

## Datasheet: MCA1031FA

<b>Description:</b>	RAT ANTI MOUSE CD45:FITC
<b>Specificity:</b>	CD45
<b>Other names:</b>	LCA
<b>Format:</b>	FITC
<b>Product Type:</b>	Monoclonal Antibody
<b>Clone:</b>	YW62.3
<b>Isotype:</b>	IgG2b
<b>Quantity:</b>	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](http://www.bio-rad-antibodies.com/protocols).

	Yes	No	Not Determined	Suggested Dilution
Flow Cytometry	■			

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 conjugated to Fluorescein Isothiocyanate Isomer 1 (FITC) - liquid						
<b>Max Ex/Em</b>	<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					
<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						
<b>Stabilisers</b>	1% Bovine Serum Albumin						
<b>Approx. Protein Concentrations</b>	IgG concentration 0.1 mg/ml						
<b>Immunogen</b>	Mouse spleen cells.						
<b>External Database Links</b>	<b>UniProt:</b> <a href="#">P06800</a> <a href="#">Related reagents</a>						

**Entrez Gene:**[19264](#) Ptprc [Related reagents](#)

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<b>Synonyms</b>	Ly-5
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<b>RRID</b>	AB_566762
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<b>Fusion Partners</b>	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<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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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](#)).

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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</li></ol> |
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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. This product is photosensitive and should be protected from light.

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**

18 months from date of despatch.

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**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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**Regulatory**

For research purposes only

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