Datasheet: MCA43FA

BATCH NUMBER 165738

Description:	MOUSE ANTI RAT CD45:FITC
Specificity:	CD45
Other names:	LCA
Format:	FITC
Product Type:	Monoclonal Antibody
Clone:	OX-1
Isotype:	IgG1
Quantity:	50 µg

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

Rat

Product Form

Purified IgG conjugated to Fluorescein Isothiocyanate Isomer 1 (FITC) - liquid

Max Ex/Em

Fluorophore	Excitation Max (nm)	Emission Max (nm)
FITC	490	525

Preparation

Antibody purified from tissue culture supernatant

Buffer Solution

Phosphate buffered saline

Preservative Stabilisers

0.09% Sodium Azide
1% Bovine Serum Albumin

Approx. Protein Concentrations

IgG concentration 0.1 mg/ml

Immunogen	Rat thymocyte membrane glycoproteins.
External Database Links	**UniProt:** P04157 Related reagents **Entrez Gene:** 24699 Ptprc Related reagents
RRID	AB_566765
Fusion Partners	Spleen cells from immunized 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 10^6 cells in 100ul.
References	1. 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. 2. 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. 3. 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. 4. 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. 5. 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. 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^{+} 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(ε-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.

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
Health And Safety Information	Material Safety Datasheet documentation #10041 available at: https://www.bio-rad-antibodies.com/SDS/MCA43FA 10041
Regulatory	For research purposes only

Related Products

Recommended Negative Controls

MOUSE IgG1 NEGATIVE CONTROL:FITC (MCA1209F)

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
'M405523:220916'

Printed on 05 Feb 2024