

# PRODUCT INFORMATION



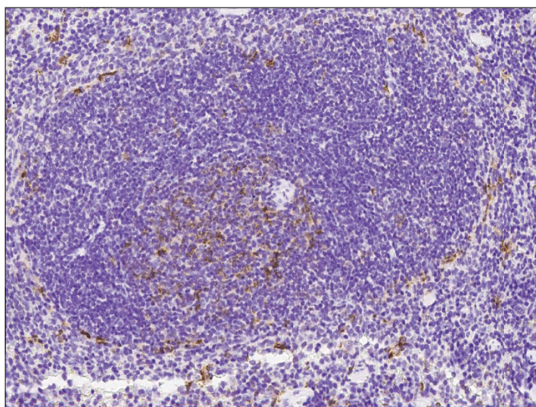
## CD8a Polyclonal Antibody

Item No. 38101

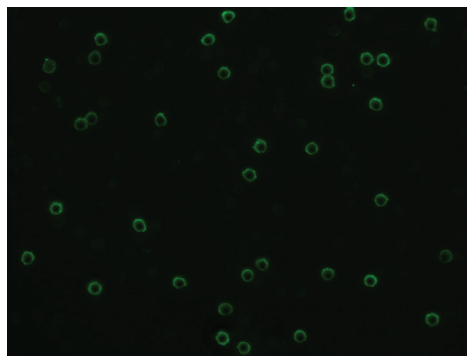
### Overview and Properties

<b>Contents:</b>	This vial contains 50, 100, or 200 µl of protein A-affinity purified polyclonal antibody.
<b>Synonyms:</b>	T Cell Surface Glycoprotein CD8 α-chain, T Cell Surface Glycoprotein CD8 Alpha Chain
<b>Immunogen:</b>	Recombinant mouse CD8a
<b>Cross Reactivity:</b>	(+) CD8a
<b>Species Reactivity:</b>	(+) Mouse; other species not tested
<b>Form:</b>	Liquid
<b>Storage:</b>	-80°C (as supplied)
<b>Stability:</b>	≥1 year
<b>Storage Buffer:</b>	0.2 µm filtered solution in PBS
<b>Host:</b>	Rabbit
<b>Isotype:</b>	IgG
<b>Applications:</b>	ELISA, Immunocytochemistry (ICC), Immunofluorescence (IF), and Immunohistochemistry (IHC; paraffin); the recommended starting dilution is 1:5,000-1:10,000 for ELISA, 1:300-1:10,000 for ICC and IF, and 1:500-1:2,000 for IHC-P. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

### Images



Immunochemical staining of formalin-fixed and paraffin embedded mouse CD8a in mouse spleen with CD8a Polyclonal Antibody at 1:1,000 dilution.



Immunofluorescent analysis of mouse CD8a-His in mouse spleen cells. Cells were fixed with 4% PFA, permeabilized with 0.3% Triton X-100 in PBS, blocked with 10% serum, and incubated with CD8a Polyclonal Antibody at a dilution of 1:1,000 at 4°C overnight. Cells were then stained with an Alexa Fluor® 488-conjugated goat anti-rabbit IgG secondary antibody (green). Positive staining was localized to the cell membrane.

**WARNING**  
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

**SAFETY DATA**  
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

**WARRANTY AND LIMITATION OF REMEDY**  
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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## Description

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The CD8  $\alpha$ -chain (CD8a) is a transmembrane glycoprotein that exists as a homodimer, CD8 $\alpha\alpha$ , or heterodimer with the CD8  $\beta$ -chain (CD8b), CD8 $\alpha\beta$ , to form the T cell receptor (TCR) co-receptor CD8.<sup>1,2</sup> CD8a is composed of an extracellular immunoglobulin variable-like (IgV) domain, which interacts with MHC class I molecules, a transmembrane domain, and a cytoplasmic tail that associates with the tyrosine kinase p56<sup>lck</sup> and mediates signal transduction.<sup>1-3</sup> CD8 $\alpha\beta$  is expressed by cytotoxic T lymphocytes (CTLs), where it acts as a TCR co-receptor by enhancing T cell signaling and activation upon binding to antigen-displaying MHC class I molecules.<sup>2,4</sup> CD8 $\alpha\alpha$  is expressed by CTLs and intestinal epithelial lymphocytes, as well as  $\gamma\delta$  T, natural killer (NK), and dendritic cells, where it acts as a positive or negative regulator of cell activation in a cell-dependent manner. *Cd8a*<sup>-/-</sup> mice infected with *M. tuberculosis* exhibit reduced survival.<sup>5</sup> Cayman's CD8a Polyclonal Antibody can be used for ELISA, immunocytochemistry (ICC), immunofluorescence (IF), and immunohistochemistry (IHC; paraffin) applications.

## References

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1. Laugel, B., Cole, D.K., Clement, M., *et al.* The multiple roles of the CD8 coreceptor in T cell biology: Opportunities for the selective modulation of self-reactive cytotoxic T cells. *J. Leukoc. Biol.* **90(6)**, 1089-1099 (2011).
2. Cheroutre, H. and Lambolez, F. Doubting the TCR coreceptor function of CD8 $\alpha\alpha$ . *Immunity* **28(2)**, 149-159 (2008).
3. Irie, H.Y., Ravichandran, K.S., and Burakoff, S.J. CD8 $\beta$  chain influences CD8a chain-associated Lck kinase activity. *J. Exp. Med.* **181(4)**, 1267-1273 (1995).
4. Geng, J. and Raghavan, M. CD8 $\alpha\alpha$  homodimers function as a coreceptor for KIR3DL1. *Proc. Natl. Acad. Sci. USA* **115(36)**, 17951-17956 (2019).
5. Sousa, A.O., Mazzaccaro, R.J., Russell, R.G., *et al.* Relative contributions of distinct MHC class I-dependent cell populations in protection to tuberculosis infection in mice. *Proc. Natl. Acad. Sci. USA* **97(8)**, 4204-4208 (2000).

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