

Technical Data Sheet

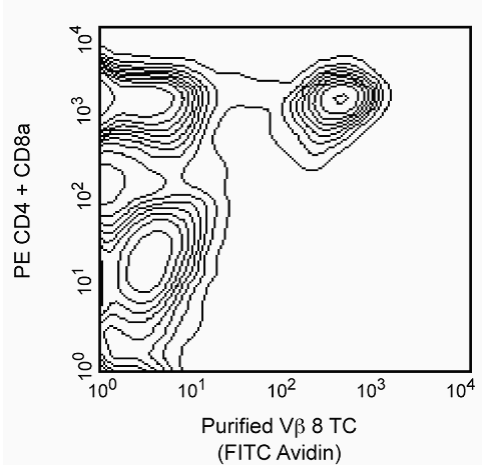
Biotin Mouse Anti-Mouse Vβ 8 T-Cell Receptor

Product Information

Material Number:	553860
Size:	0.25 mg
Concentration:	0.5 mg/ml
Clone:	F23.1
Immunogen:	BALB.B Mouse Lymph-Node and Spleen T Cells
Isotype:	Mouse (C57L) IgG2a, κ
Reactivity:	QC Testing: Mouse
Storage Buffer:	Aqueous buffered solution containing ≤0.09% sodium azide.

Description

The F23.1 antibody reacts with the Vβ 8.1, Vβ 8.2, and Vβ 8.3 T-cell receptors (TCR) of mice having the *b* haplotype (e.g., A, AKR, BALB/c, CBA/Ca, CBA/J, C3H/He, C57BL, C58, DBA/1, DBA/2) of the *Tcrb* gene complex. The *Tcrb-V8* subfamily gene loci are deleted in mice having the *a* (e.g., C57BR, C57L, SJL, SWR) or *c* (e.g., RIII) haplotype. Vβ 8.1 TCR-bearing T lymphocytes are clonally eliminated in mice expressing superantigen coded by *Mtv-7 (Mls-1a, Mlsa)* provirus (e.g., AKR, CBA/J, C58, DBA/2), and activation or elimination of Vβ 8.1 TCR-expressing T cells by this determinant is partially dependent upon presentation by I-E. *Mtv-43* and/or exogenous MMTV-SW superantigens also cause incomplete elimination of Vβ 8.1 TCR-bearing T cells. In addition to expression on conventional T lymphocytes, Vβ 8.2 is the predominant β chain of the TCR on NK-T cells. Staphylococcal enterotoxin B, in association with antigen-presenting cells expressing I-A and/or I-E, stimulates lymphocytes bearing Vβ 8 TCR and selectively eliminates those T cells *in vivo*. Soluble and plate-bound F23.1 antibody activates Vβ 8 TCR-bearing T cells, soluble antibody blocks cytotoxicity mediated by Vβ 8 TCR-bearing cytotoxic T lymphocytes, and *in vivo* treatment of neonatal mice can arrest intrathymic maturation of Vβ 8 TCR-bearing T cells.



Preparation and Storage

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography. The antibody was conjugated with biotin under optimum conditions, and unreacted biotin was removed. Store undiluted at 4°C and protected from prolonged exposure to light. Do not freeze.

Application Notes

Application

Flow cytometry	Routinely Tested
Immunohistochemistry-frozen	Reported
Electron microscopy	Reported

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Suggested Companion Products

Catalog Number	Name	Size	Clone
553048	PE Rat Anti-Mouse CD4	0.1 mg	RM4-5
553032	PE Rat Anti-Mouse CD8a	0.1 mg	53-6.7
554057	Avidin FITC	0.5 mg	(none)

Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Please refer to www.bdbiosciences.com/pharming/en/protocols for technical protocols.
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.

References

Behlke MA, Chou HS, Huppi K, Loh DY. Murine T-cell receptor mutants with deletions of beta-chain variable region genes. *Proc Natl Acad Sci U S A*. 1986; 83(3):767-771.(Biology)

Behlke MA, Henkel TJ, Anderson SJ, et al. Expression of a murine polyclonal T cell receptor marker correlates with the use of specific members of the V beta 8 gene segment subfamily. *J Exp Med*. 1987; 165(1):257-262.(Biology)

Bendelac A. Mouse NK1+ T cells. *Curr Opin Immunol*. 1995; 7(3):367-374.(Biology)

Farr AG, Anderson SK. In situ localization of T cell receptor beta chain in the murine thymus: changes in the intrathymic distribution of thymocytes expressing beta chain during fetal development. *Cell Immunol*. 1988; 116(1):135-148.(Clone-specific: Electron microscopy)

Haqqi TM, Banerjee S, Anderson GD, David CS. RIII S/J (H-2r). An inbred mouse strain with a massive deletion of T cell receptor V beta genes. *J Exp Med*. 1989; 169(6):1903-1909.(Biology)

Hodes RJ, Abe R. Mouse endogenous superantigens: Mls and Mls-like determinants encoded by mouse retroviruses. In: Coligan JE, Kruisbeek AM, Margulies DH, Shevach EM, Strober W, ed. *Current Protocols in Immunology*. New York: John Wiley & Sons; 1996:A.1F.1-A.1F.5.(Biology)

Hugo P, Kappler JW, Godfrey DI, Marrack PC. Thymic epithelial cell lines that mediate positive selection can also induce thymocyte clonal deletion. *J Immunol*. 1994; 152(3):1022-1031.(Biology)

Kappler JW, Staerz U, White J, Marrack PC. Self-tolerance eliminates T cells specific for Mls-modified products of the major histocompatibility complex. *Nature*. 1988; 332(6159):35-40.(Biology)

Kyewski BA, Schirmacher V, Allison JP. Antibodies against the T cell receptor/CD3 complex interfere with distinct intra-thymic cell-cell interactions in vivo: correlation with arrest of T cell differentiation. *Eur J Immunol*. 1989; 19(5):857-863.(Biology)

MacDonald HR, Baschieri S, Lees RK. Clonal expansion precedes anergy and death of V beta 8+ peripheral T cells responding to staphylococcal enterotoxin B in vivo. *Eur J Immunol*. 1991; 21(8):1963-1966.(Biology)

Mogil RJ, Radvanyi L, Gonzalez-Quintal R, et al. Fas (CD95) participates in peripheral T cell deletion and associated apoptosis in vivo. *Int Immunol*. 1995; 7(9):1451-1458.(Biology)

Renno T, Hahne M, Tschopp J, MacDonald HR. Peripheral T cells undergoing superantigen-induced apoptosis in vivo express B220 and upregulate Fas and Fas ligand. *J Exp Med*. 1996; 183(2):431-437.(Biology)

Staerz UD, Rammensee HG, Benedetto JD, Bevan MJ. Characterization of a murine monoclonal antibody specific for an allotypic determinant on T cell antigen receptor. *J Immunol*. 1985; 134(6):3994-4000.(Immunogen)

White J, Herman A, Pullen AM, Kubo R, Kappler JW, Marrack P. The V beta-specific superantigen staphylococcal enterotoxin B: stimulation of mature T cells and clonal deletion in neonatal mice. *Cell*. 1989; 56(1):27-35.(Biology)

Wolff CH, Hong SC, von Grafenstein H, Janeway CA Jr. TCR-CD4 and TCR-TCR interactions as distinctive mechanisms for the induction of increased intracellular calcium in T-cell signalling. *J Immunol*. 1993; 151(3):1337-1345.(Biology)

Yagi J, Nakata M, Uchiyama T, et al. Superantigen-like properties of an antibody bispecific for MHC class II molecules and the V beta domain of the T cell antigen receptor. *J Immunol*. 1994; 152(8):3833-3841.(Biology)