# Datasheet: MCA1031PET

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| **Description:** | RAT ANTI MOUSE CD45:RPE |
| **Specificity:** | CD45 |
| **Other names:** | LCA |
| **Format:** | RPE |
| **Product Type:** | Monoclonal Antibody |
| **Clone:** | YW62.3 |
| **Isotype:** | IgG2b |
| **Quantity:** | 25 TESTS |

## Product Details

**RRID** AB_1102061

**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 | ▪ | | | Neat |

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 R. Phycoerythrin (RPE) - lyophilized

**Reconstitution** Reconstitute in 0.25 ml disilled water

**Max Ex/Em**

| Fluorophore | Excitation Max (nm) | Emission Max (nm) |
|---|---|---|
| RPE 488nm laser | 496 | 578 |

**Preparation** Purified IgG prepared by affinity chromatography on Protein G from tissue culture supernatant

**Buffer Solution** Phosphate buffered saline

**Preservative Stabilisers**

0.09% Sodium Azide
1% Bovine Serum Albumin
5% Sucrose

**Immunogen** Mouse spleen cells.

**External Database**

**UniProt:**

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| **Links** | P06800 Related reagents<br><br>**Entrez Gene:**<br>19264 Ptprc Related reagents |
| **Synonyms** | Ly-5 |
| **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.<br><br>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).<br><br>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).<br><br>Rat anti mouse CD45 antibody, clone YW62.3 is reactive with all isoforms of murine CD45.<br><br>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.<br><br>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). |
| **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.<br>2. Bindon, C.I *et al.* (1988) Importance of antigen specificity for complement-mediated lysis by monoclonal antibodies. Eur J Immunol. 18 (10): 1507-14.<br>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.<br>4. Drake, C. *et al.* (2011) Brain inflammation is induced by co-morbidities and risk factors for stroke. Brain Behav Immun. 25: 1113-22.<br>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.<br>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. |

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| **Storage** | Prior to reconstitution store at +4ºC. Following reconstitution store at +4ºC.<br><br>DO NOT FREEZE.<br><br>This product should be stored undiluted. This product is photosensitive and should be protected from light. Should this product contain a precipitate we recommend microcentrifugation before use. |
| **Shelf Life** | 12 months from date of reconstitution. |
| **Health And Safety Information** | Material Safety Datasheet documentation #10075 available at:<br>10075: https://www.bio-rad-antibodies.com/uploads/MSDS/10075.pdf |
| **Regulatory** | For research purposes only |

## Related Products

### Recommended Useful Reagents

MOUSE SEROBLOCK FcR (BUF041A)
MOUSE SEROBLOCK FcR (BUF041B)

**North & South America** Tel: +1 800 265 7376 Fax: +1 919 878 3751 Email: antibody_sales_us@bio-rad.com
**Worldwide** Tel: +44 (0)1865 852 700 Fax: +44 (0)1865 852 739 Email: antibody_sales_uk@bio-rad.com
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