

# Fluorophore and reagent selection guide for flow cytometry



Invitrogen™ Attune™ NXT Flow Cytometer  
For more information, go to [thermofisher.com/attune](http://thermofisher.com/attune)



Invitrogen™ Attune™ CytPix™ Flow Cytometer  
For more information, go to [thermofisher.com/cytpix](http://thermofisher.com/cytpix)



Invitrogen™ Bigfoot™ Spectral Cell Sorter  
For more information, go to [thermofisher.com/bigfoot](http://thermofisher.com/bigfoot)

Excitation laser	Common emission filters (nm)	Attune NXT channel (nm)*	Recommended dyes for antibody conjugates	Viability dyes (compatible with fixation)	Viability dyes (for unfixed cells)	DNA content/cell cycle dyes (for live cells)	DNA content/cell cycle dyes (for fixed cells)	Apoptosis dyes	Cell proliferation dyes	Reactive oxygen species (ROS) dyes	Phagocytosis dyes	Fluorescent proteins	Other dyes
UV (~350 nm)	379/28	NA	Brilliant Ultra Violet 595										
	440/40	NA	Alexa Fluor 350	LIVE/DEAD Fixable Blue (450)	DAPI	Hoechst 33342	FxCycle Violet (DAPI)	Annexin V–Alexa Fluor 350	CellTrace Blue			ECFP	
	450/50		Alexa Fluor 405		SYTOX Blue	Vybrant DyeCycle Violet			Click-IT Plus EdU Alexa Fluor 350				
	515/30		Brilliant Ultra Violet 496										
	585/15		Brilliant Ultra Violet 563										
	610/20		Brilliant Ultra Violet 615										
	670/25		Brilliant Ultra Violet 661										
Violet (405 nm)	740/35	NA	Brilliant Ultra Violet 737										
	820/60	NA	Brilliant Ultra Violet 805										
	425/20	VL1 440/50	Super Bright 436									Azurite	
	440/50		eFluor 450									Cerulean	
	450/50	VL1 (V6**) 450/40	Brilliant Ultra Violet 421	LIVE/DEAD Fixable Violet (451)	DAPI	Vybrant DyeCycle Violet	FxCycle Violet (DAPI)	Annexin V–Pacific Blue	CellTrace Violet			TagBFP	VioBlue
	455/50		Pacific Blue		SYTOX Blue			Annexin V–eFluor 450	Click-IT Plus EdU Pacific Blue			ECFP	
	450/65		Alexa Fluor 405					PO-PRO-1				mTurquoise	
	460/50											AmCyan	
	510/50	VL2 512/25	Brilliant Violet 480										
	520/35	VL2 (V6) 525/50	eFluor 506	LIVE/DEAD Fixable Aqua (526)					Violet Ratiometric Probe (F2N12S)			T-Sapphire	Brilliant Violet 510
525/50			LIVE/DEAD Fixable Lime (506)									VioGreen	
530/40													
550/40													
Blue (488 nm)	585/40	VL3 603/48	Super Bright 600										
	610/20	VL3 (V6) 610/20	Pacific Orange	LIVE/DEAD Fixable Yellow (575)									Brilliant Violet 570
			Brilliant Violet 605						Violet Ratiometric Probe (F2N12S)				
			Qdot 605										
			Super Bright 645										
			Super Bright 702										
	660/20	VL4 710/50	Brilliant Violet 650										
	660/40	VL4 (V6) 660/20	Qdot 705										
	710/50		Brilliant Violet 711										
			Super Bright 702										
Green (532 nm)	780/60	VL6 780/60	Brilliant Violet 786										
			Qdot 800										
	525/50	BL1 530/30	Alexa Fluor 488										
	525/30	BL1 (G1) 525/50	FITC	LIVE/DEAD Fixable Green (520)	SYTOX Green	Vybrant DyeCycle Green		Annexin V–Alexa Fluor 488	CellTrace CFSE				BD Horizon RealBlue 545
	530/30		NovaFluor Blue 510					Annexin V–FITC	Click-IT Plus EdU Alexa Fluor 488	CellROX Green	pHrodo Green <i>E. coli</i> BioParticles Conjugate	EGFP	Brilliant Blue 515
	530/40		NovaFluor Blue 530					APO-BrdU TUNEL with Alexa Fluor 488			pHrodo Green <i>S. aureus</i> BioParticles Conjugate	Emerald GFP	
								CellEvent Caspase-3/7 Green			pHrodo Green <i>S. aureus</i> BioParticles Phagocytosis Kit for Flow Cytometry	EYFP	
								MitoProbe DiOC <sub>2</sub> (3)					
								MitoProbe JC-1					
								YO-PRO-1 Iodide					
Blue (488 nm)	574/26	BL2 574/26	PE										
	575/30		PE–eFluor 610										
	580/23	BL2 (G, Y) 590/40	PE–Alexa Fluor 610	LIVE/DEAD Fixable Red (615)	7-AAD								
	585/40		PE–Texas Red	LIVE/DEAD Fixable Olive (557)	Propidium Iodide (PI)	Vybrant DyeCycle Orange	FxCycle PI/RNase	Annexin V–PE			pHrodo Red <i>E. coli</i> BioParticles Conjugate	EYFP	BD Horizon PE-CF594
	586/15		NovaFluor Blue 585		SYTOX AADvanced			TMRE			pHrodo Red <i>S. aureus</i> BioParticles Conjugate	mCitrine	PE/Dazzle 594
	590/40		NovaFluor Blue 610–30S		SYTOX Orange			TMRM			pHrodo Red Phagocytosis Kit	Venus	
			NovaFluor Blue 610–70S					MitoProbe JC-1					
	670/30	BL3 695/40	PE–Cyanine5.5										
	675/30		PerCP										
	680/30		PerCP–Cyanine5.5										
695/30		PerCP–eFluor 710										PerCP-Vio 700	
695/40		NovaFluor Blue 660–40S											
710/50		NovaFluor Blue 660–120S											
710/50		NovaFluor Blue 690											
710/50		NovaFluor Blue 725											
750 LP	BL4 780/60	PE–Cyanine7											
775/50		NovaFluor Blue 760											
780/40												BD Horizon RealBlue 780	
780/60												PE-Vio 770	
Green (532 nm)	555/20	GL1 575/36	Alexa Fluor 532	LIVE/DEAD Fixable Orange (602)	SYTOX Orange	Vybrant DyeCycle Orange							
	575/24		Alexa Fluor 561										
	585/16		R-Phycoerythrin (R-PE, PE)										
	585/42												
	610/20	GL2 620/15	Alexa Fluor 568	LIVE/DEAD Fixable Red (615)	SYTOX AADvanced	Vybrant DyeCycle Orange	FxCycle PI/RNase	Annexin V–R-PE	CellTrace Yellow				
	620/15		Alexa Fluor 594	LIVE/DEAD Fixable Orange (602)	Propidium Iodide			Annexin V–Alexa Fluor 555					
	630/30		PE–Texas Red					MitoTracker Orange CMTMRos					
	695/40	GL3 695/40	PE–Alexa Fluor 700					Annexin V–Alexa Fluor 568					
	710/50		PE–Cyanine5.5					Annexin V–Alexa Fluor 594	Click-IT Plus EdU Alexa Fluor 594				
	780/60	GL4 780/60	PE–Cyanine7					MitoTracker Red CMXRos					
Yellow (661 nm)	585/40	YL1 585/16	Alexa Fluor 561										
	585/15		NovaFluor Yellow 570										
	590/40		NovaFluor Yellow 590										
			PE										
	610/20	YL2 620/15	NovaFluor Yellow 610	LIVE/DEAD Fixable Red (615)	7-AAD								
	613/20		PE–eFluor 610	LIVE/DEAD Fixable Orange (602)	Propidium Iodide	Vybrant DyeCycle Orange	FxCycle PI/RNase	Annexin V–Alexa Fluor 568					
	615/50		PE–Alexa Fluor 610					Annexin V–Alexa Fluor 594	Click-IT Plus EdU Alexa Fluor 594				
	620/15		PE–Texas Red										
	620/30												
670/30	YL3 695/40	NovaFluor Yellow 660											
675/30		NovaFluor Yellow 690											
680/30	YL3 (B†/Y/R††/V6) 780/60	NovaFluor Yellow 700											
685/30		NovaFluor Yellow 730											
695/40		PE–Alexa Fluor 700											
		PE–Cyanine5.5											
750 LP	YL4 780/60	NovaFluor Yellow 755											
780/40		PE–Cyanine7											
780/60												PE-Vio 770	
Red (637 nm)	660/20	RL1 670/14	Alexa Fluor 647	LIVE/DEAD Fixable Far Red (665)	SYTOX Red								
	661/20		Alexa Fluor 660										
	665/20		eFluor 660										
	670/14		APC										
	670/30		APC–Cyanine5.5										
675/30		NovaFluor Red 660											
		NovaFluor Red 685											
		Alexa Fluor 700											
720/30	RL2 720/30	NovaFluor Red 700	LIVE/DEAD Fixable Scarlet (723)										
730/45		NovaFluor Red 710										APC–R700	
		NovaFluor Red 725											
750 LP	RL3 780/60	APC–eFluor 780	LIVE/DEAD Fixable Near IR (775)										
775/50		APC–Alexa Fluor 750	LIVE/DEAD Fixable Near IR (780)										
780/40		APC–Cyanine7											
780/60		NovaFluor Red 755										APC–H7	
Near IR (808 nm)	885/40			LIVE/DEAD Fixable Near IR (876)									APC–Vio 770

\* Filter sets change depending on the configuration of the Attune NXT Flow Cytometer in use. \*\* V6: Attune NXT violet 6-channel configuration option. † G: green laser option. ‡ Y: yellow laser option. § B: blue laser option. †† R: red laser option. Note: Fixable viability dyes are recommended for use with Invitrogen™ NovaFluor™ dyes.

Design flow cytometry panels with our scientists for free using our panel design service at [thermofisher.com/paneldesign](http://thermofisher.com/paneldesign)

To find out more about Invitrogen™ antibodies, assays, and instruments for flow cytometry, go to [thermofisher.com/flowcytometry](http://thermofisher.com/flowcytometry)

**invitrogen**