

Brilliant Violet 711™ anti-human CD8a Antibody

Catalog# / Size	301043 / 25 tests 301044 / 100 tests
Clone	RPA-T8
Regulatory Status	RUO
Workshop	IV T171
Other Names	T8, Leu2
Isotype	Mouse IgG1, κ
Description	CD8a is a 32-34 kD type I glycoprotein. It forms a homodimer (CD8a/a) or heterodimer (CD8a/b) with CD8b. CD8, also known as T8 and Leu2, is a member of the immunoglobulin superfamily found on the majority of thymocytes, a subset of peripheral blood T cells, and NK cells (which express almost exclusively CD8a homodimers). CD8 acts as a co-receptor with MHC class I-restricted T cell receptors in antigen recognition and T cell activation, and has been shown to play a role in thymic differentiation. Two domains in CD8a are important for function: the extracellular IgSF domain binds the α3 domain of MHC class I and the cytoplasmic CXCP motif binds the tyrosine kinase p56 Lck.

Product Details

Verified Reactivity	Human, Cynomolgus, Rhesus
Reported Reactivity	Chimpanzee, Baboon, Pigtailed Macaque, Sooty Mangabey
Antibody Type	Monoclonal
Host Species	Mouse
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 711™ under optimal conditions.
Concentration	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	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 5 µl per million cells in 100 µl staining volume or 5 µl per 100 µl of whole blood. 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. 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 711™ 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

The RPA-T8 antibody does not block the binding of HIT8a antibody to CD8a. Additional reported applications of this antibody (for the relevant formats) include: immunohistochemical staining of paraformaldehyde-fixed frozen sections³ and costimulation of T cell responses⁴. This clone was tested in-house and does not work on formalin fixed paraffin-embedded (FFPE) tissue. The Ultra-LEAF™ purified antibody (Endotoxin <0.1 EU/μg, Azide-Free, 0.2 μm filtered) is recommended for functional assays (Cat. Nos. 301073 & 301074).

Application References

1. Knapp W, *et al.* Eds. 1989. Leucocyte Typing IV. Oxford University Press. New York.
2. Schlossman S, *et al.* Eds. 1995. Leucocyte Typing V. Oxford University Press. New York.
3. Mack CL, *et al.* 2004. *Pediatr. Res.* 56:79. (IHC)
4. Magidovich E, *et al.* 2007. *P. Natl. Acad. Sci. USA* 104:13022.
5. Thakral D, *et al.* 2008. *J. Immunol.* 180:7431. [PubMed](#)
6. Kmieciak M, *et al.* 2009. *J. Transl. Med.* 7:89. (FC) [PubMed](#)
7. Thakral D, *et al.* 2008. *J. Immunol.* 180:7431. (FC) [PubMed](#)
8. Yoshino N, *et al.* 2000. *Exp. Anim. (Tokyo)* 49:97. (FC)
9. Rout N, *et al.* 2010. *PLoS One* 5:e9787. (FC)
10. Stoeckius M, *et al.* 2017. *Nat. Methods.* 14:865. (PG)

Product Citations

1. Krebs SJ, *et al.* 2019. *Immunity.* 50:677. [PubMed](#)
2. Delacher M, *et al.* 2021. *Immunity.* 54(4):702-720.e17. [PubMed](#)
3. Calascibetta F, *et al.* 2016. *J Virol.* 90: 7541 - 7551. [PubMed](#)
4. Cook CP, *et al.* 2022. *Cell Rep Med.* 3:100715. [PubMed](#)
5. Mandolesi M, *et al.* 2021. *Cell Reports Medicine.* 2(4):100252. [PubMed](#)
6. Ahmed R, *et al.* 2020. *Cell Rep.* 33:108501. [PubMed](#)
7. Demers K, *et al.* 2016. *PLoS Pathog.* 12: 1005805. [PubMed](#)
8. Cartwright E, *et al.* 2014. *J Immunol.* 192:4666. [PubMed](#)
9. Ollé Hurtado M, *et al.* 2019. *PLoS One.* 14:e0216373. [PubMed](#)
10. Gurusamy D, *et al.* 2020. *Cancer Cell.* 37(6):818-833.e9. [PubMed](#)
11. Rajamanickam V, *et al.* 2021. *Cancer Immunol Res.* 9:602. [PubMed](#)
12. Buggert M, *et al.* 2020. *Cell.* 183(7):1946-1961.e15. [PubMed](#)
13. Medler TR *et al.* 2018. *Cancer cell.* 34(4):561-578. [PubMed](#)
14. Serwas NK, *et al.* 2019. *Nat Commun.* 2.573611111. [PubMed](#)
15. Gao Y, *et al.* 2022. *Immunity.* 55:1732. [PubMed](#)
16. Iwamoto N, *et al.* 2021. *PLoS One.* 16:e0248973. [PubMed](#)
17. Waddington KE, *et al.* 2020. *Front Immunol.* 1.51875. [PubMed](#)
18. Cale EM *et al.* 2017. *Immunity.* 46(5):777-791. [PubMed](#)
19. Om K, *et al.* 2020. *PLoS Pathog.* 16:e1008764. [PubMed](#)
20. Singh KS, *et al.* 2021. *Nature.* 589:597. [PubMed](#)
21. Misheva M, *et al.* 2022. *Nat Commun.* 13:139. [PubMed](#)
22. Chowdhury A, *et al.* 2015. *J Virol.* 89: 8677-8686. [PubMed](#)

RRID

AB_11218793 (BioLegend Cat. No. 301043)
AB_2562906 (BioLegend Cat. No. 301044)

Antigen Details

Structure	Ig superfamily, homodimer or heterodimer with CD8β, 32-34 kD
Distribution	Majority of thymocytes, T cell subset, NK cells
Function	MHC class I co-receptor, thymic differentiation, T cell activation
Ligand/Receptor	MHC Class I molecules
Cell Type	Dendritic cells, NK cells, T cells, Thymocytes, Tregs
Biology Area	Immunology
Molecular Family	CD Molecules
Antigen References	1. Barclay N, <i>et al.</i> 1993. <i>The Leucocyte Antigen FactsBook.</i> Academic Press Inc. San Diego.
Gene ID	925

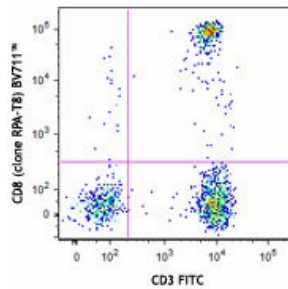
Related Protocols

[Cell Surface Flow Cytometry Staining Protocol](#)

Other Formats

APC anti-human CD8a, APC/Cyanine7 anti-human CD8a, Biotin anti-human CD8a, FITC anti-human CD8a, PE anti-human CD8a, PE/Cyanine5 anti-human CD8a, PE/Cyanine7 anti-human CD8a, Purified anti-human CD8a, Alexa Fluor® 488 anti-human CD8a, Alexa Fluor® 647 anti-human CD8a, Pacific Blue™ anti-human CD8a, Alexa Fluor® 700 anti-human CD8a, PerCP anti-human CD8a, PerCP/Cyanine5.5 anti-human CD8a, Brilliant Violet 421™ anti-human CD8a, Brilliant Violet 570™ anti-human CD8a, Brilliant Violet 605™ anti-human CD8a, Brilliant Violet 650™ anti-human CD8a, Brilliant Violet 711™ anti-human CD8a, Brilliant Violet 785™ anti-human CD8a, Brilliant Violet 510™ anti-human CD8a, Purified anti-human CD8a (Maxpar® Ready), Alexa Fluor® 594 anti-human CD8a, PE/Dazzle™ 594 anti-human CD8a, APC/Fire™ 750 anti-human CD8a, TotalSeq™-A0080 anti-human CD8a, TotalSeq™-B0080 anti-human CD8a, TotalSeq™-C0080 anti-human CD8a, Ultra-LEAF™ Purified anti-human CD8a, Spark Violet™ 423 anti-human CD8a Antibody

Product Data



Human peripheral blood lymphocytes were stained with CD3 FITC and CD8 (clone RPA-T8) Brilliant Violet 711™.

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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