TOLL FREE PHONE 1 800 667 0322 • PHONE +1 604 877 0713
INFO@STEMCELL.COM • TECHSUPPORT@STEMCELL.COM
FOR GLOBAL CONTACT DETAILS VISIT WWW.STEMCELL.COM

Anti-Mouse TCR Beta Antibody, Clone H57-597, PerCP-Cy5.5

Hamster (Armenian) monoclonal antibody against mouse T cell receptor beta, PerCP-Cy5.5-conjugated

Catalog #100-1614 100 µg 0.2 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:	PerCP-Cy5.5 (Peridinin chlorophyll protein complex-Cyanine5.5)

Applications

Verified Applications: FC

Reported Applications: FC

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 and 0.1% gelatin

Purification: The antibody was purified by affinity chromatography and conjugated with PerCP-Cy5.5 under optimal conditions. The solution is free of unconjugated PerCP-Cy5.5.

Stability and Storage: Product stable at 2 - 8°C when stored undiluted. Do not freeze. Protect product from prolonged exposure to light. Stable until expiry date (EXP) on label.

Directions for Use: For flow cytometry, the suggested use of this antibody is ≤ 1 µg per 1 x 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 γt+ 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 Tcra 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.