

# Datasheet: MCA1031G

**BATCH NUMBER 156516**

<b>Description:</b>	RAT ANTI MOUSE CD45
<b>Specificity:</b>	CD45
<b>Other names:</b>	LCA
<b>Format:</b>	Purified
<b>Product Type:</b>	Monoclonal Antibody
<b>Clone:</b>	YW62.3
<b>Isotype:</b>	IgG2b
<b>Quantity:</b>	0.25 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](http://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.

<b>Target Species</b>	Mouse
<b>Product Form</b>	Purified IgG - liquid
<b>Preparation</b>	Purified IgG prepared by affinity chromatography on Protein G from tissue culture supernatant
<b>Buffer Solution</b>	Phosphate buffered saline
<b>Preservative</b>	0.09% Sodium Azide

## Stabilisers

Carrier Free Yes

Approx. Protein Concentrations IgG concentration 1.0 mg/ml

Immunogen Mouse spleen cells.

## External Database Links

### UniProt:

[P06800](#)

[Related reagents](#)

### Entrez Gene:

[19264](#)

Ptprc

[Related reagents](#)

Synonyms Ly-5

RRID AB\_321730

Fusion Partners Spleen cells from immunised DA rats were fused with cells of the rat Y3/Ag1.2.3 myeloma cell line.

## 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<sup>b</sup> encoding Ly5.2 and the allele in SJL mice becoming Ly5<sup>a</sup> 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<sup>a</sup> gene was renamed Ptprc<sup>a</sup> and CD45<sup>b</sup> renamed Ptprc<sup>b</sup> ([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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<b>Flow Cytometry</b>	Use 10ul of the suggested working dilution to label 10 <sup>6</sup> cells in 100ul.
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| <b>References</b> | <ol style="list-style-type: none"><li>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. <a href="#">Mol Cell Probes. 1 (4): 297-326.</a></li><li>2. Zirger, J.M. <i>et al.</i> (2012) Immune-mediated loss of transgene expression from virally transduced brain cells is irreversible, mediated by IFN<math>\gamma</math>, perforin, and TNF<math>\alpha</math>, and due to the elimination of transduced cells. <a href="#">Mol Ther. 20 (4): 808-19.</a></li><li>3. Long, G.G. <i>et al.</i> (2010) Hematopoietic Proliferative Lesions in the Spleen of rasH2 Transgenic Mice Treated with MNU. <a href="#">Toxicol Pathol. 38: 1026-36.</a></li><li>4. Drake, C. <i>et al.</i> (2011) Brain inflammation is induced by co-morbidities and risk factors for stroke. <a href="#">Brain Behav Immun. 25: 1113-22.</a></li><li>5. Chan, D.A. <i>et al.</i> (2009) Tumor vasculature is regulated by PHD2-mediated angiogenesis and bone marrow-derived cell recruitment. <a href="#">Cancer Cell. 15: 527-38.</a></li><li>6. Lebson, L. <i>et al.</i> (2010) Trafficking CD11b-positive blood cells deliver therapeutic genes to the brain of amyloid-depositing transgenic mice. <a href="#">J Neurosci. 30: 9651-8.</a></li><li>7. Lee, D.C. <i>et al.</i> (2010) LPS- induced inflammation exacerbates phospho-tau pathology in rTg4510 mice. <a href="#">J Neuroinflammation. 7: 56.</a></li><li>8. Wang, S. <i>et al.</i> (2008) Drak2 contributes to West Nile virus entry into the brain and lethal encephalitis. <a href="#">J Immunol. 181: 2084-91.</a></li><li>9. Paz, H. <i>et al.</i> (2010) The homeobox gene Hhex regulates the earliest stages of definitive hematopoiesis. <a href="#">Blood. 116: 1254-62.</a></li><li>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. <a href="#">J Neurosci. 30: 15369-73.</a></li><li>11. Yang, R. <i>et al.</i> (2010) Successful treatment of experimental glomerulonephritis with IdeS and EndoS, IgG-degrading streptococcal enzymes. <a href="#">Nephrol Dial Transplant. 25: 2479-86.</a></li><li>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. <a href="#">Am J Pathol. 177: 1989-2001.</a></li><li>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. <a href="#">J Immunol. 185: 2502-15.</a></li><li>14. Abramowski, D. <i>et al.</i> (2012) Transgenic Expression of Intraneuronal A<math>\beta</math>42 But Not A<math>\beta</math>40 Leads to Cellular A<math>\beta</math> Lesions, Degeneration, and Functional Impairment without Typical Alzheimer's Disease Pathology. <a href="#">J Neurosci. 32: 1273-83.</a></li><li>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. <a href="#">J Neurosci. 30: 10086-95.</a></li><li>16. Kondo, Y. <i>et al.</i> (2007) Osteopetrotic (op/op) mice have reduced microglia, no Abeta deposition, and no changes in dopaminergic neurons. <a href="#">J Neuroinflammation. 4: 31.</a></li><li>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. <a href="#">Am J Pathol. 177: 2549-62.</a></li><li>18. Jawhara, S. <i>et al.</i> (2012) Integrin <math>\alpha</math>X<math>\beta</math><sub>2</sub> is a leukocyte receptor for <i>Candida albicans</i></li></ol> |
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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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<b>Guarantee</b>	12 months from date of despatch
<b>Health And Safety Information</b>	Material Safety Datasheet documentation #10040 available at: <a href="https://www.bio-rad-antibodies.com/SDS/MCA1031G">https://www.bio-rad-antibodies.com/SDS/MCA1031G</a> 10040
<b>Regulatory</b>	For research purposes only

## Related Products

### Recommended Secondary Antibodies

Rabbit Anti Rat IgG (STAR16...)	<a href="#">DyLight®800</a>
Rabbit Anti Rat IgG (STAR17...)	<a href="#">FITC</a>
Goat Anti Rat IgG (STAR72...)	<a href="#">HRP</a>
Goat Anti Rat IgG (STAR69...)	<a href="#">FITC</a>
Goat Anti Rat IgG (STAR73...)	<a href="#">RPE</a>
Rabbit Anti Rat IgG (STAR21...)	<a href="#">HRP</a>
Goat Anti Rat IgG (MOUSE ADSORBED) (STAR71...)	<a href="#">DyLight®550</a> , <a href="#">DyLight®650</a> , <a href="#">DyLight®800</a>
Goat Anti Rat IgG (STAR131...)	<a href="#">Alk. Phos.</a> , <a href="#">Biotin</a>

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