ PI/RNase Staining Solution Annexin V–Alexa Fluor™ 594 Conjugate Click-iT™ Plus EdU Alexa Fluor™ 594 Stain	580/602 579/603 595/615 535/617 590/618 590/618	Fixable viability stain Apoptosis tracking stain Fixable viability stain DNA stain Apoptosis tracking stain DNA stain
		YG3	600–620			
		YG4	620–640			
YG5		640–660	Propidium Iodide 7-AAD (7-Aminoactinomycin D) SYTOX™ AADvanced™ Dead Cell Stain	535/617 546/647 535/647	DNA stain Viability stain DNA stain	
YG6–YG9		660–770				
YG10		770–800	eBioscience™ Annexin V–PE–Cyanine7 Conjugate	569/780	Apoptosis tracking stain	
YG11–YG12		800–860				
Red 637 nm		R1	640–660	pHrodo™ Deep Red <i>E. coli</i> BioParticles Conjugate SYTOX™ Red Dead Cell Stain MitoProbe™ DiIC ₁ (5) Stain FxCycle™ Far Red Stain Annexin V–APC Conjugate TO-PRO™-3 Stain	640/655 640/658 638/658 633/660 651/660 642/661	Endocytosis tracking stain DNA stain Mitochondria stain DNA stain Apoptosis tracking stain DNA stain
		R2	660–680	CellTrace™ Far Red Cell Proliferation Stain LIVE/DEAD™ Fixable Far Red Dead Cell Stain CellROX™ Deep Red Reagent eBioscience™ Annexin V–Alexa Fluor™ 647 Conjugate Click-iT™ Plus EdU Alexa Fluor™ 647 Stain	630/661 650/665 644/665 650/671 650/671	Proliferation tracking stain Fixable viability stain Oxidation tracking stain Apoptosis tracking stain DNA stain
	R3	680–710	SYTOX™ Deep Red Nucleic Acid Stain Vybrant™ DyeCycle™ Ruby Stain DRAQ5™ Fluorescent Probe Solution; DRAQ7™ Dye Annexin V–Alexa Fluor™ 680 Conjugate	660/682 638/686 646/697 681/704	DNA stain DNA stain DNA stain Apoptosis tracking stain	
	R4–R5	710–770				
	R6	770–800	LIVE/DEAD™ Fixable Scarlet (723) Viability Stain LIVE/DEAD™ Fixable Near-IR Dead Cell Stain	700/775 750/780	Fixable viability stain Fixable viability stain	
	R7–R8	800–860				

Reagents selection guide

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