Technical Data Sheet

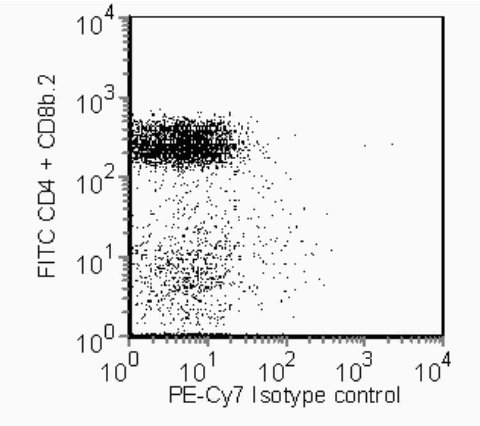
PE-Cy™7 Rat Anti-Mouse Vα2 TCR

Product Information

Material Number:	**560624**
Size:	50 µg
Concentration:	0.2 mg/ml
Clone:	B20.1
Immunogen:	Soluble αβ TCR from mouse cytotoxic T-cell clone KB5-C20
Isotype:	Rat (LOU) IgG2a, λ
Reactivity:	QC Testing: Mouse
Storage Buffer:	Aqueous buffered solution containing ≤0.09% sodium azide.

Description

The B20.1 monoclonal antibody specifically binds to most members of the Vα2 T-cell Receptor (TCR) subfamily in mice having the *a, b,* and *c* haplotypes of the *Tcrb* gene complex. B20.1 antibody may crossreact with Vδ8 TCR, which shares >90% sequence homology with Vα2 TCR. Levels of B20.1+ T cells appear to be influenced by Vα haplotypes. Moreover, the frequencies of Vα2+ CD8+ and CD4+ T cells are influenced by H-2 haplotypes.



Flow cytometric analysis of Vα2 TcR on mouse lymph node cells. *Lymph node cells from BALB/c mice were stained with FITC Rat Anti-Mouse CD4 (Cat. No. 553046) and FITC Rat Anti-Mouse CD8b.2 (Cat. No. 553040) in addition to either a PE-Cy™7 Rat IgG2a, λ isotype control (left panel) or with the PE-Cy™7 Rat Anti-Mouse Vα2 TcR antibody (right panel). Dot plots were derived from gated events based on light scattering characteristics for lymph node cells. Flow cytometry was performed on a BD™ LSR II flow cytometry 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 PE-Cy7 under optimum conditions, and unconjugated antibody and free PE-Cy7 were removed.

Application Notes

Application

Flow cytometry	Routinely Tested

Suggested Companion Products

Catalog Number	Name	Size	Clone
560721	PE-Cy™7 Rat IgG2a, λ Isotype Control	0.1 mg	B39-4
553141	Purified Rat Anti-Mouse CD16/CD32 (Mouse BD Fc Block™)	0.1 mg	2.4G2
553046	FITC Rat Anti-Mouse CD4	0.1 mg	RM4-5
553040	FITC Rat Anti-Mouse CD8b.2	0.5 mg	53-5.8

Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. An isotype control should be used at the same concentration as the antibody of interest.
3. Warning: Some APC-Cy7 and PE-Cy7 conjugates show changes in their emission spectrum with prolonged exposure to formaldehyde. If you are unable to analyze fixed samples within four hours, we recommend that you use BD™ Stabilizing Fixative (Cat. No. 338036).
4. Please observe the following precautions: Absorption of visible light can significantly alter the energy transfer occurring in any tandem fluorochrome conjugate; therefore, we recommend that special precautions be taken (such as wrapping vials, tubes, or racks in aluminum foil) to prevent exposure of conjugated reagents, including cells stained with those reagents, to room illumination.

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5. Cy is a trademark of Amersham Biosciences Limited. This conjugated product is sold under license to the following patents: US Patent Nos. 5,486,616; 5,569,587; 5,569,766; 5,627,027.
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7. PE-Cy7 is a tandem fluorochrome composed of R-phycoerythrin (PE), which is excited by 488-nm light and serves as an energy donor, coupled to the cyanine dye Cy7, which acts as an energy acceptor and fluoresces maximally at 780 nm. PE-Cy7 tandem fluorochrome emission is collected in a detector for fluorescence wavelengths of 750 nm and higher. Although every effort is made to minimize the lot-to-lot variation in the efficiency of the fluorochrome energy transfer, differences in the residual emission from PE may be observed. Therefore, we recommend that individual compensation controls be performed for every PE-Cy7 conjugate. PE-Cy7 is optimized for use with a single argon ion laser emitting 488-nm light, and there is no significant overlap between PE-Cy7 and FITC emission spectra. When using dual-laser cytometers, which may directly excite both PE and Cy7, we recommend the use of cross-beam compensation during data acquisition or software compensation during data analysis.
8. 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.
9. For fluorochrome spectra and suitable instrument settings, please refer to our Fluorochrome Web Page at www.bdbiosciences.com/colors.
10. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.

References

Gregoire C, Rebai N, Schweisguth F, et al. Engineered secreted T-cell receptor alpha beta heterodimers. *Proc Natl Acad Sci U S A.* 1991; 88(18):8077-8081. (Biology)

Pircher H, Rebaï N, Groettrup M, et al. Preferential positive selection of V alpha 2+ CD8+ T cells in mouse strains expressing both H-2k and T cell receptor V alpha a haplotypes: determination with a V alpha 2-specific monoclonal antibody. *Eur J Immunol.* 1992; 22(2):399-404. (Immunogen)

Tomonari K, Fairchild S, Rosenwasser OA. Influence of viral superantigens on V beta- and V alpha-specific positive and negative selection. *Immunol Rev.* 1993; 131:131-168. (Biology)