

Anti-Mouse CD3 Antibody, Clone 17A2

Rat monoclonal antibody against mouse CD3, unconjugated

Catalog #100-1606

100 µg

0.5 mg/mL

Product Description

This monoclonal antibody reacts with the mouse cluster of differentiation 3 (CD3) complex, which consists of epsilon, gamma, delta, and zeta polypeptide chains. CD3 is a member of the immunoglobulin superfamily and is primarily expressed on T cells, NK-T cells, and at different levels on thymocytes during T cell differentiation. CD3 protein chains assemble with chains of T cell receptor (TCR) and together they form the TCR-CD3 complex. TCR-CD3 complex plays an important role in coupling antigen recognition to several intracellular signal-transduction pathways. This complex is critical for T cell development and function, and it represents one of the most complex transmembrane receptors. Blocking studies using a CD3E-targeting antibody suggests that the 17A2 clone of CD3 antibody recognizes an epitope on the epsilon chain of the CD3 complex. The 17A2 antibody clone is widely used as a phenotypic marker for mouse T cells. In addition, as the CD3E chain within the TCR-CD3 complex contains intracellular signaling domains, binding of the 17A2 antibody clone to CD3 can induce cell activation.

Target Antigen:	CD3
Alternative Names:	CD3 epsilon, T3 complex, T cell antigen receptor complex
Gene ID:	12501
Species Reactivity:	Mouse
Host Species:	Rat
Clonality:	Monoclonal
Clone:	17A2
Isotype:	IgG2b, kappa
Immunogen:	γδ TCR-positive T-T hybridoma D1
Conjugate:	Unconjugated

Applications

Verified Applications: FC

Reported Applications: FC, 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

- Angsana J et al. (2015) Syndecan-1 modulates the motility and resolution responses of macrophages. *Arterioscler Thromb Vasc Biol* 35(2): 332–40.
- Bas A et al. (2011) Butyrophilin-like 1 encodes an enterocyte protein that selectively regulates functional interactions with T lymphocytes. *Proc Natl Acad Sci U S A* 108(11): 4376–81.
- Fernandes RA et al. (2012) T cell receptors are structures capable of initiating signaling in the absence of large conformational rearrangements. *J Biol Chem* 287(16): 13324–35.
- Joetham A et al. (2020) Dichotomous role of TGF- β controls inducible regulatory T-cell fate in allergic airway disease through Smad3 and TGF- β -activated kinase 1. *J Allergy Clin Immunol* 145(3): 933–46.
- Li SX et al. (2019) Gut microbiota from high-risk men who have sex with men drive immune activation in gnotobiotic mice and in vitro HIV infection. *PLoS Pathog* 15(4): e1007611.
- Mairhofer DG et al. (2015) Impaired gp100-specific CD8⁺ T-cell responses in the presence of myeloid-derived suppressor cells in a spontaneous mouse melanoma model. *J Invest Dermatol* 135(11): 2785–93.
- Miescher GC et al. (1989) Production and characterization of a rat monoclonal antibody against the murine CD3 molecular complex. *Immunol Lett* 23(2): 113–8.
- Ocaña-Guzmán R et al. (2022) Murine RAW macrophages are a suitable model to study the CD3 signaling in myeloid cells. *Cells* 11(10):1635.
- Xiang G et al. (2022) UBR5 targets tumor suppressor CDC73 proteolytically to promote aggressive breast cancer. *Cell Death Dis* 13(5): 451.

PRODUCTS ARE FOR RESEARCH USE ONLY AND NOT INTENDED FOR HUMAN OR ANIMAL DIAGNOSTIC OR THERAPEUTIC USES UNLESS OTHERWISE STATED.

Copyright © 2024 by STEMCELL Technologies Inc. All rights reserved including graphics and images. STEMCELL Technologies & Design, STEMCELL Shield Design, and Scientists Helping Scientists are trademarks of STEMCELL Technologies Canada Inc. All other trademarks are the property of their respective holders. While STEMCELL has made all reasonable efforts to ensure that the information provided by STEMCELL and its suppliers is correct, it makes no warranties or representations as to the accuracy or completeness of such information.