

## Biotin anti-human CD8a Antibody

<b>Catalog# / Size</b>	301003 / 25 µg 301004 / 100 µg
<b>Clone</b>	RPA-T8
<b>Regulatory Status</b>	RUO
<b>Workshop</b>	IV T171
<b>Other Names</b>	T8, Leu2
<b>Isotype</b>	Mouse IgG1, κ
<b>Description</b>	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

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<b>Verified Reactivity</b>	Human, Cynomolgus, Rhesus
<b>Reported Reactivity</b>	Chimpanzee, Baboon, Pigtailed Macaque, Sooty Mangabey
<b>Antibody Type</b>	Monoclonal
<b>Host Species</b>	Mouse
<b>Formulation</b>	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide.
<b>Preparation</b>	The antibody was purified by affinity chromatography, and conjugated with biotin under optimal conditions.
<b>Concentration</b>	0.5 mg/ml
<b>Storage &amp; Handling</b>	The antibody solution should be stored undiluted between 2°C and 8°C. <b>Do not freeze.</b>
<b>Application</b>	<a href="#">FC - Quality tested</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 ≤0.125 µg per million cells in 100 µl volume. It is recommended that the reagent be titrated for optimal performance for each application.
<b>Application Notes</b>	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 <sup>3</sup> and costimulation of T cell responses <sup>4</sup> . 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).
<b>Application References</b>	<ol style="list-style-type: none"> <li>Knapp W, <i>et al.</i> Eds. 1989. Leucocyte Typing IV. Oxford University Press. New York.</li> <li>Schlossman S, <i>et al.</i> Eds. 1995. Leucocyte Typing V. Oxford University Press. New York.</li> <li>Mack CL, <i>et al.</i> 2004. <i>Pediatr. Res.</i> 56:79. (IHC)</li> <li>Magidovich E, <i>et al.</i> 2007. <i>P. Natl. Acad. Sci. USA</i> 104:13022.</li> <li>Thakral D, <i>et al.</i> 2008. <i>J. Immunol.</i> 180:7431. <a href="#">PubMed</a></li> <li>Kmieciak M, <i>et al.</i> 2009. <i>J. Transl. Med.</i> 7:89. (FC) <a href="#">PubMed</a></li> <li>Thakral D, <i>et al.</i> 2008. <i>J. Immunol.</i> 180:7431. (FC) <a href="#">PubMed</a></li> <li>Yoshino N, <i>et al.</i> 2000. <i>Exp. Anim. (Tokyo)</i> 49:97. (FC)</li> <li>Rout N, <i>et al.</i> 2010. <i>PLoS One</i> 5:e9787. (FC)</li> <li>Stoeckius M, <i>et al.</i> 2017. <i>Nat. Methods.</i> 14:865. (PG)</li> </ol>
<b>(PubMed link indicates BioLegend citation)</b>	

## Product Citations

1. Garcia-Perez JE, *et al.* 2019. Front Immunol. 10:998. [PubMed](#)
2. Heyde A, *et al.* 2021. Cell. 184(5):1348-1361.e22. [PubMed](#)

## RRID

AB\_314121 (BioLegend Cat. No. 301003)  
AB\_314122 (BioLegend Cat. No. 301004)

## Antigen Details

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<b>Structure</b>	Ig superfamily, homodimer or heterodimer with CD8 $\beta$ , 32-34 kD
<b>Distribution</b>	Majority of thymocytes, T cell subset, NK cells
<b>Function</b>	MHC class I co-receptor, thymic differentiation, T cell activation
<b>Ligand/Receptor</b>	MHC Class I molecules
<b>Cell Type</b>	Dendritic cells, NK cells, T cells, Thymocytes, Tregs
<b>Biology Area</b>	Immunology
<b>Molecular Family</b>	CD Molecules
<b>Antigen References</b>	1. Barclay N, <i>et al.</i> 1993. The Leucocyte Antigen FactsBook. Academic Press Inc. San Diego.
<b>Gene ID</b>	<a href="#">925</a>

## Related Protocols

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[Cell Surface Flow Cytometry Staining Protocol](#)

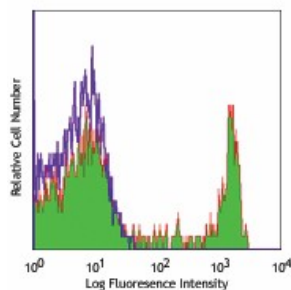
## Other Formats

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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

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Human peripheral blood lymphocytes stained with biotinylated RPA-T8, followed by Sav-PE

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