

## Brilliant Violet 711™ anti-mouse TCR β chain Antibody

<b>Catalog# / Size</b>	109243 / 50 µg
<b>Clone</b>	H57-597
<b>Regulatory Status</b>	RUO
<b>Other Names</b>	TCR-β chain, TCR-β, β-TCR
<b>Isotype</b>	Armenian Hamster IgG
<b>Description</b>	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

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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 and BSA (origin USA).
<b>Preparation</b>	The antibody was purified by affinity chromatography and conjugated with Brilliant Violet 711™ under optimal conditions.
<b>Concentration</b>	0.2 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>	<p>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 ≤0.5 µg per million cells in 100 µl volume. It is recommended that the reagent be titrated for optimal performance for each application.</p> <p>Brilliant Violet 711™ excites at 405 nm and emits at 711 nm. The bandpass filter 710/50 nm is recommended for detection, although filter optimization may be required depending on other fluorophores used. <b>Be sure to verify that your cytometer configuration and software setup are appropriate for detecting this channel.</b> Refer to your instrument manual or manufacturer for support. Brilliant Violet 711™ is a trademark of Sirigen Group Ltd.</p> <p><a href="#">Learn more about Brilliant Violet™.</a></p> <p>This product is subject to proprietary rights of Sirigen Inc. and is made and sold under license from Sirigen Inc. The purchase of this product conveys to the buyer a non-transferable right to use the purchased product for research purposes only. This product may not be resold or incorporated in any manner into another product for resale. Any use for therapeutics or diagnostics is strictly prohibited. This product is covered by U.S. Patent(s), pending patent applications and foreign equivalents.</p>
<b>Excitation Laser</b>	Violet Laser (405 nm)
<b>Application Notes</b>	H57-597 is a hamster mAb directed to an epitope of the C region of TCR β chain <sup>12</sup> . 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 <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/µg, Azide-Free, 0.2 µm filtered) is recommended for functional

assays (Cat. No. 109253-109258).

## Application References

(PubMed link indicates BioLegend citation)

1. Gascoigne NJ. 1990. *J. Biol. Chem.* 265:9296.
2. Kruisbeek A, et al. 1991. *In Current Protocols in Immunology*. pp. 3.12.1. (Costim IP)
3. Davenport C, et al. 1995. *J. Immunol.* 155:3742. (Costim)
4. Drobyski W, et al. 1996. *Blood* 87:5355. (Deplete)
5. Kummer U, et al. 2001. *Immunol. Lett.* 75:153. (Deplete)
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. Shen Y, et al. 2021. *Comput Struct Biotechnol J.* 19:5360. [PubMed](#)
2. Delacher M, et al. 2021. *Immunity.* 54(4):702-720.e17. [PubMed](#)
3. Ramos CV, et al. 2020. *Cell Reports.* 32(3):107910. [PubMed](#)
4. Panea C, et al. 2021. *Commun Biol.* 4:913. [PubMed](#)
5. Xiao Y, et al. 2022. *Nat Commun.* 13:758. [PubMed](#)

## RRID

AB\_2629564 (BioLegend Cat. No. 109243)

## Antigen Details

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**Structure** Ig superfamily, CD3/TCR complex with CD3 and TCR  $\alpha$  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**

1. Davis MM, et al. 1998. *Ann. Rev. Immunol.* 16:523.
2. Huppa JB, et al. 2003. *Nat. Immunol.* 4:749.
3. Kubo R, et al. 1989. *J. Immunol.* 142:2736.

**Gene ID** [21577](#)

## Related Protocols

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[Cell Surface Flow Cytometry Staining Protocol](#)

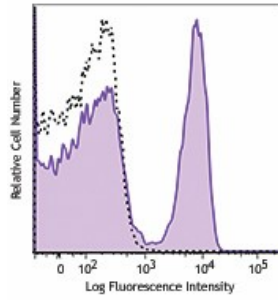
## Other Formats

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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 were stained with TCR  $\beta$  (clone H57-597) Brilliant Violet 711™ (filled histogram) or Armenian hamster IgG Brilliant Violet 711™ isotype control (open histogram).

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