

Alexa Fluor® 488 anti-mouse TCR β chain Antibody

| | |
|--------------------------|--|
| Catalog# / Size | 109216 / 25 µg 109215 / 100 µg |
| 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 Alexa Fluor® 488 under optimal conditions. |
| Concentration | 0.5 mg/ml |
| Storage & Handling | The antibody solution should be stored undiluted between 2°C and 8°C, and protected from prolonged exposure to light. Do not freeze. |
| Application | FC - Quality tested |
| Recommended Usage | <p>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 ≤ 0.25 µg per 10⁶ cells in 100 µl volume. It is recommended that the reagent be titrated for optimal performance for each application.</p> <p>* Alexa Fluor® 488 has a maximum emission of 519 nm when it is excited at 488 nm.</p> <p>Alexa Fluor® and Pacific Blue™ are trademarks of Life Technologies Corporation.</p> <p>View full statement regarding label licenses</p> |
| Excitation Laser | Blue Laser (488 nm) |
| 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/µg, 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) |
| (PubMed link indicates BioLegend citation) | |

6. van der Heyde HC, *et al.* 1995. *J. Immunol.* 154:3985. (Deplete)
7. Tomita K, *et al.* 1999. *Genes Dev.* 13:1203. (IHC)
8. Podd BS, *et al.* 2006. *J. Immunol.* 176:6532. (IHC)
9. Ponomarev ED, *et al.* 2007. *J. Immunol.* 178:39. (IHC)
10. Chappaz S, *et al.* 2007. *Blood* doi:10.1182/blood-2007-02-074245. (FC) [PubMed](#)
11. Tsukumo S, *et al.* 2006. *J.Immunol.* 177:8365. (FC) [PubMed](#)
12. Grégoire C, *et al.* 1991. *Proc. Natl. Acad. Sci USA* 88:8077.

Product Citations

1. Bergot AS, *et al.* 2020. *J Immunol.* 204:1787. [PubMed](#)
2. Dosenovic P, *et al.* 2012. *J Immunol.* 188:6018. [PubMed](#)
3. Chen JS, *et al.* 2022. *Sci Immunol.* 7:eabl5652. [PubMed](#)
4. Wagner V, *et al.* 2016. *Sci Transl Med.* 8: 366ra164. [PubMed](#)
5. Liu D *et al.* 2019. *Immunity.* 51(1):64-76. [PubMed](#)
6. Wong HS, *et al.* 2021. *Cell.* [PubMed](#)
7. Pigeon S, *et al.* 2016. *Proc Natl Acad Sci U S A.* 113: E5454 - E5463. [PubMed](#)
8. Yang BH, *et al.* 2020. *Cell Reports.* 27(12):3629-3645.e6.. [PubMed](#)
9. Pasciuto E, *et al.* 2020. *Cell.* 182:625. [PubMed](#)
10. Georgoudaki A, *et al.* 2016. *Cell Rep.* 15: 2000-2011. [PubMed](#)
11. Yuan X, *et al.* 2017. *Elife.* 6:e29540. [PubMed](#)
12. Jacobs L, *et al.* 2022. *Cancer Gene Ther.* 29:984. [PubMed](#)

RRID

AB_493345 (BioLegend Cat. No. 109216)
 AB_493344 (BioLegend Cat. No. 109215)

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

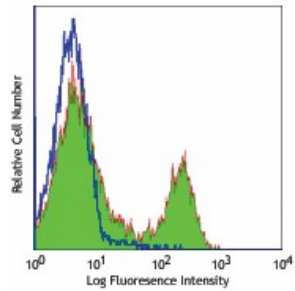
[Cell Surface Flow Cytometry Staining Protocol](#)

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 H57-597 Alexa Fluor® 488



For research use only. Not for diagnostic use. Not for resale. BioLegend will not be held responsible for patent infringement or other violations that may occur with the use of our products.

*These products may be covered by one or more Limited Use Label Licenses (see the BioLegend Catalog or our website, www.biolegend.com/ordering#license). BioLegend products may not be transferred to third parties, resold, modified for resale, or used to manufacture commercial products, reverse engineer functionally similar materials, or to provide a service to third parties without written approval of BioLegend. By use of these products you accept the terms and conditions of all applicable Limited Use Label Licenses. Unless otherwise indicated, these products are for research use only and are not intended for human or animal diagnostic, therapeutic or commercial use.

BioLegend Inc., 8999 BioLegend Way, San Diego, CA 92121 www.biolegend.com
Toll-Free Phone: 1-877-Bio-Legend (246-5343) Phone: (858) 768-5800 Fax: (877) 455-9587