

# Product Data Sheet

## Ultra-LEAF™ Purified anti-mouse CD8a

**Catalog # / Size:** 100745 / 100 µg  
100746 / 1 mg

**Clone:** 53-6.7

**Isotype:** Rat IgG2a, κ

**Immunogen:** Mouse thymus or spleen

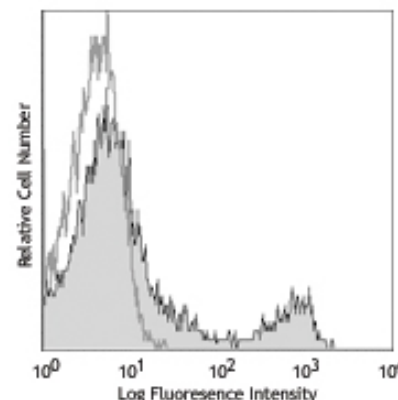
**Reactivity:** Mouse

**Preparation:** The Ultra-LEAF™ (Low Endotoxin, Azide-Free) antibody was purified by affinity chromatography.

**Formulation:** 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.

**Concentration:** 1.0 mg/ml

**Storage:** The antibody solution should be stored undiluted between 2°C and 8°C. This Ultra-LEAF™ solution contains no preservative; handle under aseptic conditions.



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.

## Applications:

**Applications:** FC - *Quality tested*  
IHC, IP, Depletion, Block - *Reported in the literature*  
CyTOF® - *Validated*

**Recommended Usage:** Each lot of this antibody is quality control tested by immunofluorescent staining with flow cytometric analysis. For immunofluorescent 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.

**Application Notes:** 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>, *in vivo* and *in vitro* cell depletion<sup>2,10,15</sup>, inhibition of CD8 T cell proliferation<sup>3</sup>, blocking of cytotoxicity<sup>3,4</sup>, and immunohistochemical staining<sup>5,6</sup> of acetone-fixed frozen sections and zinc-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. 100716). For *in vivo* studies or highly sensitive assays, we recommend Ultra-LEAF™ purified antibody (Cat. No. 100746) with a lower endotoxin limit than standard LEAF™ purified antibodies (Endotoxin <0.01 EU/µg).

- Application References:**
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  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. Ko SY, *et al.* 2005. *J. Immunol.* 175:3309. (IHC)
  8. Shih FF, *et al.* 2006. *J. Immunol.* 176:3438. (FC)
  9. Kamimura D, *et al.* 2006. *J. Immunol.* 177:306.
  10. Bouwer HGA, *et al.* 2006. *P. Natl. Acad. Sci. USA* 103:5102. (FC, Deplete)
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  12. Ko SY, *et al.* 2005. *J. Immunol.* 175:3309. PubMed
  13. Rasmussen JW, *et al.* 2006. *Infect. Immun.* 74:6590. PubMed
  14. Lee CH, *et al.* 2009. *Clin. Cancer Res.* PubMed
  15. Geiben-Lynn R, *et al.* 2008. *Blood* 112:4585. (Deplete) PubMed
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  18. Andrews DM, *et al.* 2008. *J. Virol.* 82:4931. PubMed
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  23. Bankoti J, *et al.* 2010. *Toxicol. Sci.* 115:422. (FC) PubMed
  24. Medyouf H, *et al.* 2010. *Blood* 115:1175. PubMed
  25. Riedl P, *et al.* 2009. *J. Immunol.* 183:370. PubMed
  26. Apte SH, *et al.* 2010. *J. Immunol.* 185:998. PubMed



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27. Bankoti J, *et al.* 2010. *Toxicol. Sci.* 115:422. (FC) PubMed  
28. del Rio ML, *et al.* 2011. *Transpl. Int.* 24:501. (FC) PubMed

**Description:** CD8, also known as Lyt-2, Ly-2, or T8, consists of disulfide-linked  $\alpha$  and  $\beta$  chains that form the  $\alpha$ (CD8a)/ $\beta$ (CD8b) heterodimer and  $\alpha/\alpha$  homodimer. CD8a is a 34 kD protein that belongs to the immunoglobulin family. The CD8  $\alpha/\beta$  heterodimer is expressed on the surface of most thymocytes and a subset of mature TCR  $\alpha/\beta$  T cells. CD8 expression on mature T cells is non-overlapping with CD4. The CD8  $\alpha/\alpha$  homodimer is expressed on a subset of  $\gamma/\delta$  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.

**Antigen References:** 1. Barclay A, *et al.* 1997. The Leukocyte Antigen FactsBook Academic Press.  
2. Zamoyska R. 1994. *Immunity* 1:243.  
3. Ellmeier W, *et al.* 1999. *Annu. Rev. Immunol.* 17:523.

Related Products:	Product	Clone	Application
	Ultra-LEAF™ Purified Rat IgG2a, $\kappa$ Isotype Ctrl	RTK2758	FC, ICFC, WB, IP, ICC, IF, IHC, FA
	Cell Staining Buffer		FC, ICC, ICFC
	RBC Lysis Buffer (10X)		FC, ICFC