

Technical Data Sheet

BV421 Mouse Anti-Human CD4

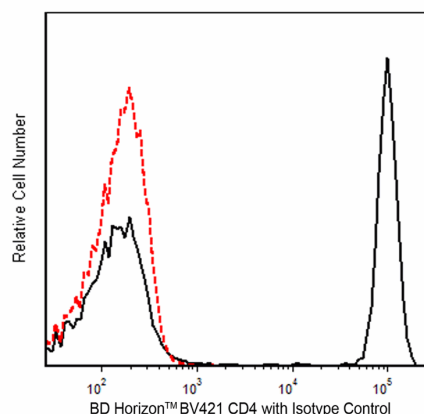
Product Information

Material Number:	562425
Alternate Name:	L3T4; T-cell surface antigen T4/Leu-3; W3/25; CD4 antigen (p55)
Size:	25 tests
Vol. per Test:	5 µl
Clone:	RPA-T4
Isotype:	Mouse IgG1, κ
Reactivity:	QC Testing: Human
Workshop:	IV T114
Storage Buffer:	Aqueous buffered solution containing BSA and ≤0.09% sodium azide.

Description

The RPA-T4 monoclonal antibody specifically binds to CD4, a 59 kDa single-chain transmembrane glycoprotein that is expressed on T-helper/inducer cell populations. CD4 is also expressed on thymocytes subsets and at lower levels on monocytes and macrophages. CD4 functions as a co-receptor in MHC class II-restricted antigen-induced T cell activation and as a receptor for human immunodeficiency viruses (HIV). This antibody binds to the D1 domain (CDR1 and CDR3 epitopes) of the CD4 antigen and reacts with approximately 80% of thymocytes and 45% of peripheral blood lymphocytes. RPA-T4 is capable of blocking HIV-1, gp120, and inhibits syncytium formation.

The antibody was conjugated to BD Horizon™ BV421 which is part of the BD Horizon™ Brilliant Violet™ family of dyes. With an Ex Max of 407-nm and Em Max at 421-nm, BD Horizon™ BV421 can be excited by the violet laser and detected in the standard Pacific Blue™ filter set (eg, 450/50-nm filter). BD Horizon™ BV421 conjugates are very bright, often exhibiting a 10 fold improvement in brightness compared to Pacific Blue™ conjugates.



Flow cytometric analysis of CD4 expression on human peripheral blood lymphocytes. Human whole blood was stained with the BD Horizon™ BV421 Mouse anti-Human CD4 antibody (Cat. No. 562424/562425; solid line histogram) or with a BD Horizon™ BV421 Mouse IgG1, κ Isotype Control (Cat. No. 562438; dashed line histogram). The erythrocytes were lysed with BD Pharm Lyse™ Lysing Buffer (Cat. No. 555899). The fluorescence histograms were derived from events with the forward and side light-scatter characteristics of viable lymphocytes. Flow cytometry was performed using a BD FACSCanto™ II Flow Cytometer System.

Preparation and Storage

Store undiluted at 4°C and protected from prolonged exposure to light. Do not freeze.

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.

The antibody was conjugated with BD Horizon™ BV421 under optimum conditions, and unconjugated antibody and free BD Horizon™ BV421 were removed.

Application Notes

Application

Flow cytometry	Routinely Tested
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Suggested Companion Products

Catalog Number	Name	Size	Clone
562424	BV421 Mouse Anti-Human CD4	100 tests	RPA-T4
562438	BV421 Mouse IgG1, κ Isotype Control	50 µg	X40
555899	Lysing Buffer	100 ml	(none)
554656	Stain Buffer (FBS)	500 ml	(none)

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Product Notices

1. This reagent has been pre-diluted for use at the recommended Volume per Test. We typically use 1×10^6 cells in a 100- μ l experimental sample (a test).
2. An isotype control should be used at the same concentration as the antibody of interest.
3. Brilliant Violet™ 421 is a trademark of Sirigen.
4. Pacific Blue™ is a trademark of Molecular Probes, Inc., Eugene, OR.
5. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
6. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing.
7. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at www.bdbiosciences.com/colors.
8. Please refer to www.bdbiosciences.com/pharming/protocols for technical protocols.

References

Knapp W, Dörken B, Gilks WR, et al, ed. *Leucocyte Typing IV*. New York, NY: Oxford University Press; 1989:1-1182. (Biology)

Piatier-Tonneau D. CD4 workshop panel report. In: Kishimoto T, Kikutani H, von dem Borne A, et al., editors, ed. *Leucocyte Typing VI : White Cell Differentiation Antigens*. New York: Garland Pub; 1997:49-54. (Clone-specific: Blocking, Flow cytometry, Inhibition)

Schlossman SF, Boumsell L, Gilks W, et al, ed. *Leukocyte Typing V: White Cell Differentiation Antigens*. New York: Oxford University Press; 1995. (Biology)

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