

Anti-Mouse TCR Beta Antibody, Clone H57-597

Hamster (Armenian) monoclonal antibody against mouse T cell receptor beta, unconjugated

Catalog #100-1610

100 µg

0.5 mg/mL

Product Description

This monoclonal antibody reacts with the beta chain of mouse T cell receptor (TCR). TCR beta is a member of the immunoglobulin superfamily and together with the TCR alpha chain form the alpha-beta TCR. TCR beta is expressed by thymocytes in a developmentally regulated manner and by majority of peripheral T cells. Small number of T cells express an alternative heteromer of gamma and delta protein chains, known as the gamma-delta TCR. TCR-CD3 complex in conjunction with co-receptors CD4 or CD8 enable the recognition and response to antigens attached to major histocompatibility complex (MHC) molecules on antigen-presenting cells. Crosslinking of the TCR complex with H57-597 induces activation and proliferation of T cells or apoptosis, based on assay conditions. The H57-597 antibody clone has been widely used as a phenotypic indicator for T cells expressing alpha-beta TCR. This antibody does not cross-react with cells expressing the gamma-delta TCR.

Target Antigen:	TCR beta
Alternative Names:	Tcrb, TCR-b chain, TCR beta, Tib
Gene ID:	21577
Species Reactivity:	Mouse
Host Species:	Hamster
Clonality:	Monoclonal
Clone:	H57-597
Isotype:	Armenian hamster IgG
Immunogen:	Affinity-purified TCR from mouse T cell hybridoma DO-11.10
Conjugate:	Unconjugated

Applications

Verified Applications:	FC
Reported Applications:	FC, ICC/IF, IHC/IF, IP

Abbreviations: CellSep: Cell separation; ChIP: Chromatin immunoprecipitation; FA: Functional assay; FACS: Fluorescence-activated cell sorting; FC: Flow cytometry; FCXM: Flow cytometric crossmatch assay; FISH: Fluorescence in situ hybridization; ICC: Immunocytochemistry; IF: Immunofluorescence microscopy; IHC: Immunohistochemistry; IHC-F: Immunohistochemistry (frozen-tissue); IHC-P: Immunohistochemistry (paraffin-embedded); IP: Immunoprecipitation; NMR: Nuclear magnetic resonance spectroscopy; RIA: Radioimmunoassay; WB: Western blotting

Properties

Product Formulation:	Phosphate-buffered saline, pH 7.2, containing 0.09% sodium azide
Purification:	The antibody was purified by affinity chromatography.
Stability and Storage:	Product stable at 2 - 8°C when stored undiluted. Do not freeze. Stable until expiry date (EXP) on label.
Directions for Use:	For flow cytometry, the suggested use of this antibody is $\leq 1 \mu\text{g}$ per 1×10^6 cells in 100 μL . It is recommended that the antibody be titrated for optimal performance for each application.

Related Products

For a complete list of antibodies, including other conjugates, sizes, and clones, as well as related products available from STEMCELL Technologies, visit www.stemcell.com/antibodies, or contact us at techsupport@stemcell.com.

References

- Berent-Maoz B et al. (2012) Fibroblast growth factor-7 partially reverses murine thymocyte progenitor aging by repression of Ink4a. *Blood* 119(24): 5715–21.
- Doisne J-M et al. (2009) Skin and peripheral lymph node invariant NKT cells are mainly retinoic acid receptor-related orphan receptor $\gamma\text{t}+$ and respond preferentially under inflammatory conditions. *J Immunol* 183(3): 2142–9.
- Harada N et al. (2004) IL-12 gene therapy is an effective therapeutic strategy for hepatocellular carcinoma in immunosuppressed mice. *J Immunol* 173(11): 6635–44.
- Kaczmarek J et al. (2014) Liver sinusoidal endothelial cell-mediated CD8 T cell priming depends on co-inhibitory signal integration over time. *PLoS One* 9(6): e99574.
- Kisielow J et al. (2019) Deciphering CD4+ T cell specificity using novel MHC–TCR chimeric receptors. *Nat Immunol* 20(5): 652–62.
- Kubo RT et al. (1989) Characterization of a monoclonal antibody which detects all murine alpha beta T cell receptors. *J Immunol* 142(8): 2736–42.
- Matei IR et al. (2007) ATM deficiency disrupts Tcr α locus integrity and the maturation of CD4+CD8+ thymocytes. *Blood* 109(5): 1887–96.
- O'Brien RL et al. (2009) Protective role of gammadelta T cells in spontaneous ocular inflammation. *Invest Ophthalmol Vis Sci* 50(7): 3266–74.
- Oh-hora M et al. (2019) Stromal interaction molecule deficiency in T cells promotes spontaneous follicular helper T cell development and causes type 2 immune disorders. *J Immunol* 202(9): 2616–27.
- Pastor S et al. (2006) Analyses of TCR clustering at the T cell–antigen-presenting cell interface and its impact on the activation of naive CD4+ T cells. *Int Immunol* 18(11): 1615–25.
- Sun D et al. (2001) Myelin antigen-specific CD8+ T cells are encephalitogenic and produce severe disease in C57BL/6 mice. *J Immunol* 166(12): 7579–87.
- Wang D et al. (2012) Inhibition of S-phase kinase-associated protein 2 (Skp2) reprograms and converts diabetogenic T cells to Foxp3+ regulatory T cells. *Proc Natl Acad Sci U S A* 109(24): 9493–8.
- Yumimoto K et al. (2015) F-box protein FBXW7 inhibits cancer metastasis in a non-cell-autonomous manner. *J Clin Invest* 125(2): 621–35.

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