

Datasheet: MCA1031GT

BATCH NUMBER 153599

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| Description: | RAT ANTI MOUSE CD45 |
| Specificity: | CD45 |
| Other names: | LCA |
| Format: | Purified |
| Product Type: | Monoclonal Antibody |
| Clone: | YW62.3 |
| Isotype: | IgG2b |
| Quantity: | 25 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 | ▪ | | | 1/100 - 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.

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| 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

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| Carrier Free | Yes |
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| Approx. Protein Concentrations | IgG concentration 1.0 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](#)

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| Synonyms | Ly-5 |
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| RRID | AB_2174399 |
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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.

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| 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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and is essential for protection against fungal infections. [J Immunol. 189 \(5\): 2468-77.](#)

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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.

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| 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/MCA1031GT 10040 |
| Regulatory | For research purposes only |

Related Products

Recommended Secondary Antibodies

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| 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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