

Technical Data Sheet

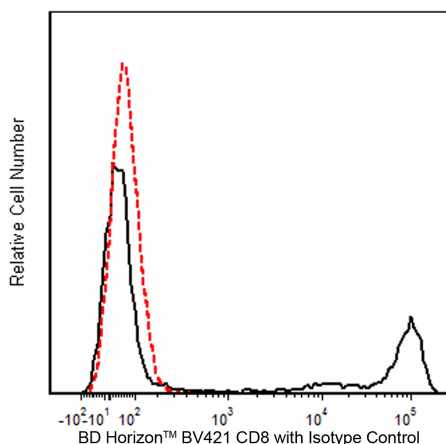
BV421 Mouse Anti-Human CD8**Product Information**

Material Number:	562428
Alternate Name:	CD8 α ; CD8A; CD8 alpha; Leu2; MAL; T8; p32
Size:	100 Tests
Vol. per Test:	5 μ l
Clone:	RPA-T8
Isotype:	Mouse IgG1, κ
Reactivity:	QC Testing: Human Tested in Development: Rhesus, Cynomolgus, Baboon IV T171; V T-CD08.03; VI 6T-CD8.1, 6T-081
Workshop:	
Storage Buffer:	Aqueous buffered solution containing BSA and $\leq 0.09\%$ sodium azide.

Description

The RPA-T8 monoclonal antibody specifically binds to CD8 alpha (CD8 α). CD8 α is a type I transmembrane glycoprotein and a member of the immunoglobulin superfamily. CD8 α is expressed by the majority of thymocytes, by subpopulations of $\alpha\beta$ T cells and $\gamma\delta$ T cells and by some NK cells. Cell surface CD8 α is expressed either as a disulfide-linked homodimer (CD8 $\alpha\alpha$) or as a heterodimer (CD8 $\alpha\beta$) when disulfide-bonded to a CD8 beta chain (CD8 β). CD8-positive $\alpha\beta$ T cells coexpress both CD8 $\alpha\alpha$ homodimers and CD8 $\alpha\beta$ heterodimers whereas some $\gamma\delta$ T cells and NK cells express CD8 $\alpha\alpha$ homodimers. CD8 plays important roles in T cell activation and selection. The extracellular IgSF domain of CD8 α binds to a non-polymorphic determinant on HLA class I molecules ($\alpha 3$ domain) and enables CD8 to function as a co-receptor with MHC class I-restricted TCR during T cell recognition of antigen. The cytoplasmic domain of CD8 α associates with Lck, a Src family protein tyrosine kinase that is involved in intracellular signaling. The RPA-T8 and HIT8a monoclonal antibodies are not cross-blocking. This clone has been reported to react with a subset of peripheral blood lymphocytes, but not monocytes nor granulocytes, of baboon and both rhesus and cynomolgus macaque monkey. In general, a higher frequency of CD8+ and CD4+CD8+ lymphocytes are observed in non-human primates compared to normal human donors.

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 CD8 α expression on human peripheral blood lymphocytes. Human whole blood was stained with the BD Horizon™ BV421 Mouse anti-Human CD8 antibody (Cat. No. 562428/562429; solid line histogram) or with 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.

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562428 Rev. 3



Application Notes

Application

Flow cytometry

Routinely Tested

Suggested Companion Products

Catalog Number	Name	Size	Clone
554656	Stain Buffer (FBS)	500 mL	(none)
555899	Lysing Buffer	100 mL	(none)
562438	BV421 Mouse IgG1, k Isotype Control	50 µg	X40
562429	BV421 Mouse Anti-Human CD8	25 Tests	RPA-T8

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. 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.
4. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
5. Species testing during development may have been performed with a different format of the same clone. Selected applications have been tested for cross-reactivity.
6. Pacific Blue™ is a trademark of Molecular Probes, Inc., Eugene, OR.
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

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

Schlossman SF, Boumsell L, Gilks W, et al, ed. *Leucocyte Typing V*. New York: Oxford University Press; 1995. (Clone-specific)

Zola H, Swart B, Nicholson I, Voss E. *Leucocyte and Stromal Cell Molecules. The CD Markers*. Hoboken, New Jersey: John Wiley & Sons, Inc.; 2007:1-581. (Biology)

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