# Datasheet: MCA5788PE

## BATCH NUMBER INN0811R

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| **Description:** | RAT ANTI MOUSE TIM-1:RPE |
| **Specificity:** | TIM-1 |
| **Other names:** | T-CELL IMMUNOGLOBULIN MUCIN 1 |
| **Format:** | RPE |
| **Product Type:** | Monoclonal Antibody |
| **Clone:** | RMT1-10 |
| **Isotype:** | IgG2a |
| **Quantity:** | 100 TESTS |

## 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 | ▪ | | | 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 with 1.0 ml distilled water
Care should be taken during reconstitution as the protein may appear as a film at the bottom of the vial. Bio-Rad recommend that the vial is gently mixed after reconstitution.

**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

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| **Preservative Stabilisers** | 0.09% Sodium Azide ($NaN_3$)<br>1% Bovine Serum Albumin<br>5% Sucrose |
| **Immunogen** | Full-length mouse Tim-1-Ig, containing both the IgV and mucin domains of Tim-1. |
| **External Database Links** | **UniProt:**<br>Q5QNS5 Related reagents<br><br>**Entrez Gene:**<br>171283 Havcr1 Related reagents |
| **Synonyms** | Kim1, Tim1, Timd1 |
| **Fusion Partners** | Lymph node cells from immunised SD rats were fused with cells of the P3U1 myeloma cell line. |
| **Specificity** | **Rat anti Mouse TIM-1 antibody, clone RMT1-10** recognizes mouse Tim-1 (T-cell immunoglobulin mucin 1), a cell surface glycoprotein and member of the immunoglobulin superfamily, which was first identified as the hepatitis A virus cellular receptor (HAVCR), and is highly expressed in the liver (isoform Tim-1a) and the kidneys (isoform Tim-1b).<br><br>Tim-1 is highly expressed by activated CD4+ T cells, and acts as a positive/negative co-stimulatory molecule of T cell proliferation, cytokine production and tolerance abrogation, and is the receptor for Tim-4, expressed on APCs. Tim-1 expression is greater on Th2 than Th1 cells, and studies have shown that interaction between Tim-1 on Th2 cells and Tim-4 on dendritic cells (DCs), enhances Th2 cell function, and have implicated Tim-1 as a critical player in the development of atopic disease, and in particular airway hypersensitivity.<br><br>Polymorphic forms of Tim-1 are associated with increased susceptibility to asthma, eczema and Rheumatoid arthritis.<br><br>Rat anti Mouse TIM-1 antibody, clone RMT1-10 has been shown to promote Th2 responses, and inhibit antigen-specific T cell proliferation, in contrast to the agonistic function of many Tim-1 antibodies (Xiao *et al.* 2007).<br><br>Rat anti Mouse TIM-1 antibody, clone RMT1-10 has been shown to reduce the severity of EAE (experimental autoimmune encephalomyelitis) and delay disease onset, in mice studies (Xiao *et al.* 2007). |
| **Flow Cytometry** | Use 10ul of the suggested working dilution to label $1x10^6$ cells in 100ul. |
| **References** | 1. Xiao, S. *et al.* (2007) Differential engagement of Tim-1 during activation can positively or negatively costimulate T cell expansion and effector function. J Exp Med. 204 (7): 1691-702. |

2. Yuan, X. *et al.* (2009) Targeting Tim-1 to overcome resistance to transplantation tolerance mediated by CD8 T17 cells. Proc Natl Acad Sci U S A. 106 (26): 10734-9.
3. Ueno, T. *et al.* (2008) The emerging role of T cell Ig mucin 1 in alloimmune responses in an experimental mouse transplant model. J Clin Invest. 118: 742-51.
4. Fukushima, A. *et al.* (2007) Antibodies to T-cell Ig and mucin domain-containing proteins (Tim)-1 and -3 suppress the induction and progression of murine allergic conjunctivitis. Biochem Biophys Res Commun. 353: 211-6.
5. Rong, S. *et al.* (2011) The TIM-1:TIM-4 pathway enhances renal ischemia-reperfusion injury. J Am Soc Nephrol. 22: 484-95.
6. Arai, S. *et al.* (2016) Apoptosis inhibitor of macrophage protein enhances intraluminal debris clearance and ameliorates acute kidney injury in mice. Nat Med. 22 (2): 183-93.

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| **Further Reading** | 1. Freeman, G.J. *et al.* (2010) TIM genes: a family of cell surface phosphatidylserine receptors that regulate innate and adaptive immunity. Immunol Rev. 235 (1): 172-89. |
| **Storage** | Prior to reconstitution store at +4°C.<br>After reconstitution store at +4°C.<br>DO NOT FREEZE. 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. |
| **Guarantee** | 12 months from date of despatch |
| **Health And Safety Information** | Material Safety Datasheet documentation #20487 available at:<br>https://www.bio-rad-antibodies.com/SDS/MCA5788PE<br>20487 |
| **Regulatory** | For research purposes only |

## Related Products

### Recommended Negative Controls

RAT IgG2a NEGATIVE CONTROL:RPE (MCA1212PE)

### Recommended Useful Reagents

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

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| **North & South America** | Tel: +1 800 265 7376<br>Fax: +1 919 878 3751<br>Email: antibody_sales_us@bio-rad.com | **Worldwide** | Tel: +44 (0)1865 852 700<br>Fax: +44 (0)1865 852 739<br>Email: antibody_sales_uk@bio-rad.com | **Europe** | Tel: +49 (0) 89 8090 95 21<br>Fax: +49 (0) 89 8090 95 50<br>Email: antibody_sales_de@bio-rad.com |

To find a batch/lot specific datasheet for this product, please use our online search tool at: bio-rad-antibodies.com/datasheets
'M375606:210104'

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