

## Alexa Fluor® 647 anti-mouse CD4 Antibody

<b>Catalog# / Size</b>	100426 / 25 µg 100424 / 100 µg
<b>Clone</b>	GK1.5
<b>Regulatory Status</b>	RUO
<b>Other Names</b>	L3T4, T4
<b>Isotype</b>	Rat IgG2b, κ
<b>Description</b>	CD4 is a 55 kD protein also known as L3T4 or T4. It is a member of the Ig superfamily, primarily expressed on most thymocytes, a subset of T cells, and weakly on macrophages and dendritic cells. It acts as a coreceptor with the TCR during T cell activation and thymic differentiation by binding MHC class II and associating with the protein tyrosin kinase, lck.

### Product Details

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<b>Verified Reactivity</b>	Mouse
<b>Antibody Type</b>	Monoclonal
<b>Host Species</b>	Rat
<b>Immunogen</b>	Mouse CTL clone V4
<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 Alexa Fluor® 647 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, and protected from prolonged exposure to light. <b>Do not freeze.</b>
<b>Application</b>	<a href="#">FC - Quality tested</a> <a href="#">IHC-F - Verified</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 ≤ 0.25 µg per million cells in 100 µl volume. For immunohistochemistry of frozen tissue sections, a concentration range of 2.5-5 µg/ml is suggested. It is recommended that the reagent be titrated for optimal performance for each application.

\* Alexa Fluor® 647 has a maximum emission of 668 nm when it is excited at 633nm / 635nm.

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<b>Excitation Laser</b>	Red Laser (633 nm)
<b>Application Notes</b>	Additional reported applications (for the relevant formats) include: blocking of CD4 <sup>+</sup> T cell activation <sup>1,4,11</sup> , thymocyte costimulation <sup>3</sup> , <i>in vitro</i> and <i>in vivo</i> depletion <sup>2,5-8</sup> , blocking of egg-sperm cell adhesion <sup>1,4</sup> , immunohistochemical staining of acetone-fixed frozen sections <sup>9,10</sup> , immunoprecipitation <sup>1,2</sup> , and spatial biology (IBEX) <sup>12,13</sup> . The GK1.5 antibody is able to block CD4 mediated cell adhesion and T cell activation. Binding of GK1.5 antibody to CD4 T cells can be blocked by RM4-5 antibody, but not RM4-4 antibody. For <i>in vivo</i> studies or highly sensitive assays, we recommend Ultra-LEAF™ purified antibody (Cat. No. 100442) with a lower endotoxin limit than standard LEAF™ purified antibodies (Endotoxin < 0.01 EU/µg).

### Application References

(PubMed link indicates BioLegend citation)

1. Dialynas DP, *et al.* 1983. *J. Immunol.* 131:2445. (Block, IP)
2. Dialynas DP, *et al.* 1983. *Immunol. Rev.* 74:29. (IP, Deplete)
3. Wu L, *et al.* 1991. *J. Exp. Med.* 174:1617. (Costim)

4. Godfrey DI, *et al.* 1994. *J. Immunol.* 152:4783. (Block)
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11. Felix NJ, *et al.* 2007. *Nat. Immunol.* 8:388. (Block)
12. Radtke AJ, *et al.* 2020. *Proc Natl Acad Sci U S A.* 117:33455-65. (SB) [PubMed](#)
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## Product Citations

1. Sun L, *et al.* 2021. *Cancer Cell.* :. [PubMed](#)
2. Kurosawa M, *et al.* 2021. *Int J Mol Sci.* 22:. [PubMed](#)
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10. Uchil PD *et al.* 2018. *Cell host & microbe.* 25(1):87-100 . [PubMed](#)
11. An S, *et al.* 2019. *Small.* 15:e1805182. [PubMed](#)
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14. Sebastian M, *et al.* 2016. *J Immunol.* 196: 144 - 155. [PubMed](#)
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16. Simula L *et al.* 2018. *Cell reports.* 25(11):3059-3073 . [PubMed](#)
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19. Li J, *et al.* 2012. *Arthritis Rheum.* 64:1098. [PubMed](#)
20. Wang H, *et al.* 2022. *J Cancer.* 13:2126. [PubMed](#)
21. Qi S, *et al.* 2020. *Theranostics.* 10:1814. [PubMed](#)

## RRID

AB\_493519 (BioLegend Cat. No. 100426)  
 AB\_389324 (BioLegend Cat. No. 100424)

## Antigen Details

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<b>Structure</b>	Ig superfamily, 55 kD
<b>Distribution</b>	Majority of thymocytes, T cell subset
<b>Function</b>	TCR co-receptor, T cell activation
<b>Ligand/Receptor</b>	MHC class II molecule
<b>Cell Type</b>	Dendritic cells, T cells, Thymocytes, Tregs
<b>Biology Area</b>	Immunology
<b>Molecular Family</b>	CD Molecules
<b>Antigen References</b>	<ol style="list-style-type: none"> <li>1. Barclay A, <i>et al.</i> 1997. <i>The Leukocyte Antigen FactsBook</i> Academic Press.</li> <li>2. Bierer BE, <i>et al.</i> 1989. <i>Annu. Rev. Immunol.</i> 7:579.</li> <li>3. Janeway CA. 1992. <i>Annu. Rev. Immunol.</i> 10:645.</li> </ol>
<b>Gene ID</b>	<a href="#">12504</a>

## Related Protocols

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[Cell Surface Flow Cytometry Staining Protocol](#)

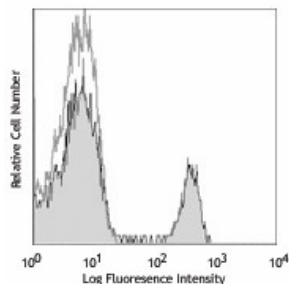
## Other Formats

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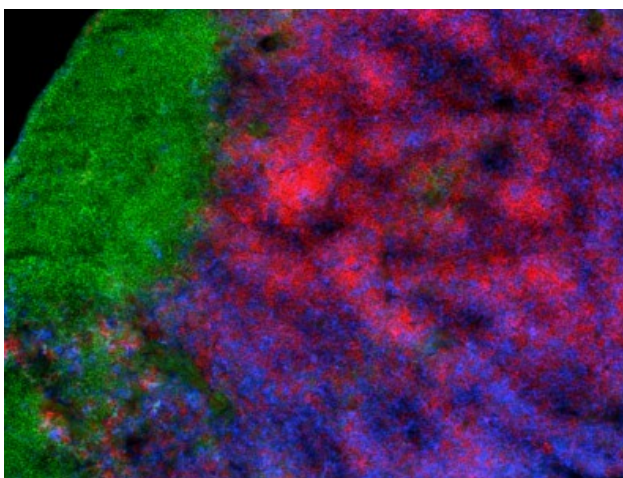
APC anti-mouse CD4, Biotin anti-mouse CD4, FITC anti-mouse CD4, PE anti-mouse CD4, PE/Cyanine5 anti-mouse CD4, Purified anti-mouse CD4, PE/Cyanine7 anti-mouse CD4, APC/Cyanine7 anti-mouse CD4, Alexa Fluor® 647 anti-mouse CD4, Alexa Fluor® 488 anti-mouse CD4, Pacific Blue™ anti-mouse CD4, Alexa Fluor® 700 anti-mouse CD4, PerCP anti-mouse CD4,

PerCP/Cyanine5.5 anti-mouse CD4, Brilliant Violet 421™ anti-mouse CD4, Ultra-LEAF™ Purified anti-mouse CD4, Alexa Fluor® 594 anti-mouse CD4, Brilliant Violet 711™ anti-mouse CD4, Brilliant Violet 510™ anti-mouse CD4, Brilliant Violet 605™ anti-mouse CD4, Brilliant Violet 785™ anti-mouse CD4, PE/Dazzle™ 594 anti-mouse CD4, APC/Fire™ 750 anti-mouse CD4, GoInVivo™ Purified anti-mouse CD4, Brilliant Violet 750™ anti-mouse CD4, Brilliant Violet 650™ anti-mouse CD4, Spark Blue™ 550 anti-mouse CD4, Spark NIR™ 685 anti-mouse CD4, KIRAVIA Blue 520™ anti-mouse CD4, PE/Fire™ 640 anti-mouse CD4, APC/Fire™ 810 anti-mouse CD4, PE/Fire™ 700 anti-mouse CD4, Spark Violet™ 538 anti-mouse CD4, Spark YG™ 593 anti-mouse CD4, Spark Blue™ 574 anti-mouse CD4 Antibody, Spark UV™ 387 anti-mouse CD4

## Product Data



C57BL/6 mouse splenocytes were stained with CD4 (clone GK1.5) Alexa Fluor® 647 (filled histogram) or rat IgG2b,  $\kappa$  Alexa Fluor® 647 isotype control (open histogram).



C57BL/6 mouse frozen lymph node section was fixed with 4% paraformaldehyde (PFA) for 10 minutes at room temperature and blocked with 5% FBS plus 5% rat serum for 1 hour at room temperature. Then the section was stained with 5  $\mu$ g/ml of CD8 (clone 53-6.7) Alexa Fluor® 594 (red), 5  $\mu$ g/ml of CD4 (clone GK1.5) Alexa Fluor® 647 (blue), and 5  $\mu$ g/ml of B220 (clone RA3-6B2) Alexa Fluor® 488 (green) overnight at 4°C. The image was captured by 10X objective.

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