

## Ultra-LEAF™ Purified anti-mouse CD8a Antibody

<b>Catalog# / Size</b>	100775 / 100 µg 100746 / 1 mg 100763 / 5 mg 100764 / 25 mg 100776 / 50 mg 100777 / 100 mg
<b>Clone</b>	53-6.7
<b>Regulatory Status</b>	RUO
<b>Other Names</b>	T8, Lyt2, Ly-2
<b>Isotype</b>	Rat IgG2a, κ
<b>Description</b>	CD8, also known as Lyt-2, Ly-2, or T8, consists of disulfide-linked α and β chains that form the α(CD8a)/β(CD8b) heterodimer and α/α homodimer. CD8a is a 34 kD protein that belongs to the immunoglobulin family. The CD8 α/β heterodimer is expressed on the surface of most thymocytes and a subset of mature TCR α/β T cells. CD8 expression on mature T cells is non-overlapping with CD4. The CD8 α/α homodimer is expressed on a subset of γ/δ TCR-bearing T cells, NK cells, intestinal intraepithelial lymphocytes, and lymphoid dendritic cells. CD8 is an antigen co-receptor on T cells that interacts with MHC class I on antigen-presenting cells or epithelial cells. CD8 promotes T cell activation through its association with the TCR complex and protein tyrosine kinase lck.

### Product Details

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<b>Verified Reactivity</b>	Mouse
<b>Antibody Type</b>	Monoclonal
<b>Host Species</b>	Rat
<b>Immunogen</b>	Mouse thymus or spleen
<b>Formulation</b>	0.2 µm filtered in phosphate-buffered solution, pH 7.2, containing no preservative. Endotoxin level is <0.01 EU/µg of the protein (<0.001 ng/µg of the protein) as determined by the LAL test.
<b>Preparation</b>	The Ultra-LEAF™ (Low Endotoxin, Azide-Free) antibody was purified by affinity chromatography.
<b>Concentration</b>	The antibody is bottled at the concentration indicated on the vial, typically between 2 mg/mL and 3 mg/mL. Older lots may have also been bottled at 1 mg/mL. To obtain lot-specific concentration, please enter the lot number in our <a href="#">Concentration and Expiration Lookup</a> or <a href="#">Certificate of Analysis</a> online tools.
<b>Storage &amp; Handling</b>	The antibody solution should be stored undiluted between 2°C and 8°C. This Ultra-LEAF™ solution contains no preservative; handle under aseptic conditions.
<b>Application</b>	<a href="#">FC - Quality tested</a> <a href="#">CyTOF® - Verified</a> <a href="#">IHC, IP, Depletion, Block - Reported in the literature, not verified in house</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 ≤0.25 µg per million cells in 100 µl volume or 100 µl of whole blood. It is recommended that the reagent be titrated for optimal performance for each application.
<b>Application Notes</b>	Clone 53-6.7 antibody competes with clone 5H10-1 antibody for binding to thymocytes <sup>3</sup> . The 53-6.7 antibody has been reported to block antigen presentation via MHC class I and inhibit T cell responses to IL-2. This antibody has also been used for depletion of CD8a <sup>+</sup> cells. Additional reported applications (for the relevant formats) include: immunoprecipitation <sup>1,3</sup> , <i>in vivo</i> and <i>in vitro</i> cell depletion <sup>2,10,15</sup> , inhibition of CD8 T cell proliferation <sup>3</sup> , blocking of cytotoxicity <sup>3,4</sup> , immunohistochemical staining <sup>5,6</sup> of acetone-fixed frozen sections and zinc-fixed paraffin-embedded sections, and spatial biology (IBEX) <sup>29,30</sup> . Clone 53-6.7 is not recommended for immunohistochemistry of formalin-fixed paraffin sections. The Ultra-LEAF™ purified antibody (Endotoxin < 0.01 EU/µg, Azide-Free, 0.2 µm filtered) is recommended for functional assays or in

vivo studies (Cat No. 100746).

## Application References

(PubMed link indicates BioLegend citation)

1. Ledbetter JA, et al. 1979. *Immunol. Rev.* 47:63. (IHC, IP)
2. Hathcock KS. 1991. *Current Protocols in Immunology.* 3.4.1. (Deplete)
3. Takahashi K, et al. 1992. *P. Natl. Acad. Sci. USA* 89:5557. (Block, IP)
4. Ledbetter JA, et al. 1981. *J. Exp. Med.* 153:1503. (Block)
5. Hata H, et al. 2004. *J. Clin. Invest.* 114:582. (IHC)
6. Fan WY, et al. 2001. *Exp. Biol. Med.* 226:1045. (IHC)
7. Shih FF, et al. 2006. *J. Immunol.* 176:3438. (FC)
8. Kamimura D, et al. 2006. *J. Immunol.* 177:306.
9. Bouwer HGA, et al. 2006. *P. Natl. Acad. Sci. USA* 103:5102. (FC, Deplete)
10. Kao C, et al. 2005. *Int. Immunol.* 17:1607. [PubMed](#)
11. Ko SY, et al. 2005. *J. Immunol.* 175:3309. (FC) [PubMed](#)
12. Rasmussen JW, et al. 2006. *Infect. Immun.* 74:6590. [PubMed](#)
13. Lee CH, et al. 2009. *Clin. Cancer Res.* [PubMed](#)
14. Geiben-Lynn R, et al. 2008. *Blood* 112:4585. (Deplete) [PubMed](#)
15. Kingeter LM, et al. 2008. *J. Immunol.* 181:6244. [PubMed](#)
16. Guo Y, et al. 2008. *Blood* 112:480. [PubMed](#)
17. Andrews DM, et al. 2008. *J. Virol.* 82:4931. [PubMed](#)
18. Britschqui MR, et al. 2008. *J. Immunol.* 181:7681. [PubMed](#)
19. Kenna TJ, et al. 2008. *Blood* 111:2091. [PubMed](#)
20. Jordan JM, et al. 2008. *Infect. Immun.* 76:3717. [PubMed](#)
21. Todd DJ, et al. 2009. *J. Exp. Med.* 206:2151. [PubMed](#)
22. Bankoti J, et al. 2010. *Toxicol. Sci.* 115:422. (FC) [PubMed](#)
23. Medyouf H, et al. 2010. *Blood* 115:1175. [PubMed](#)
24. Riedl P, et al. 2009. *J. Immunol.* 183:370. [PubMed](#)
25. Apte SH, et al. 2010. *J. Immunol.* 185:998. [PubMed](#)
26. Bankoti J, et al. 2010. *Toxicol. Sci.* 115:422. (FC) [PubMed](#)
27. del Rio ML, et al. 2011. *Transpl. Int.* 24:501. (FC) [PubMed](#)
28. Cui L, et al. 2015. *J Control Release.* 206:220. [PubMed](#)
29. Radtke AJ, et al. 2020. *Proc Natl Acad Sci U S A.* 117:33455-65. (SB) [PubMed](#)
30. Radtke AJ, et al. 2022. *Nat Protoc.* 17:378-401. (SB) [PubMed](#)

## Product Citations

1. Hu J, et al. 2022. *J Immunother Cancer.* 10:. [PubMed](#)
2. Biram A, et al. 2020. *Cell Rep.* 30:1910. [PubMed](#)
3. Yu Y, et al. 2022. *Nat Commun.* 13:6357. [PubMed](#)
4. Vasu S, et al. 2016. *Blood.* 127: 2879 - 2889. [PubMed](#)
5. Zhang D, et al. 2020. *Signal Transduct Target Ther.* 5:24. [PubMed](#)
6. Huang Z, et al. 2021. *Nat Commun.* 12:145. [PubMed](#)
7. Xu P, et al. 2020. *Cancer Immunol Res.* 8:1193. [PubMed](#)
8. Wang Y, et al. 2021. *Nat Commun.* 12:4964. [PubMed](#)
9. Zhang D, et al. 2020. *Signal Transduct Target Ther.* 5:24. [PubMed](#)
10. Ma Q, et al. 2021. *Precis Clin Med.* 4:155. [PubMed](#)

## RRID

AB\_2810325 (BioLegend Cat. No. 100775)  
AB\_11147171 (BioLegend Cat. No. 100746)  
AB\_2810323 (BioLegend Cat. No. 100763)  
AB\_2810324 (BioLegend Cat. No. 100764)  
AB\_2810326 (BioLegend Cat. No. 100776)  
AB\_2810327 (BioLegend Cat. No. 100777)

## Antigen Details

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<b>Structure</b>	Ig superfamily, CD8 $\alpha$ chain, 34 kD
<b>Distribution</b>	Most thymocytes, T cell subset, some NK cells, lymphoid dendritic cells
<b>Function</b>	Co-receptor for TCR
<b>Ligand/Receptor</b>	MHC class I molecule
<b>Antigen References</b>	<ol style="list-style-type: none"><li>1. Barclay A, et al. 1997. <i>The Leukocyte Antigen FactsBook</i> Academic Press.</li><li>2. Zamoyska R. 1994. <i>Immunity</i> 1:243.</li><li>3. Ellmeier W, et al. 1999. <i>Annu. Rev. Immunol.</i> 17:523.</li></ol>
<b>Gene ID</b>	<a href="#">12525</a>

## Other Formats

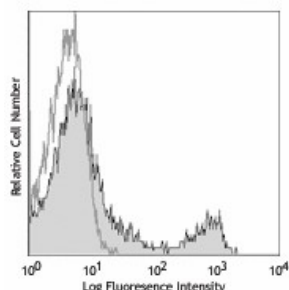
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APC anti-mouse CD8a, Biotin anti-mouse CD8a, FITC anti-mouse CD8a, PE anti-mouse CD8a, PE/Cyanine5 anti-mouse CD8a, Purified anti-mouse CD8a, PE/Cyanine7 anti-mouse CD8a, APC/Cyanine7 anti-mouse CD8a, Alexa Fluor® 488 anti-mouse CD8a,

Alexa Fluor® 647 anti-mouse CD8a, Pacific Blue™ anti-mouse CD8a, Alexa Fluor® 700 anti-mouse CD8a, PerCP/Cyanine5.5 anti-mouse CD8a, PerCP anti-mouse CD8a, Brilliant Violet 421™ anti-mouse CD8a, Brilliant Violet 570™ anti-mouse CD8a, Brilliant Violet 650™ anti-mouse CD8a, Brilliant Violet 605™ anti-mouse CD8a, Ultra-LEAF™ Purified anti-mouse CD8a, Brilliant Violet 711™ anti-mouse CD8a, Brilliant Violet 785™ anti-mouse CD8a, Brilliant Violet 510™ anti-mouse CD8a, Purified anti-mouse CD8a (Maxpar® Ready), Alexa Fluor® 594 anti-mouse CD8a, PE/Dazzle™ 594 anti-mouse CD8a, APC/Fire™ 750 anti-mouse CD8a, GolnVivo™ Purified anti-mouse CD8a, TotalSeq™-A0002 anti-mouse CD8a, Spark Blue™ 550 anti-mouse CD8a, Spark NIR™ 685 anti-mouse CD8a, TotalSeq™-C0002 anti-mouse CD8a, TotalSeq™-B0002 anti-mouse CD8a, Spark YG™ 570 anti-mouse CD8a, PE/Fire™ 640 anti-mouse CD8a, PE/Fire™ 700 anti-mouse CD8a, Spark Blue™ 574 anti-mouse CD8a Antibody, Spark Violet™ 423 anti-mouse CD8a Antibody, Spark UV™ 387 anti-mouse CD8a

## Product Data

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C57BL/6 mouse splenocytes were stained with LEAF™ purified CD8 (clone 53-6.7) (filled histogram) or rat IgG2a, κ isotype control (open histogram), followed by anti-rat IgG FITC.

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