

BD Horizon™ V500 Reagents

Violet Laser Reagents

Features

Deliver improved performance on flow cytometers equipped with violet lasers

Improved brightness over Pacific Orange™ and reduced spillover into the FITC channel compared to AmCyan

Maximize choice and flexibility for multicolor panel design

Optimized to be compatible with other BD reagents used on a BD FACS™ brand flow cytometer

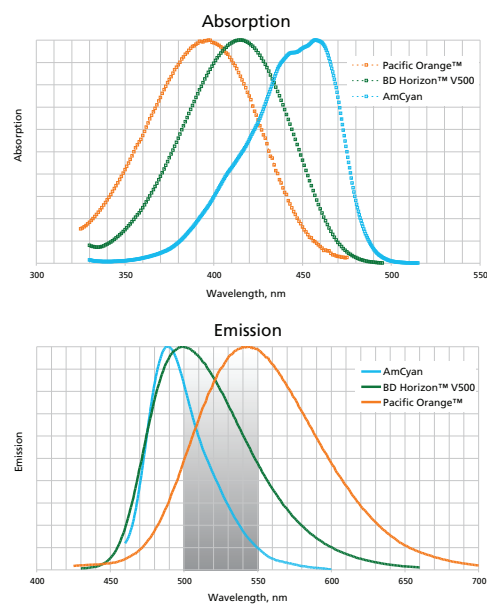


Figure 1. Absorption (top) and emission (bottom) spectra. The gray box represents a 525/50-nm filter commonly used on BD flow cytometers.

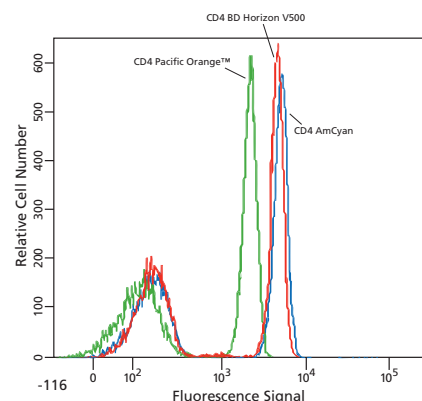


Figure 2. BD Horizon V500 is brighter than equivalent Pacific Orange™ conjugates.

Freshly isolated lymphocytes stained with CD4 (RPA-T4) conjugated to BD Horizon V500, Pacific Orange™, or AmCyan. Samples run on a BD FACSCanto II flow cytometer. BD Horizon V500 and AmCyan data collected using a 510/50-nm, 502 LP filter. Pacific Orange™ data collected using a 585/42-nm filter. The plots have been superimposed to clearly show signal comparison.

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BD Horizon™ V500 is a violet-excitable dye that has been engineered to improve brightness over Pacific Orange™ and reduce spectral overlap into the FITC channel compared to AmCyan. BD Horizon V500 is an organic dye that offers all the stability and compatibility typically found with this classification of dyes.

Optimized for the violet laser

BD Horizon V500 is a novel organic dye structure that has been specifically engineered to have optimized spectral characteristics for use with the violet laser.

The BD Horizon V500 dye is optimally suited for use with BD FACS brand flow cytometers equipped with violet lasers including the BD FACSCanto™ II flow cytometer, BD FACS Aria™ and BD Influx™ cell sorters, and the BD™ LSR cell analyzer family. When used with these instruments, BD Horizon V500 reagents demonstrate improved spectral characteristics compared to Pacific Orange™ and AmCyan.

With a maximum excitation at 415 nm and an emission peak at 500 nm, BD Horizon V500 is readily compatible with the standard filter sets on BD Biosciences FACS brand flow cytometers equipped with violet lasers (Figure 1).

Improved brightness and reduced spillover

BD Horizon V500 reagents maximize choice and flexibility for multicolor panel design by providing an optimal alternative to current offerings in this spectral range with improved brightness and reduced spillover (Figure 2 and Table 1).

Easier handling and better buffer compatibility compared to nanocrystal fluorescent conjugates

BD Horizon V500 reagents demonstrate compatibility with the standard BD staining buffers typically used in flow cytometry, with no specialized buffers required for optimal performance. BD Horizon V500 also demonstrates compatibility with both EDTA and heparin blood collection tubes. It shows stability in the presence of paraformaldehyde-based fixatives, as well as when pre-mixed and diluted in cocktail. Additionally, the BD Horizon V500 dye is only excited by the violet laser, simplifying multicolor panel design.

Convenient size options

BD Horizon V500 reagents are available in multiple sizes to address a range of requirements: from small sizes for multicolor panel pilot-scale experiments to 100-test sizes needed for routine assays. Bulk sizes and special packaging options are also available.

Visit bdbiosciences.com/colors for more information.



BD Horizon V500 violet laser dye

Tools to optimize setup, selection, and performance

To help advance the use of multicolor flow cytometry, BD Biosciences offers an expanding library of tools and resources relevant to both experienced researchers and those new to multicolor panel design (bdbiosciences.com/colors). In addition to this online resource, BD Biosciences offers one-on-one technical application support as part of our comprehensive customer services.

Description	% Spillover into the FITC channel	
	BD Horizon V500	AmCyan
Hu CD4	3%	26%
Hu CD19	5%	30%
Hu CD45	3%	28%

Table 1. BD Horizon V500 conjugates offer dramatically reduced spillover into the adjacent FITC channel when compared to AmCyan. Comparison of lysed whole blood stained with human CD4, CD19, or CD45 conjugated to BD Horizon V500 vs AmCyan. Experiment run on a BD™ LSR II flow cytometer, with spillover detected in the FITC channel.

Ordering Information

BD Horizon V500 RUO Reagents

Description	React.	Clone	Isotype	Size	Cat. No.
CD3	Hu	UCHT1	Ms IgG ₁ , κ	25 tests	561417
				100 tests	561416
CD4	Hu	RPA-T4	Ms IgG ₁ , κ	25 tests	560769
				100 tests	560768
CD8	Hu	RPA-T8	Ms IgG ₁ , κ	25 tests	560775
				100 tests	560774
		SK1	Ms IgG ₁ , κ	50 tests	561617
CD14	Hu	M5E2	Ms IgG _{2a} , κ	25 tests	561392
				100 tests	561391
CD15	Hu	HI98	Ms IgM, κ	50 tests	561585
CD16	Hu	3G8	Ms IgG ₁ , κ	25 tests	561393
				100 tests	561394
CD19	Hu	HIB19	Ms IgG ₁ , κ	25 tests	561125
				100 tests	561121
CD27	Hu	M-T271	Ms IgG ₁ , κ	25 tests	561223
				100 tests	561222
CD45	Hu	HI30	Ms IgG ₁ , κ	25 tests	560779
				100 tests	560777
CD45RA	Hu	HI100	Ms IgG _{2b} , κ	50 tests	561640
HLA-DR	Hu	L243 (G46-6)	Ms IgG _{2a} , κ	25 tests	561225
				100 tests	561224
IFN-γ	Hu	B27	Ms IgG ₁ , κ	50 tests	561980
IgD	Hu	IA6-2	Ms IgG _{2a} , κ	50 tests	561490
CD3	NHP	SP34-2	Ms IgG ₁ , λ	25 tests	560772
				100 tests	560770
CD4	NHP	L200	Ms IgG ₁ , κ	50 tests	561488
CD8	NHP	SK1	Ms IgG ₁ , κ	50 tests	561618
CD45	NHP	D058-1283	Ms IgG ₁ , κ	50 tests	561489

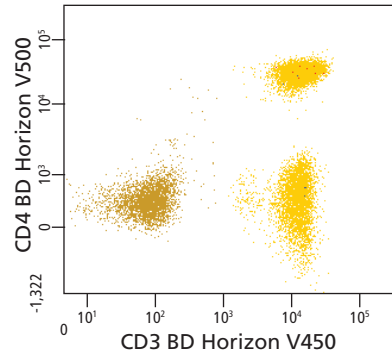


Figure 3. Example data of BD Horizon V500 used in combination with BD Horizon™ V450.

CD4 BD Horizon V500 and CD3 BD Horizon V450 staining on CD45-positive human lymphocytes.

Description	React.	Clone	Isotype	Size	Cat. No.
CD3e	Ms	500A2	Ham IgG ₂ , κ	25 µg	560773
				0.1 mg	560771
CD4	Ms	RM4-5	Rat IgG _{2a} , κ	25 µg	560783
				0.1 mg	560782
CD8a	Ms	53-6.7	Rat IgG _{2a} , κ	25 µg	560778
				0.1 mg	560776
CD11b	Ms	M1/70	Rat IgG _{2b} , κ	25 µg	562128
				0.1 mg	562127
CD44	Ms	IM7	Rat IgG _{2b} , κ	25 µg	560781
				0.1 mg	560780
CD45	Ms	30-F11	Rat IgG _{2b} , κ	50 µg	561487
				25 µg	562130
CD45.2	Ms	104	Ms IgG _{2a} , κ	0.1 mg	562129
				25 µg	561227
CD45R/B220	Ms	RA3-6B2	Rat IgG _{2a} , κ	25 µg	561227
				0.1 mg	561226
CD90.2	Ms	53-2.1	Rat IgG _{2a} , κ	50 µg	561616
I-A/I-E	Ms	M5/114.15.2	Rat IgG _{2b} , κ	50 µg	562366
Ly-6A/E (Sca-1)	Ms	D7	Rat IgG _{2a} , κ	25 µg	561229
				0.1 mg	561228
TER-119/ Erythroid Cells	Ms	TER-119	Rat IgG _{2b} , κ	50 µg	562120



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