Brilliant Violet 785™ anti-mouse CD3ε Antibody

Catalog# / Size	100355 / 50 µg
Clone	145-2C11
Regulatory Status	RUO
Other Names	CD3ε, T3, CD3
Isotype	Armenian Hamster IgG
Description	CD3ε is a 20 kD transmembrane protein, also known as CD3 or T3. It is a member of the Ig superfamily and primarily expressed on T cells, NK-T cells, and at different levels on thymocytes during T cell differentiation. CD3ε forms a TCR complex by associating with the CD3δ, γ and ζ chains, as well as the TCR α/β or γ/δ chains. CD3 plays a critical role in TCR signal transduction, T cell activation, and antigen recognition by binding the peptide/MHC antigen complex.

Product Details

Verified Reactivity	Mouse
Antibody Type	Monoclonal
Host Species	Armenian Hamster
Immunogen	H-2K^{b}-specific mouse cytotoxic T lymphocyte clone BM10-37
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 785™ under optimal conditions.
Concentration	0.2 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	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 ≤0.5 µg per million cells in 100 µl volume. It is recommended that the reagent be titrated for optimal performance for each application. Brilliant Violet 785™ excites at 405 nm and emits at 785 nm. The bandpass filter 780/60 nm is recommended for detection, although filter optimization may be required depending on other fluorophores used. **Be sure to verify that your cytometer configuration and software setup are appropriate for detecting this channel.** Refer to your instrument manual or manufacturer for support. Brilliant Violet 785™ is a trademark of Sirigen Group Ltd. Learn more about Brilliant Violet™. 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.
Excitation Laser	Violet Laser (405 nm)
Application Notes	Clone 145-2C11 is useful for *in vitro* blocking of target-specific CTL-mediated cell lysis[1], as well as T cell activation assays, inducing proliferation and cytokine production[1,2,7,12,16]. It also induces apoptosis in immature thymocytes[32], and *in vivo* T cell depletion[8-10]. Additional reported applications (for relevant formats of this clone) include: immunoprecipitation[1], immunohistochemical staining[14,15] of acetone-fixed frozen sections and zinc-fixed paraffin-embedded sections, Western

blotting[4], complement-mediated cytotoxicity[6], *in vitro* and *in vivo* stimulation of T cells[1,2,7,12,16], immunofluorescent staining[5], and *in vivo* T cell depletion8-10. The 145-2C11 antibody has been reported to block the binding of 17A2 antibody to CD3 epsilon-specific T cells[11]. Clone 145-2C11 is not recommended for formalin-fixed paraffin embedded sections. The LEAF™ purified antibody (Endotoxin <0.1 EU/µg, Azide-Free, 0.2 µm filtered) is recommended for functional assays (Cat. No. 100314). For *in vivo* studies or highly sensitive assays, we recommend Ultra-LEAF™ purified antibody (Cat. No. 100340) with a lower endotoxin limit than standard LEAF™ purified antibodies (Endotoxin <0.01 EU/µg).

Application References

(PubMed link indicates BioLegend citation)

1. Leo O, *et al.* 1987. *P. Natl. Acad. Sci. USA* 84:1374. (IP, Activ, Block)
2. Kruisbeek AM, *et al.* 1991. *In Current Protocols in Immunology.* 3.12.1. (Activ)
3. Duke RC, *et al.* 1995. *Current Protocols in Immunology.* 3.17.1.
4. Salvadori S, *et al.* 1994. *J. Immunol.* 153:5176. (WB)
5. Payer E, *et al.* 1991. *J. Immunol.* 146:2536. (IF)
6. Jacobs H, *et al.* 1994. *Eur. J. Immunol.* 24:934. (CMCD)
7. Vossen ACTM, *et al.* 1995. *Eur. J. Immunol.* 25:1492. (Activ)
8. Henrickson M, *et al.* 1995. *Transplantation* 60:828. (Deplete)
9. Kinnaert P, *et al.* 1996. *Transpl. Int.* 9:386. (Deplete)
10. Han WR, *et al.* 1999. *Transpl. Immunol.* 7:207. (Deplete)
11. Miescher GC, *et al.* 1989. *Immunol. Lett.* 23:113. (Block)
12. Terrazas LI, *et al.* 2005. *Intl. J. Parasitology.* 35:1349. (Activ)
13. Ko SY, *et al.* 2005. *J. Immunol.* 175:3309.
14. Podd BS, *et al.* 2006. *J. Immunol.* 176:6532. (IHC-F)
15. Tilley SL, *et al.* 2007. *J. Immunol.* 178:3208. (IHC-F)
16. Wang W, *et al.* 2007. *J. Immunol.* 178:4885. (Activ)
17. Xiao S, *et al.* 2007. *J. Exp. Med.* 204:1691.
18. Chappaz S, *et al.* 2007. *Blood* doi:10.1182/blood-2007-02-074245. (FC) PubMed.
19. Curtsinger JM, *et al.*2005. *J. Immunol.* 175:4392. PubMed
20. Guo Y, *et al.* 2008. *Blood* 112:480. PubMed
21. Kenna TJ, *et al.* 2008. *Blood* 111:2091.
22. Perchonock CE, *et al.* 2007. *J. Immunol.* 179:1768. PubMed
23. Perchonock GE, *et al.* 2006. *Mol. Cell. Biol.* 26:6005. PubMed
24. Kanaya T, *et al.* 2008. *Am. J. Physiol. Gastrointest. Liver Physiol.* 295:G273. PubMed
25. de Koning BA, *et al.* 2006. *Int. Immunol.* 18:941. PubMed
26. Schulteis RD, *et al.* 2008. *Blood* 295:G273. PubMed
27. Qi Q, *et al.* 2009. *Blood* 114:564. PubMed
28. Helmersson S, *et al.* 2013. *Am J Pathol.* 9440:123. Pubmed
29. Wu S, *et al.* 2014. *Clin Vaccine Immunol.* 21:156. PubMed
30. Yan J, *et al.* 2014. *Vaccine.* 32:2833. PubMed
31. Guiterrez DA, *et al.* 2014. *Diaebetes.* 63:3827. PubMed
32. Shi YF, *et al*. 1991. *J Immunol*. 146:3340. (Apop)

Product Citations

1. Coleby R, *et al.* 2021. Clin Exp Rheumatol. :39. PubMed
2. Diao L, *et al.* 2022. iScience. 25:105511. PubMed
3. Gao Y, *et al.* 2020. Nat Cell Biol. 1064:22. PubMed
4. Pingili AK, *et al.* 2021. Cell Reports. 35(12):109285. PubMed
5. Liu Y, *et al.* 2022. Nat Commun. 13:2665. PubMed
6. Chan YK, *et al.* 2021. Sci Transl Med. 13:. PubMed
7. Grigoryan L, *et al.* 2022. NPJ Vaccines. 7:55. PubMed
8. Medler TR *et al.* 2018. Cancer cell. 34(4):561-578 . PubMed
9. Ni J, *et al.* 2020. Immunity. 52(6):1075-1087.e8. PubMed
10. Liu Y, *et al.* 2019. Nat Commun. 10:324. PubMed
11. Lu X, *et al.* 2019. Circ Res. 125:1055. PubMed
12. Somogyi E, *et al.* 2021. Front Genet. 12:684152. PubMed
13. Dai X, *et al.* 2021. Molecular Cell. 81(11):2317-2331.e6. PubMed
14. Xia L, *et al.* 2021. Cell Chemical Biology. 28(5):610-624.e5. PubMed

RRID

AB_2565969 (BioLegend Cat. No. 100355)

Antigen Details

Structure	Ig superfamily, forms CD3/TCR complex with CD3δ, γ and ζ subunits and TCR (α/β and γ/δ), 20 kD
Distribution	Thymocytes (differentiation dependent), mature T cells, NK-T cells
Function	TCR signal transduction, T cell activation, antigen recognition
Ligand/Receptor	Peptide antigen/MHC-complex
Cell Type	NKT cells, T cells, Thymocytes, Tregs
Biology Area	Immunology
Molecular Family	CD Molecules, TCRs

Antigen References

1. Barclay A, *et al.* 1997. The Leukocyte Antigen FactsBook Academic Press.
2. Davis MM. 1990. *Annu. Rev. Biochem.* 59:475.
3. Weiss A, *et al.* 1994. *Cell* 76:263.

Gene ID 12501

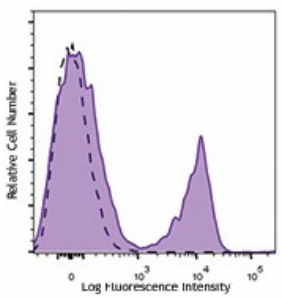
Related Protocols

Cell Surface Flow Cytometry Staining Protocol

Other Formats

APC anti-mouse CD3ε, Biotin anti-mouse CD3ε, FITC anti-mouse CD3ε, PE anti-mouse CD3ε, PE/Cyanine5 anti-mouse CD3ε, Purified anti-mouse CD3ε, PE/Cyanine7 anti-mouse CD3ε, Alexa Fluor® 488 anti-mouse CD3ε, Alexa Fluor® 647 anti-mouse CD3ε, PerCP anti-mouse CD3ε, PerCP/Cyanine5.5 anti-mouse CD3ε, Purified anti-mouse CD3ε (Maxpar® Ready), APC/Cyanine7 anti-mouse CD3ε, Pacific Blue™ anti-mouse CD3ε, Brilliant Violet 421™ anti-mouse CD3ε, Ultra-LEAF™ Purified anti-mouse CD3ε, PE/Dazzle™ 594 anti-mouse CD3ε, Brilliant Violet 510™ anti-mouse CD3ε, Brilliant Violet 605™ anti-mouse CD3ε, Brilliant Violet 711™ anti-mouse CD3ε, Brilliant Violet 785™ anti-mouse CD3ε, APC/Fire™ 750 anti-mouse CD3ε, GoInVivo™ Purified anti-mouse CD3ε, Spark YG™ 593 anti-mouse CD3

Product Data



C57BL/6 mouse splenocytes were stained with CD3ε (clone 145-2C11) Brilliant Violet 785™ (filled histogram) or Armenian hamster IgG Brilliant Violet 785™ isotype control (open histogram).

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