

Datasheet: MCA1031FB

Description:	RAT ANTI MOUSE CD45:FITC
Specificity:	CD45
Other names:	LCA
Format:	FITC
Product Type:	Monoclonal Antibody
Clone:	YW62.3
Isotype:	IgG2b
Quantity:	0.5 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	▪			1/20 - 1/50

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	Mouse						
Product Form	Purified IgG conjugated to Fluorescein Isothiocyanate Isomer 1 (FITC) - liquid						
Max Ex/Em	<table border="1"> <thead> <tr> <th>Fluorophore</th> <th>Excitation Max (nm)</th> <th>Emission Max (nm)</th> </tr> </thead> <tbody> <tr> <td>FITC</td> <td>490</td> <td>525</td> </tr> </tbody> </table>	Fluorophore	Excitation Max (nm)	Emission Max (nm)	FITC	490	525
Fluorophore	Excitation Max (nm)	Emission Max (nm)					
FITC	490	525					
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 Concentrations	IgG concentration 0.5 mg/ml						

Immunogen	Mouse spleen cells.
External Database Links	<p>UniProt: P06800 Related reagents</p> <p>Entrez Gene: 19264 Ptprc Related reagents</p>
Synonyms	Ly-5
RRID	AB_324070
Fusion Partners	Spleen cells from immunised DA rats were fused with cells of the rat Y3/Ag1.2.3 myeloma cell line.
Specificity	<p>Rat anti Mouse CD45 antibody, clone YW62.3 recognizes the murine CD45 cell surface antigen, a single pass type1 transmembrane glycoprotein also known as protein tyrosine phosphatase receptor type C (PTPRC) and originally termed Leucocyte Common Antigen (LCA). CD45 is a 180-220kDa glycoprotein expressed by all leucocytes.</p> <p>CD45 is encoded by 3 alleles in mice, differentially expressed by various inbred strains. The Ly5 gene was originally described with the gene product LY5.1 expressed in C57bl/6 and Ly5.2 expressed in SJL strains (Komura et al. 1975), this was subsequently expanded to include a third allele encoding Ly5.3 (Shen et al. 1986). Further, in 1987 a reversal of nomenclature was instigated resulting in the allele in C57bl/6 becoming Ly5^b encoding Ly5.2 and the allele in SJL mice becoming Ly5^a encoding Ly5.1 (Morse et al. 1987). Further changes were made in 1992 with Ly5.1 becoming CD45.1 (SJL) and Ly5.2 becoming CD45.2 (C57bl/6). Finally, following work demonstrating homology between the CD45 antigen and a receptor linked protein tyrosine phosphatase the CD45^a gene was renamed Ptprc^a and CD45^b renamed Ptprc^b (Charbonneau et al. 1988; Zebedee et al. 1991).</p> <p>A number of different isoforms of CD45 are expressed on murine leucocytes depending on the pattern of alternative splicing of 3 exons termed A, B and C encoding regions of ~ 50 amino acids located at the N terminal region of the extracellular portion of CD45. The restricted proteins are termed CD45R with a designation depending on the expressed codon product. (Birkeland et al. 1989).</p> <p>Rat anti mouse CD45 antibody, clone YW62.3 is reactive with all isoforms of murine CD45.</p> <p>N.B. Some reactivity with human tissue has been observed.</p>
Flow Cytometry	<p>Use 10ul of the suggested working dilution to label 10⁶ cells in 100ul.</p> <p>The Fc region of monoclonal antibodies may bind non-specifically to cells expressing low affinity Fc receptors. This may be reduced by using SeroBlock FcR (BUF041A/B).</p>

References

1. Watt, S.M. *et al.* (1987) Cell-surface markers on haemopoietic precursors. Reagents for the isolation and analysis of progenitor cell subpopulations. [Mol Cell Probes. 1 \(4\): 297-326.](#)
2. Zirger, J.M. *et al.* (2012) Immune-mediated loss of transgene expression from virally transduced brain cells is irreversible, mediated by IFN γ , perforin, and TNF α , and due to the elimination of transduced cells. [Mol Ther. 20 \(4\): 808-19.](#)
3. Long, G.G. *et al.* (2010) Hematopoietic Proliferative Lesions in the Spleen of rasH2 Transgenic Mice Treated with MNU. [Toxicol Pathol. 38: 1026-36.](#)
4. Drake, C. *et al.* (2011) Brain inflammation is induced by co-morbidities and risk factors for stroke. [Brain Behav Immun. 25: 1113-22.](#)
5. Chan, D.A. *et al.* (2009) Tumor vasculature is regulated by PHD2-mediated angiogenesis and bone marrow-derived cell recruitment. [Cancer Cell. 15: 527-38.](#)
6. Lebson, L. *et al.* (2010) Trafficking CD11b-positive blood cells deliver therapeutic genes to the brain of amyloid-depositing transgenic mice. [J Neurosci. 30: 9651-8.](#)
7. Lee, D.C. *et al.* (2010) LPS- induced inflammation exacerbates phospho-tau pathology in rTg4510 mice. [J Neuroinflammation. 7: 56.](#)
8. Wang, S. *et al.* (2008) Drak2 contributes to West Nile virus entry into the brain and lethal encephalitis. [J Immunol. 181: 2084-91.](#)
9. Paz, H. *et al.* (2010) The homeobox gene Hhex regulates the earliest stages of definitive hematopoiesis. [Blood. 116: 1254-62.](#)
10. Reed-Geaghan, E.G. *et al.* (2010) Deletion of CD14 attenuates Alzheimer's disease pathology by influencing the brain's inflammatory milieu. [J Neurosci. 30: 15369-73.](#)
11. Yang, R. *et al.* (2010) Successful treatment of experimental glomerulonephritis with IdeS and EndoS, IgG-degrading streptococcal enzymes. [Nephrol Dial Transplant. 25: 2479-86.](#)
12. Yang, J. *et al.* (2010) Evaluation of bone marrow- and brain-derived neural stem cells in therapy of central nervous system autoimmunity. [Am J Pathol. 177: 1989-2001.](#)
13. Yoshizaki, A. *et al.* (2010) Cell adhesion molecules regulate fibrotic process via Th1/Th2/Th17 cell balance in a bleomycin-induced scleroderma model. [J Immunol. 185: 2502-15.](#)
14. Abramowski, D. *et al.* (2012) Transgenic Expression of Intraneuronal A β 42 But Not A β 40 Leads to Cellular A β Lesions, Degeneration, and Functional Impairment without Typical Alzheimer's Disease Pathology. [J Neurosci. 32: 1273-83.](#)
15. Dénes, A. *et al.* (2010) Chronic systemic infection exacerbates ischemic brain damage via a CCL5 (regulated on activation, normal T-cell expressed and secreted)-mediated proinflammatory response in mice. [J Neurosci. 30: 10086-95.](#)
16. Kondo, Y. *et al.* (2007) Osteopetrotic (op/op) mice have reduced microglia, no A β deposition, and no changes in dopaminergic neurons. [J Neuroinflammation. 4: 31.](#)
17. Lee, S. *et al.* (2010) CX3CR1 deficiency alters microglial activation and reduces beta-amyloid deposition in two Alzheimer's disease mouse models. [Am J Pathol. 177: 2549-62.](#)
18. Jawhara, S. *et al.* (2012) Integrin α X β $_z$ is a leukocyte receptor for *Candida albicans* and is essential for protection against fungal infections. [J Immunol. 189 \(5\): 2468-77.](#)
19. Yamauchi, S. *et al.* (2012) Myosin II-dependent exclusion of CD45 from the site of Fc γ receptor activation during phagocytosis. [FEBS Lett. 586: 3229-35.](#)
20. Yazid, S. *et al.* (2015) Annexin-A1 restricts Th17 cells and attenuates the severity of autoimmune disease. [J Autoimmun. 58: 1-11.](#)

21. Kan, M.J. *et al.* (2015) Arginine deprivation and immune suppression in a mouse model of Alzheimer's disease. [J Neurosci. 35 \(15\): 5969-82.](#)
22. Bachstetter, A.D. *et al.* (2011) Fractalkine and CX 3 CR1 regulate hippocampal neurogenesis in adult and aged rats. [Neurobiol Aging. 32 \(11\): 2030-44.](#)
23. Kuffová, L. *et al.* (2008) Cross presentation of antigen on MHC class II via the draining lymph node after corneal transplantation in mice. [J Immunol. 180 \(3\): 1353-61.](#)
24. Murinello, S. *et al.* (2014) Fcγ receptor upregulation is associated with immune complex inflammation in the mouse retina and early age-related macular degeneration. [Invest Ophthalmol Vis Sci. 55 \(1\): 247-58.](#)
25. Mills, J.H. *et al.* (2012) A2A adenosine receptor signaling in lymphocytes and the central nervous system regulates inflammation during experimental autoimmune encephalomyelitis. [J Immunol. 188 \(11\): 5713-22.](#)
26. McMorran, B.J. *et al.* (2001) G551D CF mice display an abnormal host response and have impaired clearance of *Pseudomonas* lung disease. [Am J Physiol Lung Cell Mol Physiol. 281 \(3\): L740-7.](#)
27. Benson, C. *et al.* (2015) Voluntary wheel running delays disease onset and reduces pain hypersensitivity in early experimental autoimmune encephalomyelitis (EAE). [Exp Neurol. 271: 279-90.](#)
28. Marcos, E. *et al.* (2016) Dengue encephalitis-associated immunopathology in the mouse model: Implications for vaccine developers and antigens inducer of cellular immune response. [Immunol Lett. 176: 51-6.](#)
29. Carbajal, K.S. *et al.* (2015) Th Cell Diversity in Experimental Autoimmune Encephalomyelitis and Multiple Sclerosis. [J Immunol. 195 \(6\): 2552-9.](#)
30. Srivastava, A.K. *et al.* (2016) Co-transplantation of syngeneic mesenchymal stem cells improves survival of allogeneic glial-restricted precursors in mouse brain. [Exp Neurol. 275 Pt 1: 154-61.](#)
31. Haile, W.B. *et al.* (2016) The Janus kinase inhibitor ruxolitinib reduces HIV replication in human macrophages and ameliorates HIV encephalitis in a murine model. [Neurobiol Dis. 92 \(Pt B\): 137-43.](#)
32. Park, S.A. *et al.* (2016) Deficiency in either COX-1 or COX-2 genes does not affect amyloid beta protein burden in amyloid precursor protein transgenic mice. [Biochem Biophys Res Commun. 478 \(1\): 286-92.](#)
33. Chu, C.J. *et al.* (2013) Assessment and *in vivo* scoring of murine experimental autoimmune uveoretinitis using optical coherence tomography. [PLoS One. 8 \(5\): e63002.](#)
34. Hargreaves, A. *et al.* (2021) Tumors modulate fenestrated vascular beds and host endocrine status. [J Appl Toxicol. 41 \(12\): 1952-65.](#)
35. Filograna, R. *et al.* (2021) Mitochondrial dysfunction in adult midbrain dopamine neurons triggers an early immune response. [PLoS Genet. 17 \(9\): e1009822.](#)
36. Zhu, C. *et al.* (2020) Antinociceptive effect of intrathecal injection of miR-9-5p modified mouse bone marrow mesenchymal stem cells on a mouse model of bone cancer pain. [J Neuroinflammation. 17 \(1\): 85.](#)
37. Hargreaves, A. *et al.* (2022) Tumours modulate the systemic vascular response to anti-angiogenic therapy. [J Appl Toxicol. Feb 13 \[Epub ahead of print\].](#)

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:
10041: <https://www.bio-rad-antibodies.com/uploads/MSDS/10041.pdf>

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'M384621:210513'

Printed on 05 May 2022

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