Technical Data Sheet

BV421 Mouse Anti-Human CD123

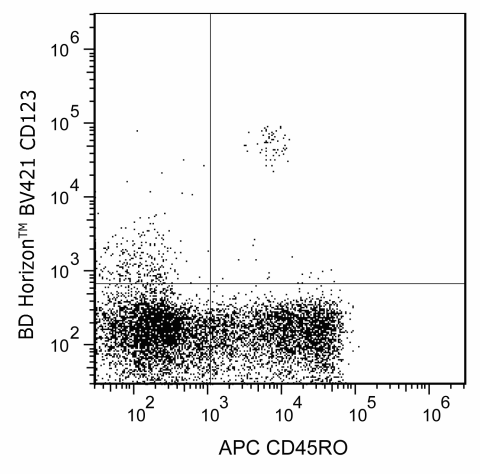
Product Information

Material Number:	**562517**
Alternate Name:	IL-3 Receptor α chain
Size:	50 tests
Vol. per Test:	5 µl
Clone:	9F5
Immunogen:	Human IL-3Rα Transfected Cell Line
Isotype:	Mouse (BALB/c) IgG1, κ
Reactivity:	QC Testing: Human
Workshop:	VI C-67
Storage Buffer:	Aqueous buffered solution containing BSA and ≤0.09% sodium azide.

Description

The 9F5 monoclonal antibody specifically binds to CD123. CD123 is the 70 kDa IL-3 receptor α chain (IL-3Rα) that associates with the 120-140 kDa β subunit (CD131/Common β-chain/βc) to form the functional IL-3 receptor complex. The βc chain is also shared with distinct α chain subunits to form the functional heterodimeric receptors for interleukins IL-5 and GM-CSF. IL-3Rα is expressed on a subset of peripheral blood dendritic cells, myeloid precursors, basophils, mast cells, macrophages, and megakaryocytes. Reports indicate that IL-3Rα is also expressed on lymphocytes. The IL-3R plays an important role in hematopoietic progenitor cell growth and differentiation. This antibody does not block binding of IL-3 to the IL-3 receptor.

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.



Multicolor flow cytometric analysis of CD123 expression on human peripheral blood lymphocytes. *Human whole blood was stained with the BD Horizon™ BV421 Mouse Anti-Human CD123 antibody (Cat. No. 562517) and APC Mouse Anti-Human CD45RO antibody (Cat. No. 560899/559865). The erythrocytes were lysed with BD Pharm Lyse™ Lysing Buffer (Cat. No. 555899). The two color flow cytometric dot plot shows the correlated expression of CD45RO versus CD123 for gated events with the forward and side light-scatter characteristics of viable lymphocytes. Quadrant markers were placed based upon the corresponding fluorescent immunoglobulin isotype controls (data not shown). 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
562438	BV421 Mouse IgG1, k Isotype Control	50 µg	X40
555899	Lysing Buffer	100 ml	(none)
554656	Stain Buffer (FBS)	500 ml	(none)
560899	APC Mouse Anti-Human CD45RO	25 tests	UCHL1
559865	APC Mouse Anti-Human CD45RO	100 tests	UCHL1

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-µl 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/pharmingen/protocols for technical protocols.

References

Kishimoto T, von dem Borne AEG, Goyert SM,et al., ed. *Leucocyte Typing VI: White Cell Differentiation Antigens.* London: Garland Publishing; 1997. (Clone-specific)

Korpelainen EI, Gamble JR, Smith WB, et al. The receptor for interleukin 3 is selectively induced in human endothelial cells by tumor necrosis factor alpha and potentiates interleukin 8 secretion and neutrophil transmigration. *Proc Natl Acad Sci U S A.* 1993; 90(23):11137-11141. (Clone-specific: Flow cytometry, Immunofluorescence)

Macardle PJ, Chen Z, Shih CY, Huang CM, Weedon H, Sun Q, Lopez AF, Zola H. Characterization of human leucocytes bearing the IL-3 receptor. *Cell Immunol.* 1996; 168(1):59-68. (Biology)

Smith WB, Guida L, Sun Q, Korpelainen EI, van den Heuvel C, Gillis D, Hawrylowicz CM, Vadas MA, Lopez AF. Neutrophils activated by granulocyte-macrophage colony-stimulating factor express receptors for interleukin-3 which mediate class II expression. *Blood.* 1995; 86(10):3938-3944. (Clone-specific: Flow cytometry)

Sun Q, Woodcock JM, Rapoport A, et al. Monoclonal antibody 7G3 recognizes the N-terminal domain of the human interleukin-3 (IL-3) receptor alpha-chain and functions as a specific IL-3 receptor antagonist. *Blood.* 1996; 87(1):83-92. (Clone-specific: Immunoprecipitation, Western blot)

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