

Datasheet: MCA1031GA

BATCH NUMBER 1705

Description:	RAT ANTI MOUSE CD45
Specificity:	CD45
Other names:	LCA
Format:	Purified
Product Type:	Monoclonal Antibody
Clone:	YW62.3
Isotype:	IgG2b
Quantity:	0.1 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	▪			1/50 - 1/200
Immunohistology - Frozen	▪			
Immunohistology - Paraffin			▪	
ELISA			▪	
Immunoprecipitation	▪			
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.

Target Species	Mouse
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	0.09% Sodium Azide

Stabilisers

Carrier Free	Yes
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Approx. Protein Concentrations	IgG concentration 1 mg/ml
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Immunogen	Mouse spleen cells.
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External Database Links

UniProt:

[P06800](#)

[Related reagents](#)

Entrez Gene:

[19264](#)

Ptprc

[Related reagents](#)

Synonyms	Ly-5
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RRID	AB_324339
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Fusion Partners	Spleen cells from immunised DA rats were fused with cells of the rat Y3/Ag1.2.3 myeloma cell line.
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Specificity

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.

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](#)).

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](#)).

Rat anti mouse CD45 antibody, clone YW62.3 is reactive with all isoforms of murine CD45.

N.B. Some reactivity with human tissue has been observed.

Flow Cytometry	Use 10ul of the suggested working dilution to label 10 ⁶ cells in 100ul.
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| References | <ol style="list-style-type: none">1. Watt, S.M. <i>et al.</i> (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. <i>et al.</i> (2012) Immune-mediated loss of transgene expression from virally transduced brain cells is irreversible, mediated by IFNγ, perforin, and TNFα, and due to the elimination of transduced cells. Mol Ther. 20 (4): 808-19.3. Long, G.G. <i>et al.</i> (2010) Hematopoietic Proliferative Lesions in the Spleen of rasH2 Transgenic Mice Treated with MNU. Toxicol Pathol. 38: 1026-36.4. Drake, C. <i>et al.</i> (2011) Brain inflammation is induced by co-morbidities and risk factors for stroke. Brain Behav Immun. 25: 1113-22.5. Chan, D.A. <i>et al.</i> (2009) Tumor vasculature is regulated by PHD2-mediated angiogenesis and bone marrow-derived cell recruitment. Cancer Cell. 15: 527-38.6. Lebson, L. <i>et al.</i> (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. <i>et al.</i> (2010) LPS- induced inflammation exacerbates phospho-tau pathology in rTg4510 mice. J Neuroinflammation. 7: 56.8. Wang, S. <i>et al.</i> (2008) Drak2 contributes to West Nile virus entry into the brain and lethal encephalitis. J Immunol. 181: 2084-91.9. Paz, H. <i>et al.</i> (2010) The homeobox gene Hhex regulates the earliest stages of definitive hematopoiesis. Blood. 116: 1254-62.10. Reed-Geaghan, E.G. <i>et al.</i> (2010) Deletion of CD14 attenuates Alzheimer's disease pathology by influencing the brain's inflammatory milieu. J Neurosci. 30: 15369-73.11. Yang, R. <i>et al.</i> (2010) Successful treatment of experimental glomerulonephritis with IdeS and EndoS, IgG-degrading streptococcal enzymes. Nephrol Dial Transplant. 25: 2479-86.12. Yang, J. <i>et al.</i> (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. <i>et al.</i> (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. <i>et al.</i> (2012) Transgenic Expression of Intraneuronal Aβ42 But Not Aβ40 Leads to Cellular Aβ Lesions, Degeneration, and Functional Impairment without Typical Alzheimer's Disease Pathology. J Neurosci. 32: 1273-83.15. Dénes, A. <i>et al.</i> (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. <i>et al.</i> (2007) Osteopetrotic (op/op) mice have reduced microglia, no Abeta deposition, and no changes in dopaminergic neurons. J Neuroinflammation. 4: 31.17. Lee, S. <i>et al.</i> (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. <i>et al.</i> (2012) Integrin αXβ₂ is a leukocyte receptor for <i>Candida albicans</i> |
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Storage

Store at +4°C or at -20°C if preferred.

This product should be stored undiluted.

Storage in frost-free freezers is not recommended. Avoid repeated freezing and thawing as this may denature the antibody. 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 #10040 available at: https://www.bio-rad-antibodies.com/SDS/MCA1031GA 10040
Regulatory	For research purposes only

Related Products

Recommended Secondary Antibodies

Rabbit Anti Rat IgG (STAR16...)	DyLight®800
Rabbit Anti Rat IgG (STAR17...)	FITC
Goat Anti Rat IgG (STAR72...)	HRP
Goat Anti Rat IgG (STAR69...)	FITC
Goat Anti Rat IgG (STAR73...)	RPE
Rabbit Anti Rat IgG (STAR21...)	HRP
Goat Anti Rat IgG (MOUSE ADSORBED) (STAR71...)	DyLight®550 , DyLight®650 , DyLight®800
Goat Anti Rat IgG (STAR131...)	Alk. Phos. , Biotin

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'M364664:200529'

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