

Alexa Fluor® 488 anti-human CD4 Antibody

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| Catalog# / Size | 300519 / 100 tests |
| Clone | RPA-T4 |
| Regulatory Status | RUO |
| Workshop | IV T114 |
| Other Names | T4 |
| Isotype | Mouse IgG1, 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 |
| Reported Reactivity | Chimpanzee |
| 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 ICC - 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. 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.

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| Application Notes | The RPA-T4 antibody binds to the D1 domain of CD4 (CDR1 and CDR3 epitopes) and can block HIV gp120 binding and inhibit syncytia formation. Additional reported applications (for the relevant formats) include: immunohistochemistry of acetone-fixed frozen sections ^{3,4,5} , blocking of T cell activation ^{1,2} , and spatial biology (IBEX) ^{10,11} . 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. 300569 - 300574). |
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Application References

(PubMed link indicates BioLegend citation)

1. Knapp W, *et al.* 1989. Leucocyte Typing IV. Oxford University Press. New York. (Activ)
2. Moir S, *et al.* 1999. *J. Virol.* 73:7972. (Activ)
3. Deng MC, *et al.* 1995. *Circulation* 91:1647. (IHC)
4. Friedman T, *et al.* 1999. *J. Immunol.* 162:5256. (IHC)

5. Mack CL, *et al.* 2004. *Pediatr. Res.* 56:79. (IHC)
6. Lan RY, *et al.* 2006. *Hepatology* 43:729.
7. Zenaro E, *et al.* 2009. *J. Leukoc. Biol.* 86:1393. (FC) [PubMed](#)
8. Yoshino N, *et al.* 2000. *Exp. Anim. (Tokyo)* 49:97. (FC)
9. Stoeckius M, *et al.* 2017. *Nat. Methods.* 14:865. (PG)
10. Radtke AJ, *et al.* 2020. *Proc Natl Acad Sci USA.* 117:33455-33465. (SB) [PubMed](#)
11. Radtke AJ, *et al.* 2022. *Nat Protoc.* 17:378-401. (SB) [PubMed](#)

Product Citations

1. Ma KY, *et al.* 2021. *Nat Immunol.* 22:1590. [PubMed](#)
2. Emmons TR, *et al.* 2021. *Cancer Immunol Res.* 9:790. [PubMed](#)
3. Kip P, *et al.* 2021. *Nutrients.* 13:. [PubMed](#)
4. Lundtoft C, *et al.* 2017. *PLoS Pathogens.* 13(6):e1006425. [PubMed](#)
5. Pothlichet J, *et al.* 2020. *J Clin Invest.* 130:2872. [PubMed](#)

RRID

AB_389311 (BioLegend Cat. No. 300519)

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 | Dendritic cells, Macrophages, Monocytes, T cells, Thymocytes, Tregs |
| Biology Area | Immunology |
| Molecular Family | CD Molecules |
| Antigen References | <ol style="list-style-type: none"> 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

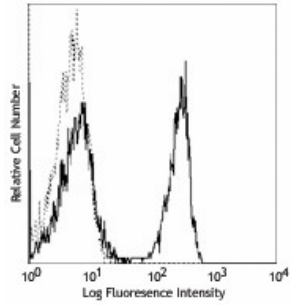
[Cell Surface Flow Cytometry Staining Protocol](#)

[Immunocytochemistry Staining Protocol](#)

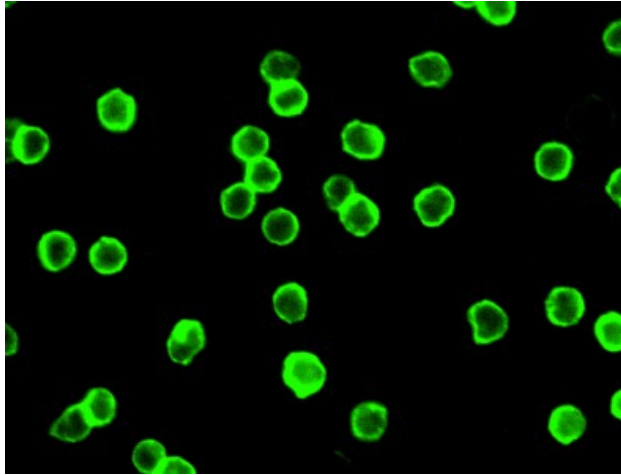
Other Formats

APC 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, Purified anti-human CD4, APC/Cyanine7 anti-human CD4, Alexa Fluor® 488 anti-human CD4, Alexa Fluor® 647 anti-human CD4, Pacific Blue™ anti-human CD4, Brilliant Violet 421™ anti-human CD4, Alexa Fluor® 700 anti-human CD4, PerCP anti-human CD4, PerCP/Cyanine5.5 anti-human CD4, Brilliant Violet 570™ anti-human CD4, Brilliant Violet 650™ anti-human CD4, Purified anti-human CD4 (Maxpar® Ready), Alexa Fluor® 594 anti-human CD4, Brilliant Violet 510™ anti-human CD4, PE/Dazzle™ 594 anti-human CD4, Brilliant Violet 785™ anti-human CD4, Brilliant Violet 605™ anti-human CD4, Brilliant Violet 711™ anti-human CD4, APC/Fire™ 750 anti-human CD4, CD4 Fluorophore Sampler Kit, CD4 Fluorophore Sampler Kit with Veri-Cells™ PBMC, TotalSeq™-A0072 anti-human CD4, TotalSeq™-B0072 anti-human CD4, TotalSeq™-C0072 anti-human CD4, Ultra-LEAF™ Purified anti-human CD4, TotalSeq™-D0072 anti-human CD4

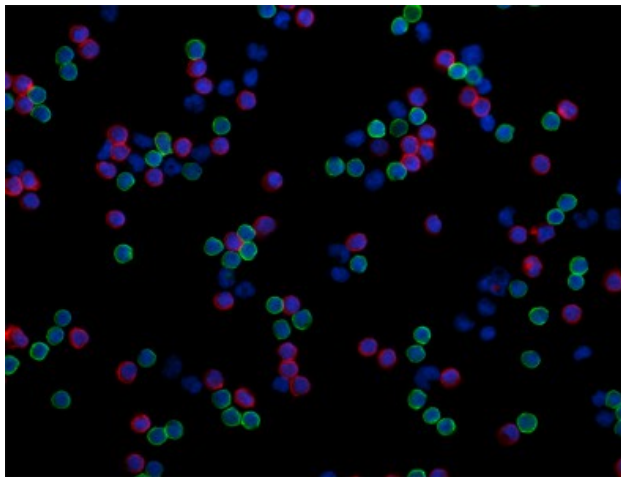
Product Data



Human peripheral blood lymphocytes stained with RPA-T4 Alexa Fluor® 488



Human peripheral blood mononuclear cells were fixed with 1% paraformaldehyde (PFA), and then stained with 5 µg/mL of CD4 (clone RPA-T4) Alexa Fluor® 488 for 30 minutes at room temperature. The image was captured by 40X objective.



Human peripheral blood mononuclear cells were fixed with 2% paraformaldehyde, then stained with 5 µg/mL anti-human CD8 (clone RPA-T8) Alexa Fluor® 594 (red) and 5 µg/mL anti-human CD4 (clone RPA-T4) Alexa Fluor® 488 (green) for 30 minutes at room temperature. Nuclei were counterstained with DAPI (blue). The image was captured by 40X objective.

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