

Technical Data Sheet

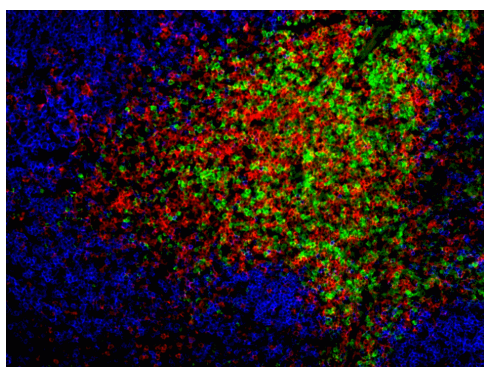
Alexa Fluor® 488 Rat Anti-Mouse CD4

Product Information

Material Number:	557667
Alternate Name:	Cd4; CD4 antigen; L3T4; Ly-4; T-cell surface antigen T4/Leu-3
Size:	0.1 mg
Concentration:	0.2 mg/ml
Clone:	RM4-5
Immunogen:	Mouse Thymocytes (BALB/c)
Isotype:	Rat (DA) IgG2a, κ
Reactivity:	QC Testing: Mouse
Storage Buffer:	Aqueous buffered solution containing $\leq 0.09\%$ sodium azide.

Description

The RM4-5 monoclonal antibody specifically binds to the CD4 (L3T4) differentiation antigen expressed on most thymocytes, subpopulations of mature T lymphocytes (i.e., MHC class II-restricted T cells, including most T helper cells and immunosuppressive regulatory T cells), and a subset of NK-T cells. CD4 has also been reported to be detected on pluripotent hematopoietic stem cells, bone marrow myeloid and B-lymphocyte precursors, intrathymic lymphoid precursors, and a subset of splenic dendritic cells. CD4 has been reported to be expressed on the plasma membrane of mouse egg cells and is involved in adhesion of the egg to MHC class II-bearing sperm. CD4 is an antigen coreceptor on the T-cell surface which interacts with MHC class II molecules on antigen-presenting cells. It participates in T-cell activation through its association with the T-cell receptor complex and protein tyrosine kinase lck. Purified RM4-5 mAb has been reported to block the binding of FITC-conjugated anti-mouse CD4 clones GK1.5 and H129.19, but not the RM4-4 clone.



Immunohistofluorescent analysis of CD4 expression by cells within C57BL/6 mouse spleen. A mouse spleen cryosection (5 μ m) was fixed with BD Cytotfix™ Fixation Buffer (Cat. No. 554655), blocked with 5% goat serum and 1% BSA diluted in 1x PBS, and stained with Alexa Fluor® 488 Rat Anti-Mouse CD4 antibody (Cat. No. 557667, pseudo-colored red), BD Horizon™ BV421 Rat Anti-Mouse CD8a antibody (Cat. No. 563898, pseudo-colored green), and Alexa Fluor® 647 Rat Anti-Mouse CD45R/B220 antibody (Cat. No. 557683, pseudo-colored blue). Images were captured on a standard epifluorescence microscope. Original magnification, 20x.

Preparation and Storage

Store undiluted at 4°C and protected from prolonged exposure to light. Do not freeze.

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.

The antibody was conjugated to Alexa Fluor® 488 under optimum conditions, and unreacted Alexa Fluor® 488 was removed.

Application Notes

Application

Flow cytometry	Routinely Tested
Immunofluorescence	Tested During Development

Suggested Companion Products

Catalog Number	Name	Size	Clone
557676	Alexa Fluor® 488 Rat IgG2a, κ Isotype Control	0.1 mg	R35-95
554655	Fixation Buffer	100 mL	(none)
563898	BV421 Rat Anti-Mouse CD8a	50 μ g	53-6.7
557683	Alexa Fluor® 647 Rat Anti-Mouse CD45R	0.1 mg	RA3-6B2
564907	DAPI Solution	1 mg	(none)

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Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. An isotype control should be used at the same concentration as the antibody of interest.
3. Alexa Fluor® 488 fluorochrome emission is collected at the same instrument settings as for fluorescein isothiocyanate (FITC).
4. Alexa Fluor® is a registered trademark of Molecular Probes, Inc., Eugene, OR.
5. The Alexa Fluor®, Pacific Blue™, and Cascade Blue® dye antibody conjugates in this product are sold under license from Molecular Probes, Inc. for research use only, excluding use in combination with microarrays, or as analyte specific reagents. The Alexa Fluor® dyes (except for Alexa Fluor® 430), Pacific Blue™ dye, and Cascade Blue® dye are covered by pending and issued patents.
6. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing.
7. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at www.bdbiosciences.com/colors.
8. Please refer to www.bdbiosciences.com/pharming/protocols for technical protocols.

References

- Allman D, Li J, Hardy RR. Commitment to the B lymphoid lineage occurs before DH-JH recombination. *J Exp Med*. 1999; 189(4):735-740. (Biology)
- Bendelac A. Mouse NK1+ T cells. *Curr Opin Immunol*. 1995; 7(3):367-374. (Biology)
- Bierer BE, Sleckman BP, Ratnoffsky SE, Burakoff SJ. The biologic roles of CD2, CD4, and CD8 in T-cell activation. *Annu Rev Immunol*. 1989; 7:579-599. (Biology)
- Bosselut R, Zhang W, Ashe JM, Kopacz JL, Samelson LE, Singer A. Association of the adaptor molecule LAT with CD4 and CD8 coreceptors identifies a new coreceptor function in T cell receptor signal transduction. *J Exp Med*. 1999; 190(10):1517-1526. (Biology: Immunoprecipitation)
- Frederickson GG, Basch RS. L3T4 antigen expression by hemopoietic precursor cells. *J Exp Med*. 1989; 169(4):1473-1478. (Biology)
- Godfrey DI, Kennedy J, Mombaerts P, Tonegawa S, Zlotnik A. Onset of TCR-β gene rearrangement and role of TCR-β expression during CD3-CD4-CD8-thymocyte differentiation. *J Immunol*. 1994; 152(10):4783-4792. (Biology)
- Guo MW, Watanabe T, Mori E, Mori T. Molecular structure and function of CD4 on murine egg plasma membrane. *Zygote*. 1995; 3(1):65-73. (Biology)
- Janeway CA Jr. The T cell receptor as a multicomponent signalling machine: CD4/CD8 coreceptors and CD45 in T cell activation. *Annu Rev Immunol*. 1992; 10:645-674. (Biology)
- Martin P, del Hoyo GM, Anjuere F, et al. Concept of lymphoid versus myeloid dendritic cell lineages revisited: both CD8alpha(-) and CD8alpha(+) dendritic cells are generated from CD4(low) lymphoid-committed precursors. *Blood*. 2000; 96(7):2511-2519. (Biology)
- Nakamura T. Personal Communication. (Immunogen: Blocking)
- Shevach EM. Regulatory T cells in autoimmunity. *Annu Rev Immunol*. 2000; 18:423-449. (Biology)
- Wineman JP, Gilmore GL, Gritzmacher C, Torbett BE, Muller-Sieburg CE. CD4 is expressed on murine pluripotent hematopoietic stem cells. *Blood*. 1992; 180(7):1717-1724. (Biology)
- Wu L, Antica M, Johnson GR, Scollay R, Shortman K. Developmental potential of the earliest precursor cells from the adult mouse thymus. *J Exp Med*. 1991; 174(6):1617-1627. (Biology)
- Wu L, Scollay R, Egerton M, Pearse M, Spangrude GJ, Shortman K. CD4 expressed on earliest T-lineage precursor cells in the adult murine thymus. *Nature*. 1991; 349(6304):71-74. (Biology)

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