

Alexa Fluor® 488 anti-human CD4 Antibody

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|--------------------------|---|
| Catalog# / Size | 317419 / 25 tests 317420 / 100 tests |
| Clone | OKT4 |
| Regulatory Status | RUO |
| Workshop | HCDM listed |
| Other Names | T4 |
| Isotype | Mouse IgG2b, κ |
| Description | CD4, also known as T4, is a 55 kD single-chain type I transmembrane glycoprotein expressed on most thymocytes, a subset of T cells, and monocytes/macrophages. CD4, a member of the Ig superfamily, recognizes antigens associated with MHC class II molecules and participates in cell-cell interactions, thymic differentiation, and signal transduction. CD4 acts as a primary receptor for HIV, binding to HIV gp120. CD4 has also been shown to interact with IL-16. |

Product Details

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|-------------------------------|--|
| Verified Reactivity | Human, Cynomolgus, Rhesus |
| Reported Reactivity | Chimpanzee |
| Antibody Type | Monoclonal |
| Host Species | Mouse |
| Immunogen | Human peripheral T cells |
| 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 IHC-F - Verified |
| 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 µl per million cells in 100 µl staining volume or 5 µl per 100 µl of whole blood. For immunohistochemical staining on frozen tissue sections, the suggested use of this reagent is 5.0 - 10 µg per ml. It is recommended that the reagent be titrated for optimal performance for each application. * 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 OKT4 antibody binds to the D3 domain of CD4 and does not block HIV binding. Additional reported applications (for the relevant formats) include: immunohistochemistry of frozen sections and blocking of T cell activation. This clone was tested in-house and does not work on formalin fixed paraffin-embedded (FFPE) tissue. The Ultra-LEAF™ purified antibody (Endotoxin < 0.01 EU/µg, Azide-Free, 0.2 µm filtered) is recommended for functional assays (Cat. No. 317453 and 317454). |

In a small subset of individuals, the OKT4 clone does not bind to CD4 due to polymorphisms in CD4.⁹

Application References

1. Knapp W, *et al.* 1989. Leucocyte Typing IV. Oxford University Press. New York.
2. Reinherz EL, *et al.* 1979. *Proc. Natl. Acad. Sci.* 76:4061.
3. Kmiecik M, *et al.* 2009. *J. Transl. Med.* 7:89. (FC) [PubMed](#)
4. Cicin-Sain L, *et al.* 2010. *J. Immunol.* 184:6739. [PubMed](#)
5. Rosenzweig M, *et al.* 2001. *J. Med. Primatol.* 30:36.
6. Linder J, *et al.* 1987. *Am. J. Pathol.* 127:1.
7. Boche D, *et al.* 1999. *J. Neurovirol.* 5:232. (IHC)
8. Reinherz EL, *et al.* 1979. *Proc. Natl. Acad. Sci. USA.* 76:4061. (Immunogen)
9. Lederman S, *et al.* 1991. *Mol Immunol.* 28:1171-81.

Product Citations

1. Demirkhanyan L, *et al.* 2012. *J Biol Chem.* 287:28821. [PubMed](#)
2. Sharei A, *et al.* 2015. *PLoS One.* 10:118803. [PubMed](#)
3. Abe S, *et al.* 2020. *JCI Insight.* 5:00. [PubMed](#)
4. Maehara T, *et al.* 2018. *Life Sci Alliance.* 1:e201800050. [PubMed](#)
5. Kraig E, *et al.* 2018. *Exp Gerontol.* 105:53. [PubMed](#)
6. Meyer LK, *et al.* 2019. *J Clin Invest.* 130:863. [PubMed](#)
7. Singh A, *et al.* 2020. *Cell Rep.* 32:108153. [PubMed](#)

RRID

AB_571938 (BioLegend Cat. No. 317419)
AB_571939 (BioLegend Cat. No. 317420)

Antigen Details

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|---------------------------|--|
| Structure | Ig superfamily, type I transmembrane glycoprotein, 55 kD |
| Distribution | T cell subset, majority of thymocytes, monocytes/macrophages |
| Function | MHC class II co-receptor, lymphocyte adhesion, thymic differentiation, HIV receptor |
| Ligand/Receptor | MHC class II molecules, HIV gp120, IL-16 |
| Cell Type | Macrophages, Monocytes, T cells, Thymocytes, Tregs |
| Biology Area | Immunology |
| Molecular Family | CD Molecules |
| Antigen References | 1. Center D, <i>et al.</i> 1996. <i>Immunol. Today</i> 17:476. 2. Gaubin M, <i>et al.</i> 1996. <i>Eur. J. Clin. Chem. Clin. Biochem.</i> 34:723. |
| Gene ID | 920 |

Related Protocols

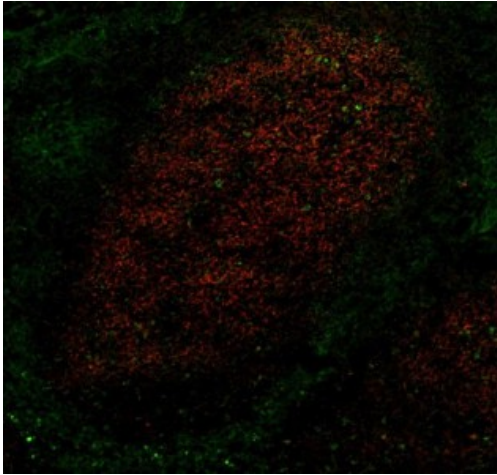
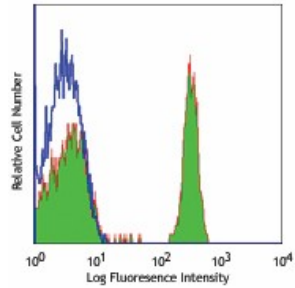
[Cell Surface Flow Cytometry Staining Protocol](#)

Other Formats

Brilliant Violet 650™ anti-human CD4, Purified anti-human CD4, Biotin anti-human CD4, FITC anti-human CD4, PE anti-human CD4, PE/Cyanine5 anti-human CD4, PE/Cyanine7 anti-human CD4, APC anti-human CD4, APC/Cyanine7 anti-human CD4, Alexa Fluor® 488 anti-human CD4, Alexa Fluor® 647 anti-human CD4, Alexa Fluor® 700 anti-human CD4, Pacific Blue™ anti-human CD4, PerCP/Cyanine5.5 anti-human CD4, PerCP anti-human CD4, Brilliant Violet 421™ anti-human CD4, Brilliant Violet 605™ anti-human CD4, Brilliant Violet 711™ anti-human CD4, Brilliant Violet 785™ anti-human CD4, Brilliant Violet 510™ anti-human CD4, Brilliant Violet 570™ anti-human CD4, PE/Dazzle™ 594 anti-human CD4, TotalSeq™-A0922 anti-human CD4, Ultra-LEAF™ Purified anti-human CD4

Product Data

Human peripheral blood lymphocytes stained with OKT4 Alexa Fluor® 488



Human frozen tonsil tissue slices were fixed with 4% PFA for ten minutes and blocked with 5% FBS for 30 minutes. Then, the tissue was stained with 5 µg/ml of Alexa Fluor® 594 anti-human CD19 (clone H1B19) antibody (red) and Alexa Fluor® 488 anti-human CD4 (clone OKT4) antibody (green) overnight at 4°C. The image was scanned with a 10X objective and stitched with MetaMorph® software.

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