

## Alexa Fluor<sup>®</sup> 488 anti-mouse TCR $\beta$ chain Antibody

<b>Catalog# / Size</b>	109216 / 25 $\mu$ g 109215 / 100 $\mu$ g
<b>Clone</b>	H57-597
<b>Regulatory Status</b>	RUO
<b>Other Names</b>	TCR- $\beta$ chain, TCR- $\beta$ , $\beta$ -TCR
<b>Isotype</b>	Armenian Hamster IgG
<b>Description</b>	T cell receptor (TCR) is a heterodimer consisting of an $\alpha$ and a $\beta$ chain (TCR $\alpha/\beta$ ) or a $\gamma$ and a $\delta$ chain (TCR $\gamma/\delta$ ). TCR- $\beta$ is a member of the immunoglobulin superfamily and a component of the CD3/TCR complex (along with TCR- $\alpha$ ). It is expressed on $\alpha/\beta$ 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

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<b>Verified Reactivity</b>	Mouse
<b>Antibody Type</b>	Monoclonal
<b>Host Species</b>	Armenian Hamster
<b>Immunogen</b>	Affinity purified TCR from mouse DO-11.10 cells
<b>Formulation</b>	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide.
<b>Preparation</b>	The antibody was purified by affinity chromatography and conjugated with Alexa Fluor <sup>®</sup> 488 under optimal conditions.
<b>Concentration</b>	0.5 mg/ml
<b>Storage &amp; Handling</b>	The antibody solution should be stored undiluted between 2°C and 8°C, and protected from prolonged exposure to light. <b>Do not freeze.</b>
<b>Application</b>	<a href="#">FC - Quality tested</a>
<b>Recommended Usage</b>	Each lot of this antibody is quality control tested by <a href="#">immunofluorescent staining with flow cytometric analysis</a> . For flow cytometric staining, the suggested use of this reagent is $\leq 0.25 \mu\text{g}$ per $10^6$ cells in 100 $\mu\text{l}$ volume. It is recommended that the reagent be titrated for optimal performance for each application.  * Alexa Fluor <sup>®</sup> 488 has a maximum emission of 519 nm when it is excited at 488 nm.  Alexa Fluor <sup>®</sup> and Pacific Blue™ are trademarks of Life Technologies Corporation.  <a href="#">View full statement regarding label licenses</a>
<b>Excitation Laser</b>	Blue Laser (488 nm)
<b>Application Notes</b>	H57-597 is a hamster mAb directed to an epitope of the C region of TCR $\beta$ chain <sup>12</sup> . The H57-597 antibody does not cross-react with $\gamma/\delta$ TCR-bearing T cells. Immobilized or soluble H57-597 antibody can activate $\alpha/\beta$ TCR-bearing T cells. Additional reported applications (for the relevant formats) for this antibody include: immunoprecipitation <sup>2</sup> , <i>in vitro</i> stimulation <sup>2,3</sup> , <i>in vivo</i> depletion <sup>4-6</sup> , and immunohistochemical staining of acetone-fixed frozen sections <sup>7,8,9</sup> . The Ultra-LEAF™ purified antibody (Endotoxin <0.01 EU/ $\mu\text{g}$ , Azide-Free, 0.2 $\mu\text{m}$ filtered) is recommended for functional assays (Cat. No. 109253-109258).
<b>Application References</b>	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)
<b>(PubMed link indicates BioLegend citation)</b>	

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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](#)
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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

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<b>Structure</b>	Ig superfamily, CD3/TCR complex with CD3 and TCR $\alpha$ subunit
<b>Distribution</b>	Majority of T cells and thymocytes (correlated to differentiation)
<b>Function</b>	Antigen recognition, T cell activation
<b>Ligand/Receptor</b>	Peptide bound-MHC class I and II
<b>Antigen References</b>	<ol style="list-style-type: none"> <li>1. Davis MM, <i>et al.</i> 1998. <i>Ann. Rev. Immunol.</i> 16:523.</li> <li>2. Huppa JB, <i>et al.</i> 2003. <i>Nat. Immunol.</i> 4:749.</li> <li>3. Kubo R, <i>et al.</i> 1989. <i>J. Immunol.</i> 142:2736.</li> </ol>
<b>Gene ID</b>	<a href="#">21577</a>

## Related Protocols

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[Cell Surface Flow Cytometry Staining Protocol](#)

## Other Formats

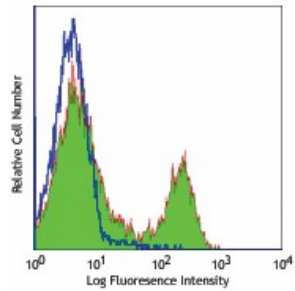
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APC anti-mouse TCR  $\beta$  chain, Biotin anti-mouse TCR  $\beta$  chain, FITC anti-mouse TCR  $\beta$  chain, PE anti-mouse TCR  $\beta$  chain, PE/Cyanine5 anti-mouse TCR  $\beta$  chain, Purified anti-mouse TCR  $\beta$  chain, Alexa Fluor® 488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

## Product Data

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C57BL/6 mouse splenocytes stained  
with H57-597 Alexa Fluor® 488



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