

Datasheet: MCA43PE

BATCH NUMBER 164423

Description:	MOUSE ANTI RAT CD45:RPE
Specificity:	CD45
Other names:	LCA
Format:	RPE
Product Type:	Monoclonal Antibody
Clone:	OX-1
Isotype:	IgG1
Quantity:	100 TESTS

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

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 R. Phycoerythrin (RPE) - lyophilized		
Reconstitution	Reconstitute with 1 ml distilled water		
Max Ex/Em	Fluorophore	Excitation Max (nm)	Emission Max (nm)
	RPE 488nm laser	496	578
Preparation	Antibody purified from tissue culture supernatant		
Buffer Solution	Phosphate buffered saline		
Preservative Stabilisers	0.09% Sodium Azide		
	1%	Bovine Serum Albumin	
	5%	Sucrose	

Immunogen	Rat thymocyte membrane glycoproteins.
External Database Links	<p>UniProt: P04157 Related reagents</p> <p>Entrez Gene: 24699 Ptpcr Related reagents</p>
RRID	AB_321412
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. Standring, R. <i>et al.</i> (1978) The predominant heavily glycosylated glycoproteins at the surface of rat lymphoid cells are differentiation antigens. Eur J Immunol. 8 (12): 832-9. 2. 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. 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. Eur J Immunol. 15 (2): 168-73. 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. Clin Exp Immunol. 99 (2): 283-8. 5. Giezeman-Smits, K.M. <i>et al.</i> (1999) The regulatory role of CD45 on rat NK cells in target cell lysis. J Immunol. 163 (1): 71-6. 6. 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. 7. Ermert, L. <i>et al.</i> (2001) Comparison of different detection methods in quantitative microdensitometry. Am J Pathol. 158: 407-17. 8. Dick, A.D. <i>et al.</i> (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⁺ 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. kzf172.](#)
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(ϵ -caprolactone) nanofiber yarns guiding 3D organization of tendon stem/progenitor cells in tenogenic differentiation and tendon repair. [Front Bioeng Biotechnol. 10: 960694.](#)

Storage

Prior to reconstitution store at +4°C. Following reconstitution store at +4°C.

DO NOT FREEZE.

This product should be stored undiluted. This product is photosensitive and should be protected from light. Should this product contain a precipitate we recommend microcentrifugation before use.

Guarantee

12 months from date of despatch

Health And Safety Information

Material Safety Datasheet documentation #20487 available at: <https://www.bio-rad-antibodies.com/SDS/MCA43PE>
20487

Regulatory

For research purposes only

Related Products

Recommended Negative Controls

[MOUSE IgG1 NEGATIVE CONTROL:RPE \(MCA1209PE\)](#)

North & South America

Tel: +1 800 265 7376

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

To find a batch/lot specific datasheet for this product, please use our online search tool at: bio-rad-antibodies.com/datasheets
'M405526:220916'

Printed on 05 Feb 2024