

Datasheet: MCA43R

Description:	MOUSE ANTI RAT CD45
Specificity:	CD45
Other names:	LCA
Format:	Purified
Product Type:	Monoclonal Antibody
Clone:	OX-1
Isotype:	IgG1
Quantity:	0.25 mg

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	▪			1/100
Immunohistology - Frozen (1)	▪			
Immunohistology - Paraffin		▪		
ELISA			▪	
Western Blotting			▪	
Immunofluorescence	▪			

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.

(1)The epitope recognised by this antibody is reported to be sensitive to formaldehyde fixation and tissue processing. Bio-Rad recommends the use of acetone fixation for frozen sections.

Target Species	Rat
Product Form	Purified IgG - liquid
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
Carrier Free	Yes
Approx. Protein Concentrations	IgG concentration 1.0 mg/ml
Immunogen	Rat thymocyte membrane glycoproteins.
External Database Links	<p>UniProt: P04157 Related reagents</p> <p>Entrez Gene: 24699 Ptprc Related reagents</p>
RRID	AB_322650
Fusion Partners	Spleen cells from immunised BALB/c mice were fused with cells of the NS1 mouse myeloma cell line.
Specificity	<p>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.</p> <p>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.</p> <p>CD45 isoforms play complex roles in T-cell and B-cell antigen receptor signal transduction.</p> <p>This product is routinely tested in flow cytometry on rat splenocytes</p>
Flow Cytometry	Use 10ul of the suggested working dilution to label 10 ⁶ cells in 100ul.
References	<ol style="list-style-type: none"> 1. Sunderland, C.A. <i>et al.</i> (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. <i>et al.</i> (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. <i>et al.</i> (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. <i>et al.</i> (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. <i>et al.</i> (2000) Regulation of mast cell signaling through high-affinity IgE

- receptor by CD45 protein tyrosine phosphatase. [Int Immunol. 12 \(2\): 169-76.](#)
6. Standring, 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 rtTA 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 \[Epub ahead of print\].](#)
 22. Collins, J.J.P. *et al.* (2018) Impaired Angiogenic Supportive Capacity and Altered Gene Expression Profile of Resident CD146⁺ Mesenchymal Stromal Cells Isolated from Hyperoxia-Injured Neonatal Rat Lungs. [Stem Cells Dev. 27 \(16\): 1109-24.](#)
 23. Porwal, K. *et al.* (2019) Increased bone marrow-specific adipogenesis by clofazimine causes impaired fracture healing, osteopenia and osteonecrosis without extra-skeletal effects in rats. [Toxicol Sci. kfz172.](#)
 24. Dabrowska, S. *et al.* (2021) Neuroinflammation evoked by brain injury in a rat model of lacunar infarct. [Exp Neurol. 336: 113531.](#)

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.

Guarantee 12 months from date of despatch

Health And Safety Information Material Safety Datasheet documentation #10040 available at: 10040: <https://www.bio-rad-antibodies.com/uploads/MSDS/10040.pdf>

Regulatory For research purposes only

Related Products

Recommended Secondary Antibodies

Goat Anti Mouse IgG (STAR77...) [HRP](#)
Rabbit Anti Mouse IgG (STAR12...) [RPE](#)
Rabbit Anti Mouse IgG (STAR8...) [DyLight@800](#)
Goat Anti Mouse IgG (STAR76...) [RPE](#)
Goat Anti Mouse IgG (Fc) (STAR120...) [FITC](#), [HRP](#)
Goat Anti Mouse IgG IgA IgM (STAR87...) [Alk. Phos.](#), [HRP](#)
Rabbit Anti Mouse IgG (STAR13...) [HRP](#)
Rabbit Anti Mouse IgG (STAR9...) [FITC](#)
Goat Anti Mouse IgG (H/L) (STAR117...) [Alk. Phos.](#), [DyLight@488](#), [DyLight@550](#),
[DyLight@650](#), [DyLight@680](#), [DyLight@800](#),
[FITC](#), [HRP](#)
Goat Anti Mouse IgG (STAR70...) [FITC](#)

Recommended Negative Controls

[MOUSE IgG1 NEGATIVE CONTROL \(MCA1209\)](#)

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

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