Datasheet: MCA4635A647

BATCH NUMBER 173738

Description:	RAT ANTI MOUSE CD4:Alexa Fluor® 647
Specificity:	CD4
Other names:	L3T4 ANTIGEN, LY-4
Format:	ALEXA FLUOR® 647
Product Type:	Monoclonal Antibody
Clone:	GK1.5
Isotype:	IgG2b
Quantity:	100 TESTS/1ml

Product Details

Applications

This product has been reported to work in the following applications. This information is derived from testing within our laboratories, peer-reviewed publications or personal communications from the originators. Please refer to references indicated for further information. For general protocol recommendations, please visit www.bio-rad-antibodies.com/protocols.

	Yes	No	Not Determined	Suggested Dilution
Flow Cytometry	▪			Neat - 1/10

Where this antibody has not been tested for use in a particular technique this does not necessarily exclude its use in such procedures. Suggested working dilutions are given as a guide only. It is recommended that the user titrates the antibody for use in their own system using appropriate negative/positive controls.

Target Species

Mouse

Product Form

Purified IgG conjugated to Alexa Fluor® 647 - liquid

Max Ex/Em

Fluorophore	Excitation Max (nm)	Emission Max (nm)
Alexa Fluor®647	650	665

Preparation

Purified IgG prepared by affinity chromatography on Protein G from tissue culture supernatant

Buffer Solution

Phosphate buffered saline

Preservative Stabilisers

0.09% Sodium Azide (NaN_3)
1% Bovine Serum Albumin

Approx. Protein

IgG concentration 0.05mg/ml

Concentrations	
Immunogen	Murine CD4.
External Database Links	**UniProt:** P06332 Related reagents **Entrez Gene:** 12504 Cd4 Related reagents
RRID	AB_1963534
Fusion Partners	Spleen cells from immunised Lewis rats were fused with cells of the SP2/0 myeloma cell line.
Specificity	**Rat anti Mouse CD4 antibody, clone GK1.5** recognizes mouse CD4, a ~55 kDa protein also known as Ly-4 and L3T4. CD4 is a single chain transmembraneous glycoprotein which belongs to the immunoglobulin superfamily, and is primarily expressed on T helper cells, peripheral blood monocytes and tissue macrophages. CD4 is also expressed on a subpopulation of regulatory T cells ($CD4^+$ $CD25^+$), which play a key role in the maintenance of self tolerance. Rat anti Mouse CD4 antibody, clone GK1.5 has been reported to block $CD4^+$ T-cell activation. It blocks class II MHC antigen-specific binding, thereby inhibiting functions such as class II MHC antigen-specific proliferation and the release of lymphokines. It may also be used for *in vivo* and *in vitro* cell depletion of $CD4^+$ T-cells.
Flow Cytometry	Use 10ul of the suggested working dilution to label $1x10^6$ cells in 100ul. The Fc region of monoclonal antibodies may bind non-specifically to cells expressing low affinity Fc receptors. This may be reduced by using SeroBlock FcR (BUF041A/B).
References	1. Dialynas, D.P. *et al.* (1983) Characterization of the murine T cell surface molecule, designated L3T4, identified by monoclonal antibody GK1.5: similarity of L3T4 to the human Leu-3/T4 molecule. J Immunol. 131 (5): 2445-51. 2. Wilde, D.B. *et al.* (1983) Evidence implicating L3T4 in class II MHC antigen reactivity; monoclonal antibody GK1.5 (anti-L3T4a) blocks class II MHC antigen-specific proliferation, release of lymphokines, and binding by cloned murine helper T lymphocyte lines. J Immunol. 131 (5): 2178-83. 3. Näher, H. *et al.* (1985) Dynamics of T cells of L3T4 and Ly 2 phenotype within granulomas in murine listeriosis. Clin Exp Immunol. 60 (3): 559-64. 4. Ye, X. *et al.* (2000) Transient depletion of CD4 lymphocyte improves efficacy of repeated administration of recombinant adenovirus in the ornithine transcarbamylase deficient sparse fur mouse. Gene Ther. 7 (20): 1761-7. 5. Chu, N.R. *et al.* (2000) Immunotherapy of a human papillomavirus (HPV) type 16 E7-expressing tumour by administration of fusion protein comprising *Mycobacterium bovis* bacille Calmette-Guérin (BCG) hsp65 and HPV16 E7. Clin Exp Immunol. 121:216-25

6. Zhou, Z. *et al.* (2011) Autoreactive marginal zone B cells enter the follicles and interact with CD4+ T cells in lupus-prone mice. BMC Immunol. 12: 7.
7. Pletinckx, K. *et al.* (2015) Immature dendritic cells convert anergic nonregulatory T cells into Foxp3- IL-10+ regulatory T cells by engaging CD28 and CTLA-4. Eur J Immunol. 45 (2): 480-91.
8. Foy, S.P. *et al.* (2016) Poxvirus-Based Active Immunotherapy with PD-1 and LAG-3 Dual Immune Checkpoint Inhibition Overcomes Compensatory Immune Regulation, Yielding Complete Tumor Regression in Mice. PLoS One. 11 (2): e0150084.
9. Steinl, D.C. *et al.* (2016) Noninvasive Contrast-Enhanced Ultrasound Molecular Imaging Detects Myocardial Inflammatory Response in Autoimmune Myocarditis. Circ Cardiovasc Imaging. 9 (8): .
10. Olesen, M. N. *et al.* (2018) CD4 T cells react to local increase of α-synuclein in a pathology-associated variant-dependent manner and modify brain microglia in absence of brain pathology Heliyon. 4 (1): e00513.
11. Jalili, R.B. *et al.* (2018) Fibroblast cell-based therapy prevents induction of alopecia areata in an experimental model. Cell Transplant. 27 (6): 994-1004.
12. Zheng, Z. *et al.* (2022) *In Vivo.* Inhibition of TRPC6 by SH045 Attenuates Renal Fibrosis in a New Zealand Obese (NZO) Mouse Model of Metabolic Syndrome. Int J Mol Sci. 23(12):6870.

Further Reading

1. Dialynas, D.P. *et al.* (1983) Characterization of the murine antigenic determinant, designated L3T4a, recognized by monoclonal antibody GK1.5: expression of L3T4a by functional T cell clones appears to correlate primarily with class II MHC antigen-reactivity. Immunol Rev. 74: 29-56.

Storage

This product is shipped at ambient temperature. It is recommended to aliquot and store at -20°C on receipt. When thawed, aliquot the sample as needed. Keep aliquots at 2-8°C for short term use (up to 4 weeks) and store the remaining aliquots at -20°C.

Avoid repeated freezing and thawing as this may denature the antibody. Storage in frost-free freezers is not recommended. This product is photosensitive and should be protected from light.

Guarantee

12 months from date of despatch

Acknowledgements

Health And Safety Information

Material Safety Datasheet documentation #10041 available at:
https://www.bio-rad-antibodies.com/SDS/MCA4635A647

Regulatory	For research purposes only

Related Products

Recommended Useful Reagents

MOUSE SEROBLOCK FcR (BUF041A)
MOUSE SEROBLOCK FcR (BUF041B)

Product inquiries: www.bio-rad-antibodies.com/technical-support

To find a batch/lot specific datasheet for this product, please use our online search tool at: bio-rad-antibodies.com/datasheets
'M385573:210513'

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