

## Datasheet: MCA43R

<b>Description:</b>	MOUSE ANTI RAT CD45
<b>Specificity:</b>	CD45
<b>Other names:</b>	LCA
<b>Format:</b>	Purified
<b>Product Type:</b>	Monoclonal Antibody
<b>Clone:</b>	OX-1
<b>Isotype:</b>	IgG1
<b>Quantity:</b>	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](http://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.**

<b>Target Species</b>	Rat
<b>Product Form</b>	Purified IgG - liquid
<b>Preparation</b>	Purified IgG prepared by affinity chromatography on Protein G from tissue culture supernatant
<b>Buffer Solution</b>	Phosphate buffered saline

<b>Preservative Stabilisers</b>	0.09% Sodium Azide
<b>Carrier Free</b>	Yes
<b>Approx. Protein Concentrations</b>	IgG concentration 1.0 mg/ml
<b>Immunogen</b>	Rat thymocyte membrane glycoproteins.
<b>External Database Links</b>	<p><b>UniProt:</b>  <a href="#">P04157</a>    <a href="#">Related reagents</a></p> <p><b>Entrez Gene:</b>  <a href="#">24699</a>    Ptprc    <a href="#">Related reagents</a></p>
<b>RRID</b>	AB_322650
<b>Fusion Partners</b>	Spleen cells from immunized BALB/c mice were fused with cells of the NS1 mouse myeloma cell line.
<b>Specificity</b>	<p><b>Mouse anti Rat CD45 antibody, clone OX-1</b> 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>
<b>Flow Cytometry</b>	Use 10ul of the suggested working dilution to label 10 <sup>6</sup> cells in 100ul.
<b>References</b>	<ol style="list-style-type: none"> <li>1. Standring, R. <i>et al.</i> (1978) The predominant heavily glycosylated glycoproteins at the surface of rat lymphoid cells are differentiation antigens. <a href="#">Eur J Immunol. 8 (12): 832-9.</a></li> <li>2. Sunderland, C.A. <i>et al.</i> (1979) Purification with monoclonal antibody of a predominant leukocyte-common antigen and glycoprotein from rat thymocytes. <a href="#">Eur J Immunol. 9 (2): 155-9.</a></li> <li>3. 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. <a href="#">Eur J Immunol. 15 (2): 168-73.</a></li> <li>4. 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. <a href="#">Clin Exp Immunol. 99 (2): 283-8.</a></li> <li>5. Giezeman-Smits, K.M. <i>et al.</i> (1999) The regulatory role of CD45 on rat NK cells in</li> </ol>

- target cell lysis. [J Immunol. 163 \(1\): 71-6.](#)
6. 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.](#)
  7. Ermert, L. *et al.* (2001) Comparison of different detection methods in quantitative microdensitometry. [Am J Pathol. 158: 407-17.](#)
  8. Dick, A.D. *et al.* (2001) Distribution of OX2 antigen and OX2 receptor within retina. [Invest Ophthalmol Vis Sci. 42: 170-6.](#)
  9. 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.](#)
  10. Kurozumi, K. *et al.* (2007) Effect of tumor microenvironment modulation on the efficacy of oncolytic virus therapy. [J Natl Cancer Inst. 99: 1768-81.](#)
  11. 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.](#)
  12. 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.](#)
  13. Ladhoff, J. *et al.* (2010) Immune privilege of endothelial cells differentiated from endothelial progenitor cells. [Cardiovasc Res. 88: 121-9.](#)
  14. 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.](#)
  15. Schupp, N. *et al.* (2011) Mineralocorticoid receptor-mediated DNA damage in kidneys of DOCA-salt hypertensive rats. [FASEB J. 25 \(3\): 968-78.](#)
  16. 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.](#)
  17. 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.](#)
  18. Tanner, D.C. *et al.* (2015) cFLIP is critical for oligodendrocyte protection from inflammation. [Cell Death Differ. 22 \(9\): 1489-501.](#)
  19. 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.](#)
  20. Yao, Y. *et al.* (2016) Alendronate Attenuates Spinal Microglial Activation and Neuropathic Pain. [J Pain. 17 \(8\): 889-903.](#)
  21. Collins, J.J.P. *et al.* (2018) Impaired Angiogenic Supportive Capacity and Altered Gene Expression Profile of Resident CD146<sup>+</sup> Mesenchymal Stromal Cells Isolated from Hyperoxia-Injured Neonatal Rat Lungs. [Stem Cells Dev. 27 \(16\): 1109-24.](#)
  22. 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.](#)
  23. 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.](#)
  24. Kuriyama, T. *et al.* (2020) A novel rat model of inflammatory bowel disease developed using a device created with a 3D printer. [Regen Ther. 14: 1-10.](#)
  25. Pilipović, I. *et al.* (2020) Propranolol diminished severity of rat EAE by enhancing immunoregulatory/protective properties of spinal cord microglia. [Neurobiol Dis. 134: 104665.](#)

26. Dabrowska, S. *et al.* (2021) Neuroinflammation evoked by brain injury in a rat model of lacunar infarct. [Exp Neurol. 336: 113531.](#)
27. Elabi, O.F. *et al.* (2021) L-dopa-Dependent Effects of GLP-1R Agonists on the Survival of Dopaminergic Cells Transplanted into a Rat Model of Parkinson Disease. [Int J Mol Sci. 22\(22\):12346.](#)
28. Hou, Y. *et al.* (2021) Pseudoginsenoside-F11 promotes functional recovery after transient cerebral ischemia by regulating the microglia/macrophage polarization in rats. [Int Immunopharmacol. 99: 107896.](#)
29. Eweida, A. *et al.* (2022) Systemically injected bone marrow mononuclear cells specifically home to axially vascularized tissue engineering constructs. [PLoS One. 17 \(8\): e0272697.](#)
30. Yang, Q. *et al.* (2022) Electrospun aligned poly( $\epsilon$ -caprolactone) nanofiber yarns guiding 3D organization of tendon stem/progenitor cells in tenogenic differentiation and tendon repair. [Front Bioeng Biotechnol. 10: 960694.](#)
31. Wu, Y. *et al.* (2018) Increased ceruloplasmin expression caused by infiltrated leukocytes, activated microglia, and astrocytes in injured female rat spinal cords. [J Neurosci Res. 96 \(7\): 1265-76.](#)
32. Midavaine, É. *et al.* (2024) Discovery of a CCR2-targeting pepducin therapy for chronic pain. [Pharmacol Res. : 107242.](#)
33. Rendra, E. *et al.* (2024) Clinical-grade human skin-derived ABCB5+ mesenchymal stromal cells exert anti-apoptotic and anti-inflammatory effects *in vitro* and modulate mRNA expression in a cisplatin-induced kidney injury murine model. [Front Immunol. 14: 1228928.](#)

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**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.

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**Guarantee** 12 months from date of despatch

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**Health And Safety Information** Material Safety Datasheet documentation #10040 available at: <https://www.bio-rad-antibodies.com/SDS/MCA43R>  
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**Regulatory** For research purposes only

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## Related Products

### Recommended Secondary Antibodies

Rabbit Anti Mouse IgG (STAR12...) [RPE](#)

Goat Anti Mouse IgG IgA IgM (STAR87...) [HRP](#)

Goat Anti Mouse IgG (STAR76...) [RPE](#)

Goat Anti Mouse IgG (STAR70...) [FITC](#)

Goat Anti Mouse IgG (H/L) (STAR117...) [Alk. Phos.](#), [DyLight®488](#), [DyLight®550](#),  
[DyLight®650](#), [DyLight®680](#), [DyLight®800](#),  
[FITC](#), [HRP](#)

Rabbit Anti Mouse IgG (STAR13...) [HRP](#)

Goat Anti Mouse IgG (Fc) (STAR120...) [FITC](#), [HRP](#)

Rabbit Anti Mouse IgG (STAR9...) [FITC](#)

Goat Anti Mouse IgG (STAR77...) [HRP](#)

## Recommended Negative Controls

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

<b>North &amp; South America</b>	Tel: +1 800 265 7376 Fax: +1 919 878 3751 Email: <a href="mailto:antibody_sales_us@bio-rad.com">antibody_sales_us@bio-rad.com</a>	<b>Worldwide</b>	Tel: +44 (0)1865 852 700 Fax: +44 (0)1865 852 739 Email: <a href="mailto:antibody_sales_uk@bio-rad.com">antibody_sales_uk@bio-rad.com</a>	<b>Europe</b>	Tel: +49 (0) 89 8090 95 21 Fax: +49 (0) 89 8090 95 50 Email: <a href="mailto:antibody_sales_de@bio-rad.com">antibody_sales_de@bio-rad.com</a>
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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](https://bio-rad-antibodies.com/datasheets)

'M384029:210513'

Printed on 03 Sep 2024

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