



Fluorophore selection guide

Attune Xenith Flow Cytometer

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Invitrogen™ Attune™ Xenith™ Flow Cytometer					
Laser	Channel	Channel start–end (nm)	Recommended Invitrogen™ dye for antibody conjugates	Abs/Em (nm)	Relative brightness
Ultraviolet 355 nm	UV1	382–392	Brilliant Ultra Violet™ 395 Dye	347/399	Low
	UV2–UV5	415–480			
	UV6	498–516	Brilliant Ultra Violet™ 496 Dye	348/493	Medium
	UV7	542–556			
	UV8	563–587	Brilliant Ultra Violet™ 563 Dye	349/563	Medium
	UV9	603–627	Brilliant Ultra Violet™ 615 Dye	350/607	High
	UV10	655–685	Brilliant Ultra Violet™ 661 Dye	349/659	High
	UV11	708–748	Brilliant Ultra Violet™ 737 Dye	350/740	High
Violet 405 nm	UV12	798–822	eBioscience™ NovaFluor™ UltraViolet 765 Dye	358/763	Medium
			Brilliant Ultra Violet™ 805 Dye	349/804	Medium
	V1	415–425	Brilliant Violet™ 421 Dye	406/423	High
	V2	426–442	eBioscience™ Super Bright™ 436 Dye	413/431	High
	V3	448–462	eBioscience™ eFluor™ 450 Dye	405/445	Low
	V4	466–480			
	V5	498–516	Brilliant Violet™ 480 Dye	437/478	Medium
			eBioscience™ eFluor™ 506 Dye	419/508	Low
	V6	542–556	Pacific Orange™ Dye	400/551	Low
	V7	563–587			
	V8	603–627	eBioscience™ Super Bright™ 600 Dye	414/601	Low
			Brilliant Violet™ 605 Dye	405/605	Medium
			eBioscience™ Super Bright™ 645 Dye	414/645	Low
	V9	651–671	Brilliant Violet™ 650 Dye	407/646	High
			eBioscience™ NovaFluor™ Violet 690 Dye	408/691	High
	V10	700–720	eBioscience™ Super Bright™ 702 Dye	413/702	Medium
			Brilliant Violet™ 711 Dye	406/711	Low
Blue 488 nm	V11	731–763	eBioscience™ NovaFluor™ Violet 745 Dye	391/743	Low
			eBioscience™ Super Bright™ 780 Dye	413/780	High
	V12	770LP	Brilliant Violet™ 786 Dye	406/788	High
			eBioscience™ NovaFluor™ Violet 800 Dye	408/800	Low
	B1	500–540	eBioscience™ NovaFluor™ Blue 510 Dye	493/513	Medium
			Alexa Fluor™ 488 Dye	490/520	Medium
			Fluorescein (FITC)	489/517	Medium
	B2	542–556	Alexa Fluor™ 532 Dye	534/553	Low
			eBioscience™ NovaFluor™ Blue 555 Dye	493/555	Low
	B3	568–598			
	B4	603–627	eBioscience™ NovaFluor™ Blue 585 Dye	493/586	Low
			eBioscience™ NovaFluor™ Blue 610-70S Dye	492/616	Medium
	B5	655–685	eBioscience™ NovaFluor™ Blue 660-120S Dye	508/664	Medium
			PerCP-Cyanine5.5 Dye	489/679	Low
Yellow-green 561 nm	B6	708–732	eBioscience™ NovaFluor™ Blue 690 Dye	494/690	Low
			PerCP-eFluor™ 710 Dye	482/708	High
			eBioscience™ NovaFluor™ Blue 725 Dye	492/725	Medium
	B7	750LP	eBioscience™ NovaFluor™ Blue 760 Dye	490/764	Medium
			eBioscience™ NovaFluor™ Blue 800 Dye	493/806	High
	YG1	568–582	eBioscience™ NovaFluor™ Yellow 570 Dye	551/566	Medium
			R-phycoerythrin (R-PE)	565/576	High
			Alexa Fluor™ 561 Dye	556/569	High
	YG2	582–596			
	YG3	598–612	eBioscience™ PE-eFluor™ 610 Dye	565/606	High
	YG4	615–629			
	YG5	651–671	eBioscience™ NovaFluor™ Yellow 660 Dye	550/664	High
			eBioscience™ PE-Cyanine5.5 Dye	565/680	High
	YG6	678–692			
Red 640 nm	YG7	694–706	eBioscience™ NovaFluor™ Yellow 690 Dye	551/691	High
			eBioscience™ PE-Cyanine5.5 Dye	565/700	High
			eBioscience™ NovaFluor™ Yellow 700 Dye	551/701	High
	YG8	708–732	PE-Alexa Fluor™ 700 Dye	565/719	Medium
			eBioscience™ NovaFluor™ Yellow 730 Dye	551/730	High
	YG9	735–785	eBioscience™ NovaFluor™ Yellow 755 Dye	552/755	Medium
			PE-Cyanine7 Dye	569/780	High
	YG10	798–822	eBioscience™ NovaFluor™ Yellow 810 Dye	551/813	High
	YG11–YG12	832LP			
	R1	651–671	Allophycocyanin (APC)	651/660	High
Red 640 nm			eBioscience™ eFluor™ 660 Dye	651/668	High
			Alexa Fluor™ 647 Dye	650/671	Medium
	R2	694–706	eBioscience™ NovaFluor™ Red 685 Dye	637/685	High
			Alexa Fluor™ 660 Dye	663/691	Medium
	R3	708–732	eBioscience™ NovaFluor™ Red 710 Dye	637/713	High
			Alexa Fluor™ 700 Dye	696/719	Medium
Red 640 nm	R4	735–785	eBioscience™ NovaFluor™ Red 725 Dye	636/725	High
			eBioscience™ NovaFluor™ Red 755 Dye	636/755	High
	R5	785LP	eBioscience™ APC-eFluor™ 780 Dye	651/785	High
IR 785 nm	IR1–IR2	798–856			
	IR3	860LP			

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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 355 nm	UV1	382–392			
	UV2	415–425	CellTrace™ Blue Cell Proliferation Kit	355/410	Proliferation tracking stain
			Vybrant™ DyeCycle™ Violet Stain	369/437	DNA stain
	UV3	426–442	Annexin V–Alexa Fluor™ 350 Conjugate	343/441	Apoptosis tracking stain
			Click-iT™ Plus EdU Alexa Fluor™ 350 Flow Cytometry Assay Kit	343/441	DNA stain
	UV4	448–462	LIVE/DEAD™ Fixable Blue Dead Cell Stain Kit	350/450	Fixable viability stain
	UV5	466–480	DAPI (4',6-diamidino-2-phenylindole) Nucleic Acid Stain	358/461	DNA stain
	UV6	498–516	FxCycle™ Violet Stain	358/461	DNA stain
UV7–UV12	542–822				
Violet 405 nm	V1–V2	415–442			
	V3	448–462	eBioscience™ Annexin V–eFluor™ 450, 7-AAD Stain	405/445	Apoptosis tracking stain
			CellTrace™ Violet Cell Proliferation Kit	405/450	Proliferation tracking stain
			LIVE/DEAD™ Fixable Violet Dead Cell Stain Kit	416/451	Fixable viability stain
			Annexin V–Pacific Blue™ Conjugate	404/455	Apoptosis tracking stain
			PO-PRO™-1 Iodide Solution; Click-iT™ Plus EdU Pacific Blue™ Flow Cytometry Assay Kit	435/455	DNA stain
	V4	466–480	SYTOX™ Blue Nucleic Acid Stain	444/480	DNA stain
	V5	498–516	LIVE/DEAD™ Fixable Lime (506) Viability Kit	405/506	Fixable viability stain
			LIVE/DEAD™ Fixable Aqua Dead Cell Stain Kit	375/526	Fixable viability stain
	V6	542–556	Violet Ratiometric Membrane Asymmetry Probe/Dead Cell Apoptosis Kit	425/530, 585	Fixable viability stain
V7	563–587	LIVE/DEAD™ Fixable Yellow Dead Cell Stain	400/575	Fixable viability stain	
V8–V11	603–763				
V12	770LP				
Blue 488 nm	B1	500–540	MitoProbe™ DiOC ₂ (3) Assay Kit	482/497	Mitochondria stain
			YO-PRO™-1 Iodide	491/509	DNA stain
			Annexin V-FITC Conjugate; Annexin V-Alexa Fluor™ 488 Conjugate	498/517	Apoptosis tracking stain
			CellTrace™ CFSE Cell Proliferation Kit	495/519	Proliferation tracking stain
			LIVE/DEAD™ Fixable Green Dead Cell Stain Kit	495/520	Fixable viability stain
			APO-BrdU™ TUNEL with Alexa Fluor™ 488 Anti-BrdU	499/520	DNA stain, apoptosis tracking stain
			Click-iT™ Plus EdU Alexa Fluor™ 488 Flow Cytometry Assay Kit	499/520	DNA stain
			CellIROX™ Green Reagent	485/520	Oxidation tracking stain
			SYTOX™ Green Nucleic Acid Stain	504/523	DNA stain
			MitoProbe™ JC-1 Assay Kit	514/529, 590	Mitochondria stain
			pHrodo™ Green Maleimide <i>E. coli</i> BioParticles Conjugate	509/533	Endocytosis tracking stain
			pHrodo™ Green Maleimide <i>S. aureus</i> BioParticles Conjugate	509/533	Endocytosis tracking stain
	CellEvent™ Caspase-3/7 Green Detection Reagent	502/530	Apoptosis tracking stain		
	Vybrant™ DyeCycle™ Green Stain	506/534	DNA stain		
	B2	542–556			
	B3	568–598	LIVE/DEAD™ Fixable Olive (557) Viability Kit	480/557	Fixable viability stain
			Vybrant™ DyeCycle™ Orange Stain	519/563	DNA stain
	B4–B5	603–685			
B6	708–732	eBioscience™ Annexin V–PerCP–eFluor™ 710 Apoptosis Detection Kit	482/708	Apoptosis tracking stain	
B7	750LP				
Yellow-green 561 nm	YG1	568–582	CellIROX™ Orange Flow Cytometry Assay Kit	545/565	Oxidation tracking stain
			Annexin-V Alexa Fluor™ 555 Conjugate	553/568	Apoptosis tracking stain
			SYTOX™ Orange Nucleic Acid Stain	547/570	DNA stain
			Tetramethylrhodamine, Ethyl Ester, Perchlorate (TMRE); Tetramethylrhodamine, Methyl Ester, Perchlorate (TMRM)	549/574	Mitochondria stain
			Annexin V–PE Conjugate	565/576	Apoptosis tracking stain
	CellTrace™ Yellow Cell Proliferation Kit	546/579	Proliferation tracking stain		
	YG2	582–596	pHrodo™ Red Maleimide <i>E. coli</i> BioParticles Conjugate	560/585	Endocytosis tracking stain
	YG3	598–612	LIVE/DEAD™ Fixable Orange (602) Viability Kit	580/602	Fixable viability stain
			Annexin V–Alexa Fluor™ 568 Conjugate	579/603	Apoptosis tracking stain
	YG4	615–629	LIVE/DEAD™ Fixable Red Dead Cell Stain Kit	595/615	Fixable viability stain
			Propidium Iodide; FxCycle™ PI/RNase Staining Solution	535/617	DNA stain
			Annexin V–Alexa Fluor™ 594 Conjugate	590/618	Apoptosis tracking stain
Click-iT™ Plus EdU Alexa Fluor™ 594 Flow Cytometry Assay Kit			590/618	DNA stain	
YG5	651–671	7-AAD (7-Aminoactinomycin D)	546/647	Viability stain	
		SYTOX™ AADvanced™ Dead Cell Stain Kit	535/647	DNA stain	
YG6–YG8	678–732				
YG9	735–785	eBioscience™ Annexin V–PE-Cyanine7 Apoptosis Detection Kit	569/780	Apoptosis tracking stain	
YG10–YG11	798–856				
YG12	860LP				
Red 640 nm	R1	651–671	pHrodo™ Deep Red <i>E. coli</i> BioParticles Conjugate	640/655	Endocytosis tracking stain
			SYTOX™ Red Dead Cell Stain; FxCycle™ Far Red Stain	640/658	DNA stain
			MitoProbe™ DiIC ₁ (5) Assay Kit	638/658	Mitochondria stain
			Annexin V–APC (Allophycocyanin) Conjugate	651/660	Apoptosis tracking stain
			TO-PRO™-3 Ready Flow™ Reagent	642/661	DNA stain
			CellTrace™ Far Red Cell Proliferation Kit	630/661	Proliferation tracking stain
			LIVE/DEAD™ Fixable Far Red Dead Cell Stain Kit	650/665	Fixable viability stain
			CellIROX™ Deep Red Reagent	644/665	Oxidation tracking stain
			Annexin V–Alexa Fluor™ 647 Conjugate	650/671	Apoptosis tracking stain
			Click-iT™ Plus EdU Alexa Fluor™ 647 Flow Cytometry Assay Kit	650/671	DNA stain
	SYTOX™ Deep Red Nucleic Acid Stain	660/682	DNA stain		
	R2	694–706	Vybrant™ DyeCycle™ Ruby Stain	638/686	DNA stain
DRAQ5™ Fluorescent Probe Solution; DRAQ7™ Dye			646/697	DNA stain	
		Annexin V–Alexa Fluor™ 680 Conjugate	681/704	Apoptosis tracking stain	
R3	708–732				
R4	735–785	LIVE/DEAD™ Fixable Scarlet (723) Viability Kit	700/775	Fixable viability stain	
		LIVE/DEAD™ Fixable Near-IR Dead Cell Stain Kit	750/780	Fixable viability stain	
R5	785LP				
IR 785 nm	IR1–IR2	798–856			
	IR3	860LP	LIVE/DEAD™ Fixable Near IR (876) Viability Kit	840/876	Fixable viability stain

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