

Biotin anti-mouse TCR β chain Antibody

Catalog# / Size	109203 / 50 μ g 109204 / 500 μ g
Clone	H57-597
Regulatory Status	RUO
Other Names	TCR- β chain, TCR- β , β -TCR
Isotype	Armenian Hamster IgG
Description	T cell receptor (TCR) is a heterodimer consisting of an α and a β chain (TCR α/β) or a γ and a δ chain (TCR γ/δ). TCR- β is a member of the immunoglobulin superfamily and a component of the CD3/TCR complex (along with TCR- α). It is expressed on α/β TCR-bearing T cells and thymocytes. The CD3/TCR complex plays a key role in antigen recognition, signal transduction, and T cell activation.

Product Details

Verified Reactivity	Mouse
Antibody Type	Monoclonal
Host Species	Armenian Hamster
Immunogen	Affinity purified TCR from mouse DO-11.10 cells
Formulation	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide.
Preparation	The antibody was purified by affinity chromatography, and conjugated with biotin under optimal conditions.
Concentration	0.5 mg/ml
Storage & Handling	The antibody solution should be stored undiluted between 2°C and 8°C. Do not freeze.
Application	FC - Quality tested IHC-F - Verified
Recommended Usage	Each lot of this antibody is quality control tested by immunofluorescent staining with flow cytometric analysis . For flow cytometric staining, the suggested use of this reagent is $\leq 0.25 \mu\text{g}$ per 10^6 cells in 100 μl volume. For immunohistochemical staining on frozen tissue sections, the suggested use of this reagent is 2.5 - 5.0 μg per ml. It is recommended that the reagent be titrated for optimal performance for each application.
Application Notes	H57-597 is a hamster mAb directed to an epitope of the C region of TCR β chain ¹² . The H57-597 antibody does not cross-react with γ/δ TCR-bearing T cells. Immobilized or soluble H57-597 antibody can activate α/β TCR-bearing T cells. Additional reported applications (for the relevant formats) for this antibody include: immunoprecipitation ² , <i>in vitro</i> stimulation ^{2,3} , <i>in vivo</i> depletion ⁴⁻⁶ , and immunohistochemical staining of acetone-fixed frozen sections ^{7,8,9} . The Ultra-LEAF™ purified antibody (Endotoxin <0.01 EU/ μ g, Azide-Free, 0.2 μm filtered) is recommended for functional assays (Cat. No. 109253-109258).
Application References	<ol style="list-style-type: none"> 1. Gascoigne NJ. 1990. <i>J. Biol. Chem.</i> 265:9296. 2. Kruisbeek A, <i>et al.</i> 1991. <i>In Current Protocols in Immunology</i>. pp. 3.12.1. (Costim IP) 3. Davenport C, <i>et al.</i> 1995. <i>J. Immunol.</i> 155:3742. (Costim) 4. Drobyski W, <i>et al.</i> 1996. <i>Blood</i> 87:5355. (Deplete) 5. Kummer U, <i>et al.</i> 2001. <i>Immunol. Lett.</i> 75:153. (Deplete) 6. van der Heyde HC, <i>et al.</i> 1995. <i>J. Immunol.</i> 154:3985. (Deplete) 7. Tomita K, <i>et al.</i> 1999. <i>Genes Dev.</i> 13:1203. (IHC) 8. Podd BS, <i>et al.</i> 2006. <i>J. Immunol.</i> 176:6532. (IHC) 9. Ponomarev ED, <i>et al.</i> 2007. <i>J. Immunol.</i> 178:39. (IHC) 10. Chappaz S, <i>et al.</i> 2007. <i>Blood</i> doi:10.1182/blood-2007-02-074245. (FC) PubMed 11. Tsukumo S, <i>et al.</i> 2006. <i>J. Immunol.</i> 177:8365. (FC) PubMed 12. Grégoire C, <i>et al.</i> 1991. <i>Proc. Natl. Acad. Sci USA</i> 88:8077.
(PubMed link indicates BioLegend citation)	

Product Citations

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RRID

AB_313426 (BioLegend Cat. No. 109203)
AB_313427 (BioLegend Cat. No. 109204)

Antigen Details

Structure	Ig superfamily, CD3/TCR complex with CD3 and TCR α subunit
Distribution	Majority of T cells and thymocytes (correlated to differentiation)
Function	Antigen recognition, T cell activation
Ligand/Receptor	Peptide bound-MHC class I and II
Antigen References	<ol style="list-style-type: none">1. Davis MM, <i>et al.</i> 1998. <i>Ann. Rev. Immunol.</i> 16:523.2. Huppa JB, <i>et al.</i> 2003. <i>Nat. Immunol.</i> 4:749.3. Kubo R, <i>et al.</i> 1989. <i>J. Immunol.</i> 142:2736.
Gene ID	21577

Related Protocols

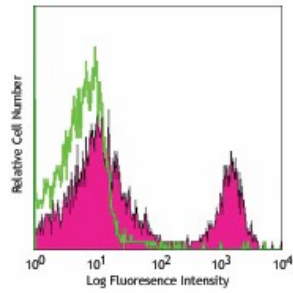
[Immunohistochemistry Protocol for Frozen Sections](#)

[Cell Surface Flow Cytometry Staining Protocol](#)

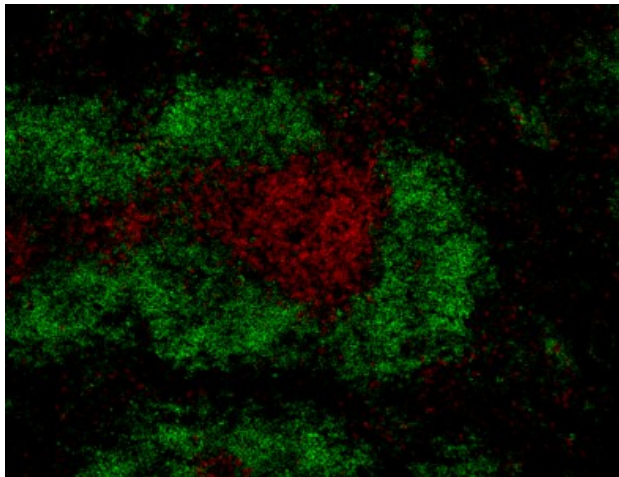
Other Formats

APC anti-mouse TCR β chain, Biotin anti-mouse TCR β chain, FITC anti-mouse TCR β chain, PE anti-mouse TCR β chain, PE/Cyanine5 anti-mouse TCR β chain, Purified anti-mouse TCR β chain, Alexa Fluor® 488 anti-mouse TCR β chain, Alexa Fluor® 647 anti-mouse TCR β chain, APC/Cyanine7 anti-mouse TCR β chain, PE/Cyanine7 anti-mouse TCR β chain, Alexa Fluor® 700 anti-mouse TCR β chain, Pacific Blue™ anti-mouse TCR β chain, Brilliant Violet 421™ anti-mouse TCR β chain, PerCP/Cyanine5.5 anti-mouse TCR β chain, Brilliant Violet 570™ anti-mouse TCR β chain, Brilliant Violet 510™ anti-mouse TCR β chain, Purified anti-mouse TCR β chain (Maxpar® Ready), Alexa Fluor® 594 anti-mouse TCR β chain, PE/Dazzle™ 594 anti-mouse TCR β chain, Brilliant Violet 605™ anti-mouse TCR β chain, Brilliant Violet 711™ anti-mouse TCR β chain, APC/Fire™ 750 anti-mouse TCR β chain, TotalSeq™-A0120 anti-mouse TCR β chain, Brilliant Violet 785™ anti-mouse TCR β chain, Brilliant Violet 650™ anti-mouse TCR β chain, Ultra-LEAF™ Purified anti-mouse TCR β chain, TotalSeq™-C0120 anti-mouse TCR β chain, TotalSeq™-B0120 anti-mouse TCR β chain

Product Data



C57BL/6 mouse splenocytes stained with biotinylated H57-597, followed by Sav-PE



C57BL/6 mouse frozen spleen section was fixed with 4% paraformaldehyde (PFA) for 10 minutes at room temperature and blocked with 5% FBS for 30 minutes at room temperature. Then the section was stained with 10 µg/ml of anti-mouse TCR β chain (clone H57-597) Biotin and anti-mouse B220 (clone RA3-6B2) Alexa Fluor® 488 (green) overnight at 4°C, followed by 2.5 µg/ml of Streptavidin Alexa Fluor® 594 (red) for 2 hours at room temperature. The image was captured by 10X objective.

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