BD Horizon Brilliant™ Violet 421 Analyte Specific Reagents

Violet Laser Reagents

Features

- Expands panel design options with PE-level brightness from a violet laser
- Enables excellent resolution of dim populations
- Supports multiplexing with other BD analyte specific reagents (ASRs)
- Developed using Nobel Prize winning chemistry

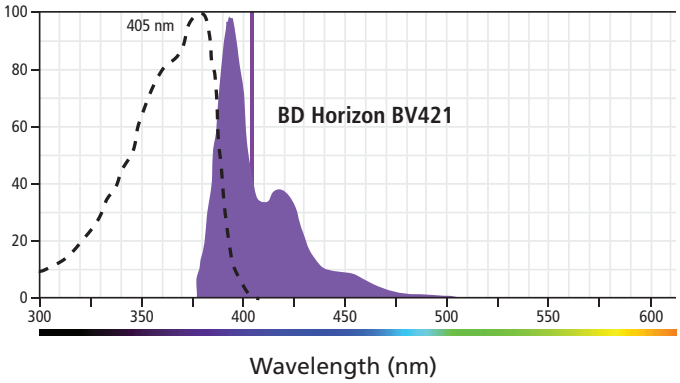

Figure 1. Absorption and emission spectra

Excitation maximum: 405 nm, emission maximum: 421 nm. Filter: 450/50-nm.

Resolution (Stain Index)				BD Horizon BV421 Brightness Relative to	
Specificity (Clone)	BD Horizon BV421	PE	BD Horizon V450	PE	BD Horizon V450
CD3 (SK7)	**801**	376	84	2.13	9.55
CD4 (SK3)	**402**	312	82	1.29	4.92
CD5 (L17F12)	**213**	207	72	1.03	2.95
CD19 (SJ25C1)	**227**	124	46	1.84	4.91
CD38 (HB7)	**38**	30	12	1.26	3.17
Average	***336***	*210*	*59*	**1.51**	**5.10**

Table 1. BD Horizon BV421 exhibits a stain index similar to or larger than PE and significantly larger than BD Horizon V450

Stain Index comparison. Lysed whole blood stained with BD Horizon BV421, PE, and BD Horizon V450. All conjugates were run at optimal concentrations on a BD FACSCanto™ system, 10-color configuration. For illustrative purposes. Performance may vary based on instrument and other factors.

BD Horizon Brilliant Violet 421 maximizes choice and flexibility for multicolor panel design

One of the brightest dyes offered by BD Biosciences, BD Horizon Brilliant™ Violet 421 (BV421), is particularly useful in multicolor applications where it can be used to better resolve dim populations. Now available as ASRs, the dye offers new options for multicolor panel design through the use of a violet laser. Additionally, the dye's spillover properties, stability under light and in standard buffers, and compatibility with blood collection tubes offer ease-of-use for a range of applications.

Very bright dye for a violet laser

BD Horizon BV421 is a polymer-based dye developed using Nobel Prize winning chemistry that provides a strong fluorescence signal needed to resolve dim populations. This polymer technology combines the ease-of-use of a traditional organic dye with the brightness of phycoerythrin (PE) for a violet laser. With a maximum excitation of 405 nm and an emission peak at 421 nm (Figure 1), BD Horizon BV421 can be used on flow cytometers equipped with a violet laser and appropriate filters, such as the 8-color (4-2-2 configuration) or 10-color BD FACSCanto™ System*. A brighter alternative to BD Horizon™ V450 (Table 1), the dye enables improved resolution (Figure 2), helpful for dim population identification.

Compatible with multiplexing for multicolor flexibility

BD Horizon BV421 ASRs exhibit low spillover into the primary adjacent channel, making it easier to incorporate them into multicolor experiments (Table 2). Additionally, they are compatible in combination with ASRs offered on BD's other dyes, supporting multicolor experiments**.

Stable for a range of workflows

BD Horizon BV421 ASRs are stable in ambient light for at least 24 hours and also stable at room temperature for at least 24 hours following whole blood staining and fixation with 1% paraformaldehyde. Additionally, they are able to be used with common buffers and other fixatives for cell surface staining, expanding options for staining protocols. This, combined with their compatibility with both EDTA and heparin blood collection tubes, offers ease-of-use for a range of laboratory protocols.

* Seven- to ten-color assays are for Research Use Only.

** If two or more BD Horizon Brilliant dyes are combined in the same multicolor staining cocktail, the dyes may interact with each other without the use of a buffering solution, such as the BD Horizon™ Brilliant Stain Buffer.

Visit **bdbiosciences.com** for more information.

Analyte Specific Reagent. Analytical and performance characteristics are not established.

BD Horizon Brilliant™ Violet 421 Analyte Specific Reagents

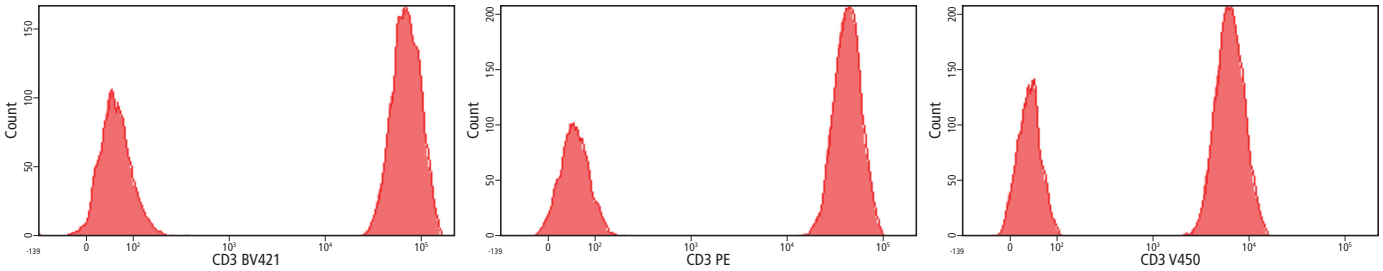

Figure 2. BD Horizon BV421 stained cells demonstrate similar resolution to the positive population compared to cells stained with PE, and better resolution compared to cells stained with BD Horizon V450

Lysed whole blood stained with BD Horizon BV421, PE, and BD Horizon V450 conjugated to CD3 (SK7) gated on lymphocytes on a BD FACSCanto™ system, 10-color configuration.

Specificity (Clone)	Spillover (% spillover into BD Horizon V500-C)
CD3 (SK7)	6.3
CD4 (SK3)	6.2
CD5 (L17F12)	6.2
CD19 (SJ25C1)	6.0
CD38 (HB7)	6.2
Average	***6.2***

Table 2. Across specificities, BD Horizon BV421 spillover values are low into the primary adjacent channel

Percent spillover into the BD Horizon V500-C channel of lysed whole blood stained with CD3, CD4, CD5, CD19, and CD38 BD Horizon BV421 on a BD FACSCanto™ system, 10-color configuration.

BD Horizon Brilliant Violet 421 Analyte Specific Reagents

Description	React.	Clone	Isotype	Size	Cat.No.
CD3	Hu	SK7	Ms IgG_1, κ	100 Tests	**659448**
CD4	Hu	SK3	Ms IgG_1, κ	100 Tests	**659476**
CD5	Hu	L17F12	Ms IgG_{2a}, κ	100 Tests	**659479**
CD10	Hu	HI10a	Ms IgG_1, κ	100 Tests	**659449**
CD14	Hu	MΦP9	Ms IgG_{2b}, κ	100 Tests	**659450**
CD19	Hu	SJ25C1	Ms IgG_1, κ	100 Tests	**659477**
CD20	Hu	L27	Ms IgG_1, κ	100 Tests	**659451**
CD38	Hu	HB7	Ms IgG_1, κ	100 Tests	**659478**
CD56	Hu	NCAM16.2	Ms IgG_{2b}, κ	100 Tests	**659452**
Mouse IgG1 Isotype Reagent	Hu	X40	Ms IgG_1, κ	100 Tests	**659453**

Class 1 Laser Product.

Analyte Specific Reagent. Analytical and performance characteristics are not established.

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