

Brilliant Violet 421™ anti-mouse TCR β chain Antibody

Catalog# / Size	109229 / 125 μL 109230 / 50 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 and BSA (origin USA).
Preparation	The antibody was purified by affinity chromatography and conjugated with Brilliant Violet 421™ under optimal conditions.
Concentration	μg sizes: 0.2 mg/mL μL sizes: lot-specific (to obtain lot-specific concentration, please enter the lot number in our Concentration and Expiration Lookup or Certificate of Analysis online tools.)
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 immunofluorescent staining using the μg size, the suggested use of this reagent is ≤0.25 μg per million cells in 100 μl volume. For immunofluorescent staining using the μl size, the suggested use of this reagent is 5 μl per million cells in 100 μl staining volume or 5 μl per 100 μl of whole blood. It is recommended that the reagent be titrated for optimal performance for each application.</p> <p>Brilliant Violet 421™ excites at 405 nm and emits at 421 nm. The standard bandpass filter 450/50 nm is recommended for detection. Brilliant Violet 421™ is a trademark of Sirigen Group Ltd.</p> <p>Learn more about Brilliant Violet™.</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>
Excitation Laser	Violet Laser (405 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

(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. Harsha Krovi S, *et al.* 2020. *Nat Commun.* 4.790277778. [PubMed](#)
2. Soon MSF, *et al.* 2020. *Nat Immunol.* 1.984027778. [PubMed](#)
3. Lee SA, *et al.* 2020. *J Immunol.* 204:586. [PubMed](#)
4. Marco Barros R, *et al.* 2016. *Cell.* 167: 203-218. [PubMed](#)
5. Michelet X, *et al.* 2015. *J Immunol.* 194:2079. [PubMed](#)
6. Donado CA, *et al.* 2020. *Cell Reports.* 31(1):107466. [PubMed](#)
7. Park JG, *et al.* 2021. *iScience.* 24(9):102941. [PubMed](#)
8. Yang W, *et al.* 2020. *Nat Commun.* 3.553472222. [PubMed](#)
9. Tyagi AM *et al.* 2018. *Immunity.* 49(6):1116-1131. [PubMed](#)
10. Jtte BB, *et al.* 2021. *iScience.* 24(8):102833. [PubMed](#)
11. Chen S *et al.* 2018. *Cell reports.* 25(7):1729-1740. [PubMed](#)
12. Gómez-Díaz C, *et al.* 2021. *iScience.* 24:103241. [PubMed](#)
13. Wiede F, *et al.* 2021. *Cancer Discov.* Online ahead of print. [PubMed](#)
14. Yu M, *et al.* 2021. *J Clin Invest.* 131:.. [PubMed](#)
15. Levine LS, *et al.* 2021. *Immunity.* 54(4):829-844.e5. [PubMed](#)
16. Prosser A, *et al.* 2021. *Cell Reports.* 35(7):109141. [PubMed](#)
17. Kawakami R, *et al.* 2021. *Immunity.* 54(5):947-961.e8. [PubMed](#)
18. Romano A, *et al.* 2015. *J Immunol.* 195: 3816 - 3827. [PubMed](#)
19. Jackson-Jones LH, *et al.* 2020. *Immunity.* 52:700. [PubMed](#)
20. Sun Y, *et al.* 2022. *Nat Commun.* 13:3916. [PubMed](#)
21. Canton J, *et al.* 2021. *Nat Immunol.* 22:140. [PubMed](#)
22. Tyagi AM, *et al.* 2021. *eLife.* 10:00. [PubMed](#)
23. Fennell LM, *et al.* 2020. *EMBO J.* 39:e103303. [PubMed](#)
24. Lu X, *et al.* 2020. *Sci Transl Med.* 12:.. [PubMed](#)
25. Watanabe M, *et al.* 2020. *Nat Commun.* 4.808333333. [PubMed](#)
26. Nagatake T, *et al.* 2018. *Int Immunol.* 30:471. [PubMed](#)
27. Goh PK, *et al.* 2022. *Sci Adv.* 8:eabk3338. [PubMed](#)
28. Jandke A, *et al.* 2020. *Nat Commun.* 3.075694444. [PubMed](#)
29. Xi-Zhi J Guo *et al.* 2018. *Immunity.* 49(3):531-544. [PubMed](#)
30. Xiao S, *et al.* 2020. *Cell Reports.* 32(2):107892. [PubMed](#)
31. Peters N, *et al.* 2014. *PLoS Pathog.* 10:1004538. [PubMed](#)
32. Nagatake T, *et al.* 2018. *J Allergy Clin Immunol.* 142:470. [PubMed](#)
33. Oliveira AC *et al.* 2017. *eLife.* 6 pii: e30883. [PubMed](#)
34. Wei Y, *et al.* 2021. *Endocrinology.* 162(8):. [PubMed](#)
35. Muri J, *et al.* 2020. *Cell Reports.* 29(9):2731-2744.e4.. [PubMed](#)
36. Bajaan S, *et al.* 2022. *iScience.* 25:103732. [PubMed](#)
37. Kiss M, *et al.* 2020. *Cancer Immunol Res.* 9:309. [PubMed](#)
38. Iwanami N, *et al.* 2020. *iScience.* 23:101260. [PubMed](#)
39. Boulch M, *et al.* 2021. *Sci Immunol.* 6:.. [PubMed](#)
40. Ito Y, *et al.* 2021. *Cell Reports.* 35(4):109052. [PubMed](#)
41. Trivedi S, *et al.* 2020. *Elife.* 9:00. [PubMed](#)

RRID

AB_10933263 (BioLegend Cat. No. 109229)
AB_2562562 (BioLegend Cat. No. 109230)

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	

1. Davis MM, *et al.* 1998. *Ann. Rev. Immunol.* 16:523.
2. Huppa JB, *et al.* 2003. *Nat. Immunol.* 4:749.

Gene ID [21577](#)

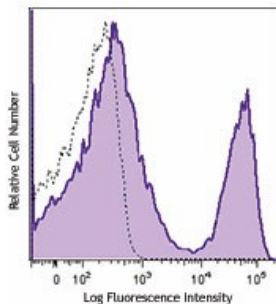
Related Protocols

[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 were stained with TCR β (clone H57-597) Brilliant Violet 421™ (filled histogram) or Armenian hamster IgG Brilliant Violet 421™ isotype control (open histogram).

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