

Alexa Fluor® 488 anti-human CD8a Antibody

Catalog# / Size	301024 / 25 tests 301021 / 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 $\alpha 3$ 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 Alexa Fluor® 488 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 μ l per million cells in 100 μ l staining volume or 5 μ l per 100 μ l of whole blood. * Alexa Fluor® 488 has a maximum emission of 519 nm when it is excited at 488 nm. Alexa Fluor® and Pacific Blue™ are trademarks of Life Technologies Corporation. View full statement regarding label licenses
Excitation Laser	Blue Laser (488 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 sections ³ and costimulation of T cell responses ⁴ . 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/ μ g, Azide-Free, 0.2 μ m filtered) is recommended for functional assays (Cat. Nos. 301073 & 301074).
Application References	1. Knapp W, <i>et al.</i> Eds. 1989. Leucocyte Typing IV. Oxford University Press. New York.

(PubMed link indicates BioLegend citation)

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. Kmiecik 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. Kosti P, *et al.* 2021. *Cell Reports Medicine.* 2(4):100227. [PubMed](#)
2. Lin JR *et al.* 2018. *eLife.* 7 pii: e31657. [PubMed](#)
3. Dettling S, *et al.* 2018. *Clin Cancer Res.* 24(12). [PubMed](#)
4. Kosti P, *et al.* 2021. *STAR Protocols.* 2(3):100723. [PubMed](#)
5. Pekayvaz K, *et al.* 2022. *Nat Commun.* 13:1018. [PubMed](#)
6. Joas S, *et al.* 2020. *Cell Rep.* 30:2261. [PubMed](#)

RRID

AB_2561282 (BioLegend Cat. No. 301024)
AB_2561281 (BioLegend Cat. No. 301021)

Antigen Details

Structure	Ig superfamily, homodimer or heterodimer with CD8 β , 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

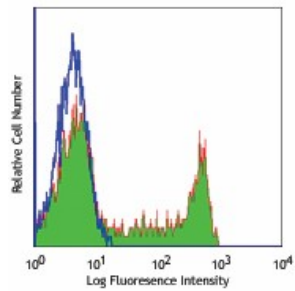
[Cell Surface Flow Cytometry Staining Protocol](#)

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
stained with RPA-T8 Alexa Fluor® 488



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