

Alexa Fluor® 488 anti-human CD8 Antibody

Catalog# / Size	344716 / 100 tests
Clone	SK1
Regulatory Status	RUO
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 α_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	African Green, Chimpanzee, 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 SB - Reported in the literature, not verified in house
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	Clone SK1 recognizes the a chain of CD8. Additional reported applications (for the relevant formats) include: proteogenomics ⁸ , immunohistochemistry of acetone-fixed frozen tissue sections, and spatial biology (IBEX) ^{9,10} . This clone was tested in-house and does not demonstrate utility for formalin-fixed paraffin-embedded (FFPE) human tonsil sections.
Additional Product Notes	Iterative Bleaching Extended multi-plexity (IBEX) is a fluorescent imaging technique capable of highly-multiplexed spatial analysis. The method relies on cyclical bleaching of panels of fluorescent antibodies in order to image and analyze many markers over multiple cycles of staining, imaging, and, bleaching. It is a community-developed open-access method developed by the Center for Advanced Tissue Imaging (CAT-I) in the National Institute of Allergy and Infectious Diseases (NIAID, NIH).

Application References

1. Ledbetter JA, *et al.* 1981. *J. Exp. Med.* 153:310.
2. Campanelli R, *et al.* 2002. *Intl. Immunol.* 14:39.
3. Evans RL, *et al.* 1981. *Immunol.* 78:544.
4. Wooldridge L, *et al.* 2005. *J. Bio. Chem.* 280:27491.
5. Ch'el IL, *et al.* 2011. *J Exp Med.* 208:633. [PubMed](#)
6. Carbone A, *et al.* 1999. *Blood* 93:2319. (IHC-F)
7. Ahmed A, *et al.* 2001. *J. Pathol.* 193:383. (IHC)
8. Peterson VM, *et al.* 2017. *Nat. Biotechnol.* 35:936. (PG)
9. Radtke AJ, *et al.* 2020. *Proc Natl Acad Sci USA.* 117:33455-33465. (SB) [PubMed](#)
10. Radtke AJ, *et al.* 2022. *Nat Protoc.* 17:378-401. (SB) [PubMed](#)

Product Citations

1. Chapelin F, *et al.* 2017. *Sci Rep.* 10.1038/s41598-017-17669-4. [PubMed](#)
2. Peng S *et al.* 2019. *Cell Rep.* 28(10):2728-2738 . [PubMed](#)

RRID

AB_10549301 (BioLegend Cat. No. 344716)

Antigen Details

Structure	Ig superfamily, homodimer or heterodimer with CD8b, 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	NK cells, T cells, Thymocytes
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

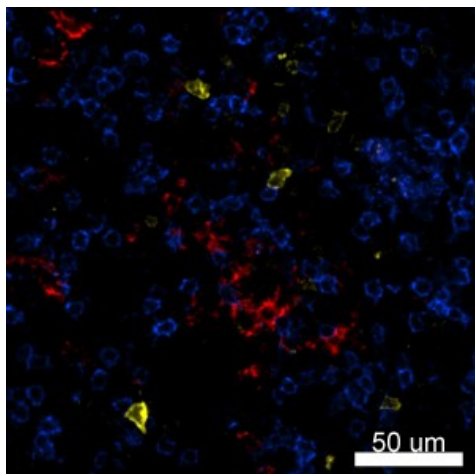
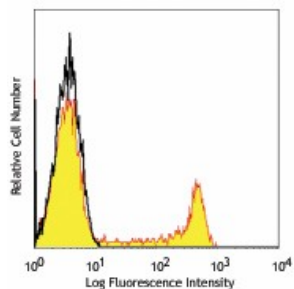
[Cell Surface Flow Cytometry Staining Protocol](#)

Other Formats

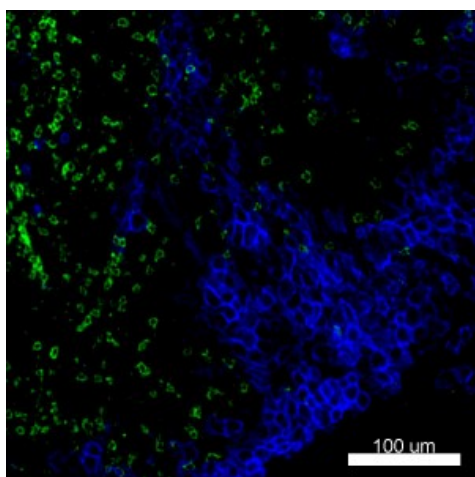
Alexa Fluor® 647 anti-human CD8, Brilliant Violet 650™ anti-human CD8, Purified anti-human CD8, FITC anti-human CD8, PE anti-human CD8, PerCP anti-human CD8, PerCP/Cyanine5.5 anti-human CD8, PE/Cyanine7 anti-human CD8, APC/Cyanine7 anti-human CD8, Alexa Fluor® 488 anti-human CD8, Pacific Blue™ anti-human CD8, Biotin anti-human CD8, APC anti-human CD8, Alexa Fluor® 700 anti-human CD8, Purified anti-human CD8 (Maxpar® Ready), Brilliant Violet 510™ anti-human CD8, Brilliant Violet 711™ anti-human CD8, Brilliant Violet 785™ anti-human CD8, Brilliant Violet 605™ anti-human CD8, PE/Dazzle™ 594 anti-human CD8, APC/Fire™ 750 anti-human CD8, Brilliant Violet 421™ anti-human CD8, TotalSeq™-A0046 anti-human CD8, TotalSeq™-C0046 anti-human CD8, Brilliant Violet 750™ anti-human CD8, TotalSeq™-B0046 anti-human CD8, Spark Blue™ 550 anti-human CD8, APC/Fire™ 810 anti-human CD8, PE/Fire™ 640 anti-human CD8, PE/Fire™ 700 anti-human CD8, TotalSeq™-D0046 anti-human CD8, GMP APC anti-human CD8, PE/Cyanine5 anti-human CD8 Antibody, Spark UV™ 387 anti-human CD8, GMP PE anti-human CD8, GMP PE/Cyanine7 anti-human CD8, Spark NIR™ 685 anti-human CD8, KIRAVIA Blue 520™ anti-human CD8

Product Data

Human peripheral blood lymphocytes stained with SK1 Alexa Fluor® 488



Confocal image of human lymph node sample acquired using the IBEX method of highly multiplexed antibody-based imaging: CD1c (red) in Cycle 3, CD8 (blue) in Cycle 4, and CD25 (yellow) in Cycle 4. Tissues were prepared using ~1% (vol/vol) formaldehyde and a detergent. Following fixation, samples are immersed in 30% (wt/vol) sucrose for cryoprotection. Images are courtesy of Drs. Andrea J. Radtke and Ronald N. Germain of the Center for Advanced Tissue Imaging (CAT-I) in the National Institute of Allergy and Infectious Diseases (NIAID, NIH).



Confocal image of human metastatic lymph node sample acquired using the IBEX method of highly multiplexed antibody-based imaging: CD8 (green) in Cycle 1 and CD138 (blue) in Cycle 5. Tissues were prepared using ~1% (vol/vol) formaldehyde and a detergent. Following fixation, samples are immersed in 30% (wt/vol) sucrose for cryoprotection. Images are courtesy of Drs. Andrea J. Radtke and Ronald N. Germain of the Center for Advanced Tissue Imaging (CAT-I) in the National Institute of Allergy and Infectious Diseases (NIAID, NIH).

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