



Fluorophore selection guide

Agilent NovoCyte Penteon Flow Cytometer

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Laser	Channel	Channel start–end (nm)	Recommended Invitrogen™ dye for antibody conjugates	Abs/Em (nm)	Relative brightness	
Ultraviolet 355 nm	UV1	422–468	Brilliant Ultra Violet™ 395 Dye	347/399	Low	
	UV2	502–548	Brilliant Ultra Violet™ 496 Dye	348/493	Medium	
	UV3	576–596	Brilliant Ultra Violet™ 563 Dye	349/563	Medium	
	UV4	605–625	Brilliant Ultra Violet™ 615 Dye	350/607	High	
	UV5	652–682	Brilliant Ultra Violet™ 661 Dye	349/659	High	
	UV6	705–745	Brilliant Ultra Violet™ 737 Dye	350/740	High	
	UV7	750–810	eBioscience™ NovaFluor™ UV 765 Dye	358/763	Medium	
			Brilliant Ultra Violet™ 805 Dye	349/804	Medium	
Violet 405 nm	V1	422–468	Brilliant Violet™ 421 Dye	406/423	High	
			eBioscience™ Super Bright™ 436 Dye	413/431	High	
			eBioscience™ eFluor™ 450 Dye	405/445	Low	
			Pacific Blue™ Dye	404/455	Low	
	V2	502–548	Brilliant Violet™ 480 Dye	437/478	Medium	
			eBioscience™ eFluor™ 506 Dye	419/508	Low	
	V3	576–596	Pacific Orange™ Dye	400/551	Low	
	V4	605–625	eBioscience™ Super Bright™ 600 Dye	414/601	Low	
			Brilliant Violet™ 605 Dye	407/605	Medium	
	V5	652–682	eBioscience™ Super Bright™ 645 Dye	414/645	Low	
			Brilliant Violet™ 650 Dye	407/646	High	
	V6	705–745	eBioscience™ NovaFluor™ Violet 690 Dye	408/691	High	
			eBioscience™ Super Bright™ 702 Dye	413/702	Medium	
			Brilliant Violet™ 711 Dye	406/711	Low	
			eBioscience™ NovaFluor™ Violet 745 Dye	391/743	Low	
	V7	750–810	eBioscience™ Super Bright™ 780 Dye	413/780	High	
			Brilliant Violet™ 786 Dye	406/788	High	
			eBioscience™ NovaFluor™ Violet 800 Dye	408/800	Low	
Blue 488 nm			B1	502–548	eBioscience™ NovaFluor™ Blue 510 Dye	496/511
	Alexa Fluor™ 488 Dye	490/525			Medium	
	Alexa Fluor™ 532 Dye	534/553			Low	
	eBioscience™ NovaFluor™ Blue 530 Dye	508/527			Low	
	eBioscience™ NovaFluor™ Blue 555 Dye	493/555			Low	
	Fluorescein (FITC)	498/517			Medium	
	B2	576–596	eBioscience™ NovaFluor™ Blue 585 Dye	493/586	Low	
	B3	605–625	eBioscience™ NovaFluor™ Blue 610-30S Dye	508/615	Low	
			eBioscience™ NovaFluor™ Blue 610-70S Dye	492/616	Medium	
	B4	652–682	eBioscience™ NovaFluor™ Blue 660-40S Dye	508/664	Low	
			eBioscience™ NovaFluor™ Blue 660-120S Dye	492/665	Medium	
	B5	675–715	PerCP	482/675	Low	
			PerCP-Cyanine5.5 Dye	489/679	Low	
	B6	705–745	eBioscience™ NovaFluor™ Blue 690 Dye	494/690	Low	
			PerCP-eFluor™ 710 Dye	482/708	High	
			eBioscience™ NovaFluor™ Blue 725 Dye	493/726	Medium	
			eBioscience™ NovaFluor™ Blue 760 Dye	490/764	Medium	
	Yellow-green 561 nm	YG1	576–596	eBioscience™ NovaFluor™ Yellow 570 Dye	551/566	Medium
R-phycoerythrin (R-PE)				565/576	High	
eBioscience™ NovaFluor™ Yellow 590 Dye				563/594	Medium	
Alexa Fluor™ 561 Dye				556/569	High	
YG2		605–625	eBioscience™ NovaFluor™ Yellow 610 Dye	551/614	High	
			eBioscience™ PE-eFluor™ 610 Dye	565/606	High	
YG3		652–682	eBioscience™ NovaFluor™ Yellow 660 Dye	550/664	High	
			eBioscience™ PE-Cyanine5 Dye	565/680	High	
YG4		675–715	eBioscience™ NovaFluor™ Yellow 690 Dye	551/691	High	
			eBioscience™ PE-Cyanine5.5 Dye	565/680	High	
YG5		705–745	eBioscience™ NovaFluor -Yellow 700 Dye	551/701	High	
			eBioscience™ NovaFluor™ Yellow 730 Dye	551/730	Medium	
			PE-Alexa Fluor™ 700 Dye	565/719	High	
YG6		750–810	eBioscience™ NovaFluor™ Yellow 755 Dye	552/755	Medium	
			PE-Cyanine7 Dye	569/780	Medium	
			eBioscience™ NovaFluor™ Yellow 810 Dye	551/813	High	
Red 640 nm		R1	652–682	Allophycocyanin (APC)	651/660	High
				eBioscience™ NovaFluor™ Red 660 Dye	637/658	High
	eBioscience™ eFluor™ 660 Dye			651/668	High	
	Alexa Fluor™ 647 Dye			650/671	Medium	
	R2	675–715	eBioscience™ NovaFluor™ Red 685 Dye	637/685	High	
			Alexa Fluor™ 660 Dye	663/691	Medium	
			eBioscience™ NovaFluor™ Red 700 Dye	637/701	High	
			eBioscience™ NovaFluor™ Red 710 Dye	637/713	High	
	R3	705–745	Alexa Fluor™ 700 Dye	696/719	Medium	
			eBioscience™ NovaFluor™ Red 725 Dye	636/725	High	
R4	750–810	eBioscience™ NovaFluor™ Red 755 Dye	636/755	High		
		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 355 nm	UV1	422–468	CellTrace™ Blue Cell Proliferation Kit	355/410	Proliferation tracking stain
			Vybrant™ DyeCycle™ Violet Stain	369/437	DNA stain Apoptosis
			Annexin V™ Alexa Fluor™ 350 Conjugate	343/441	tracking stain
			Click-iT™ Plus EdU Alexa Fluor™ 350 Flow Cytometry Assay Kit	343/441	DNA stain
			LIVE/DEAD™ Fixable Blue Dead Cell Stain	350/450	Fixable viability stain
			DAPI (4',6-diamidino-2-phenylindole)	358/461	DNA stain
			FxCycle™ Violet Stain	358/461	DNA stain
Violet 405 nm	V1	422–468	Hoechst 33342	361/497	DNA stain
	V2	502–548	eBioscience™ Annexin V–eFluor™ 450 Conjugate	405/445	Apoptosis tracking stain
			LIVE/DEAD™ Fixable Violet Dead Cell Stain	416/451	Fixable viability stain
Blue 488 nm	B1	502–548	CellTrace™ Violet Cell Proliferation Kit	405/450	Proliferation tracking stain
			Annexin V–Pacific Blue™ Conjugate	404/455	Apoptosis tracking stain
			PO-PRO™-1 Iodide Nucleic Acid Stain	435/455	DNA stain
			Click-iT™ Plus EdU Pacific Blue™ Flow Cytometry Assay Kit	404/455	DNA stain
			SYTOX™ Blue Nucleic Acid Stain	444/480	DNA stain
			LIVE/DEAD™ Fixable Lime (506) Viability Kit	405/506	Fixable viability stain
			Violet Ratiometric Membrane Asymmetry Probe/Dead Cell Apoptosis dye	425/530, 585	Apoptosis tracking stain
			LIVE/DEAD™ Fixable Aqua Dead Cell Stain	375/526	Fixable viability stain
			LIVE/DEAD™ Fixable Yellow Dead Cell Stain	400/575	Fixable viability stain
	B2	576–596	CellEvent™ Senescence Green Flow Cytometry Assay Kit	488/514	Mitochondria stain
			YO-PRO™-1 Iodide Nucleic Acid Stain	491/509	DNA stain
	B3–B5	605–715	CellTrace™ CFSE Cell Proliferation Kit	495/519	Proliferation tracking stain
			Vybrant™ DiO Cell-Labeling Solution	484/501	Lipophilic Tracer
			Annexin V–Alexa Fluor™ 488 Conjugate	499/520	Apoptosis tracking stain
			APO-BrdU™ TUNEL Assay Kit 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
			CellROX™ Green Reagent	485/520	Oxidation tracking 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
			MitoTracker™ Green FM Dye, for flow cytometry	488/516	Mitochondria stain
			CellEvent™ Caspase-3/7 Green Detection Reagent	502/530	Apoptosis tracking stain
			Vybrant™ DyeCycle™ Green Stain	506/534	DNA stain
			LIVE/DEAD™ Fixable Olive Viability Stain	480/557	Fixable viability stain
Yellow- green 561 nm	B6	705–745	Vybrant™ DyeCycle™ Orange Stain	519/563	DNA stain
	YG1	576–596	eBioscience™ Annexin V–PerCP–eFluor™ 710 Conjugate	482/708	Apoptosis tracking stain
			CellROX™ Orange Flow Cytometry Stain	545/565	Oxidation tracking stain
			Annexin V–Alexa Fluor™ 555 Conjugate	553/568	Apoptosis tracking stain
			MitoTracker™ Orange CMTMRos and Orange CMH2TMRos	554/576	Mitochondria stain
			Tetramethylrhodamine, Ethyl Ester, Perchlorate (TMRE)	549/574	Mitochondria stain
			Vybrant™ DiI Cell-Labeling Solution	549/574	Lipophilic membrane stain
			Annexin V–PE Conjugate	565/576	Apoptosis tracking stain
			CellTrace™ Yellow Cell Proliferation Kit	546/579	Proliferation tracking stain
			pHrodo™ Red Maleimide <i>E. coli</i> BioParticles Conjugate	560/585	Endocytosis tracking stain
			LIVE/DEAD™ Fixable Orange (602) Viability Kit	580/602	Fixable viability stain
	YG2	605–625	Annexin V–Alexa Fluor-568 Conjugate	579/603	Apoptosis tracking stain
			LIVE/DEAD™ Fixable Red Dead Cell Stain	595/615	Fixable viability stain
			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
			Propidium Iodide	535/617	DNA stain
	YG3	652–682	7-AAD (7-Aminoactinomycin D)	546/647	Viability stain
	YG4–YG6	675–745	SYTOX™ AADvanced™ Dead Cell Stain	535/647	DNA stain
Red 640 nm	YG6	750–810	eBioscience™ Annexin V–PE-Cyanine7 Conjugate	569/780	Apoptosis tracking stain
			pHrodo™ Deep Red Mammalian and Bacterial Cell Labeling Kit	640/655	Endocytosis tracking stain
			MitoTracker™ Deep Red FM	644/665	Mitochondria/Organelle Stain
			Vybrant™ DiD Cell-Labeling Solution	644/665	Lipophilic Tracer
			FxCycle™ Far Red Stain	633/660	DNA stain
			Annexin V–APC (Allophycocyanin)	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
			CellROX™ 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
	R1	652–682	SYTOX™ Deep Red Nucleic Acid Stain	660/682	DNA stain
			Vybrant™ DyeCycle-Ruby Stain	638/686	DNA stain
			DRAQ5™ Fluorescent Probe Solution (5 mM)	646/697	DNA stain
			DRAQ7™ Dye	646/697	DNA stain
			Annexin V–Alexa Fluor™ 680 Conjugate	681/704	Apoptosis tracking stain
	R2	675–715			
	R3	705–745			
	R4	750–810	LIVE/DEAD™ Fixable Scarlet (723) Viability Stain	700/775	Fixable viability stain
			LIVE/DEAD™ Fixable Near-IR Dead Cell Stain	750/780	Fixable viability stain

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