

Datasheet: MCA43A647

BATCH NUMBER 150533

Description:	MOUSE ANTI RAT CD45:Alexa Fluor® 647
Specificity:	CD45
Other names:	LCA
Format:	ALEXA FLUOR® 647
Product Type:	Monoclonal Antibody
Clone:	OX-1
Isotype:	IgG1
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 - 1/5

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	Rat		
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	0.09% Sodium Azide		
Stabilisers	1% Bovine Serum Albumin		
Approx. Protein	IgG concentration 0.05 mg/ml		

Concentrations

Immunogen Rat thymocyte membrane glycoproteins.

External Database Links

UniProt:

[P04157](#) [Related reagents](#)

Entrez Gene:

[24699](#) Ptprc [Related reagents](#)

RRID AB_321197

Fusion Partners Spleen cells from immunised BALB/c mice were fused with cells of the NS1 mouse myeloma cell line.

Specificity

Mouse anti Rat CD45 antibody, clone OX-1 recognizes CD45, also known as the leucocyte common antigen (LCA). The leucocyte common antigen consists of a family of heavily glycosylated membrane glycoproteins of molecular weight 180 – 240kDa.

Antibodies recognising a common epitope on all of these isoforms are termed CD45, whilst those recognising only individual isoforms are termed CD45RA, CD45RO etc. OX-1 reacts with all forms of CD45 expressed by all haematopoietic cells, except erythrocytes.

CD45 isoforms play complex roles in T-cell and B-cell antigen receptor signal transduction.

This product is routinely tested in flow cytometry on rat splenocytes

Flow Cytometry

Use 10ul of the suggested working dilution to label 10⁶ cells in 100ul.

References

1. Sunderland, C.A. *et al.* (1979) Purification with monoclonal antibody of a predominant leukocyte-common antigen and glycoprotein from rat thymocytes. [Eur J Immunol. 9 \(2\): 155-9.](#)
2. Woollett, G.R. *et al.* (1985) Molecular and antigenic heterogeneity of the rat leukocyte-common antigen from thymocytes and T and B lymphocytes. [Eur J Immunol. 15 \(2\): 168-73.](#)
3. Martín, A. *et al.* (1995) Passive dual immunization against tumour necrosis factor-alpha (TNF-alpha) and IL-1 beta maximally ameliorates acute aminonucleoside nephrosis. [Clin Exp Immunol. 99 \(2\): 283-8.](#)
4. Sato, K. *et al.* (2001) Carbon monoxide generated by heme oxygenase-1 suppresses the rejection of mouse-to-rat cardiac transplants. [J Immunol. 166 \(6\): 4185-94.](#)
5. Murakami, K. *et al.* (2000) Regulation of mast cell signaling through high-affinity IgE receptor by CD45 protein tyrosine phosphatase. [Int Immunol. 12 \(2\): 169-76.](#)
6. Strandberg, R. *et al.* (1978) The predominant heavily glycosylated glycoproteins at the surface of rat lymphoid cells are differentiation antigens. [Eur J Immunol. 8 \(12\): 832-9.](#)
7. Giezeman-Smits, K.M. *et al.* (1999) The regulatory role of CD45 on rat NK cells in target cell lysis. [J Immunol. 163 \(1\): 71-6.](#)

8. Zilka, N. *et al.* (2009) Human misfolded truncated tau protein promotes activation of microglia and leukocyte infiltration in the transgenic rat model of tauopathy. [J Neuroimmunol. 209 \(1-2\): 16-25.](#)
9. Schupp, N. *et al.* (2011) Mineralocorticoid receptor-mediated DNA damage in kidneys of DOCA-salt hypertensive rats. [FASEB J. 25 \(3\): 968-78.](#)
10. Ermert, L. *et al.* (2001) Comparison of different detection methods in quantitative microdensitometry. [Am J Pathol. 158: 407-17.](#)
11. Jeong, H.K. *et al.* (2010) Inflammatory responses are not sufficient to cause delayed neuronal death in ATP-induced acute brain injury. [PLoS One. 5: e13756.](#)
12. Leonardo, C.C. *et al.* (2009) Inhibition of gelatinase activity reduces neural injury in an ex vivo model of hypoxia-ischemia. [Neuroscience. 160: 755-66.](#)
13. Markusic, D.M. *et al.* (2010) Separating lentiviral vector injection and induction of gene expression in time, does not prevent an immune response to rTA in rats. [PLoS One. 5: e9974.](#)
14. Vaschetto, R. *et al.* (2010) Renal hypoperfusion and impaired endothelium-dependent vasodilation in an animal model of VILI: the role of the peroxynitrite-PARP pathway [Crit Care. 14: R45.](#)
15. Ladhoff, J. *et al.* (2010) Immune privilege of endothelial cells differentiated from endothelial progenitor cells. [Cardiovasc Res. 88: 121-9.](#)
16. Yao, Y. *et al.* (2016) Alendronate Attenuates Spinal Microglial Activation and Neuropathic Pain. [J Pain. 17 \(8\): 889-903.](#)
17. Wang, C. *et al.* (2015) Small activating RNA induces myogenic differentiation of rat adipose-derived stem cells by upregulating MyoD. [Int Braz J Urol. 41 \(4\): 764-72.](#)
18. Tanner, D.C. *et al.* (2015) cFLIP is critical for oligodendrocyte protection from inflammation. [Cell Death Differ. 22 \(9\): 1489-501.](#)
19. Runesson, E. *et al.* (2015) Nucleostemin- and Oct 3/4-positive stem/progenitor cells exhibit disparate anatomical and temporal expression during rat Achilles tendon healing. [BMC Musculoskelet Disord. 16: 212.](#)
20. Hellenbrand, D.J. *et al.* (2019) Sustained interleukin-10 delivery reduces inflammation and improves motor function after spinal cord injury. [J Neuroinflammation. 16 \(1\): 93.](#)
21. Pilipović, I. *et al.* (2019) Propranolol diminished severity of rat EAE by enhancing immunoregulatory/protective properties of spinal cord microglia. [Neurobiol Dis. Nov 2 \[Epub ahead of print\].](#)

Storage

Store at +4°C or at -20°C if preferred.

This product should be stored undiluted.

Storage in frost free freezers is not recommended. This product is photosensitive and should be protected from light.

Avoid repeated freezing and thawing as this may denature the antibody. Should this product contain a precipitate we recommend microcentrifugation before use.

Guarantee

12 months from date of despatch

Acknowledgements

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Health And Safety Information

Material Safety Datasheet documentation #10041 available at:
<https://www.bio-rad-antibodies.com/SDS/MCA43A647>
10041

Regulatory

For research purposes only

Related Products

Recommended Negative Controls

[MOUSE IgG1 NEGATIVE CONTROL:Alexa Fluor® 647 \(MCA1209A647\)](#)

North & South Tel: +1 800 265 7376

America Fax: +1 919 878 3751

Email: antibody_sales_us@bio-rad.com

Worldwide

Tel: +44 (0)1865 852 700

Fax: +44 (0)1865 852 739

Email: antibody_sales_uk@bio-rad.com

Europe

Tel: +49 (0) 89 8090 95 21

Fax: +49 (0) 89 8090 95 50

Email: antibody_sales_de@bio-rad.com

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