

Datasheet: MCA2387P750

| Description: | RAT ANTI MOUSE Gr-1:RPE-Alexa Fluor® 750 | | |
|----------------------|--|--|--|
| Specificity: | Gr-1 | | |
| Other names: | Ly-6G | | |
| Format: | RPE-ALEXA FLUOR® 750 | | |
| Product Type: | Monoclonal Antibody | | |
| Clone: | RB6-8C5 | | |
| Isotype: | lgG2b | | |
| 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 product 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 product for use in their own system using appropriate negative/positive controls.

| Target Species | Mouse |
|----------------|--|
| Product Form | Purified IgG conjugated to RPE-Alexa Fluor 750 - 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-Alexa Fluor®750 488nm laser | 496 | 779 |
| | RPE-Alexa Fluor®750 561nm laser | 546 | 779 |

| Preparation | Purified IgG prepared by affinity chromatography on Protein G from tissue culture supernata | | | |
|-----------------|---|--|--|--|
| Buffer Solution | Phosphate buffered saline | | | |
| Preservative | 0.09% Sodium Azide (NaN ₃) | | | |
| Stabilisers | 1% Bovine Serum Albumin | | | |
| | 5% Sucrose | | | |
| Immunogen | Normal murine bone marrow cells. | | | |

External Database Links

UniProt:

P35461 Related reagents

Entrez Gene:

546644 Ly6g Related reagents

Specificity

Rat anti Mouse Gr-1 antibody, clone RB6-8C5 recognizes the mouse Gr-1 antigen, a ~21–25 kDa GPI anchored cell surface protein bearing a single uPAR/Ly6 domain that belongs to the Ly-6 family of proteins (Lee *et al.* 2013). Rat anti Mouse Gr-1 antibody, clone RB6-8C5 reacts predominantly with the Ly-6G protein but weaker reactivity with the Ly-6C protein has been reported (Fleming *et al.* 1993). However, other observations dispute the cross-reactivity of clone RB6-8C5 with the Ly-6C protein with the alternative explanation that certain sub-populations of bone marrow cells simultaneously express both Ly-6C and Ly-6G (Nagendra *et al.* 2007)

The Gr-1 antigen is primarily a marker of myeloid differentiation. In the bone marrow the level of Gr-1 expression is low on immature myeloblasts and increases as the myeloid cells mature to granulocytes. Gr-1 is also expressed on macrophages and transiently on differentiating monocytes.

Rat anti Mouse Gr-1 antibody, clone RB6-8C5 has been used successfully for the depletion of mature neutrophils *in vivo* (Czuprynski, C.J. *et al* 1994, Daley *et al*. 2008).

Flow Cytometry

Use 10ul of the suggested working dilution to label 10⁶ cells in 100ul

References

- 1. Fleming, T.J. *et al.* (1993) Selective expression of Ly-6G on myeloid lineage cells in mouse bone marrow. RB6-8C5 mAb to granulocyte-differentiation antigen (Gr-1) detects members of the Ly-6 family. J Immunol. 151 (5): 2399-408.
- 2. Hestdal, K. *et al.* (1991) Characterization and regulation of RB6-8C5 antigen expression on murine bone marrow cells. J Immunol. 147 (1): 22-8.
- 3. Czuprynski, C.J. *et al.* (1994) Administration of anti-granulocyte mAb RB6-8C5 impairs the resistance of mice to *Listeria monocytogenes* infection. J Immunol. 152 (4): 1836-46.
- 4. Sumagin R *et al.* (2010) LFA-1 and Mac-1 define characteristically different intralumenal crawling and emigration patterns for monocytes and neutrophils *in situ*. <u>J Immunol</u>. 185 (11): 7057-66.
- 5. Takano, K. *et al.* (2011) Successful treatment of acute lung injury with pitavastatin in septic mice: potential role of glucocorticoid receptor expression in alveolar macrophages. <u>J Pharmacol Exp Ther. 336: 381-90.</u>
- 6. Giroux, M. *et al.* (2011) SMAD3 prevents graft-versus-host disease by restraining Th1 differentiation and granulocyte-mediated tissue damage. <u>Blood.117: 1734-44.</u>
- 7. Suttmann, H. *et al.* (2006) Neutrophil granulocytes are required for effective Bacillus Calmette-Guérin immunotherapy of bladder cancer and orchestrate local immune responses. <u>Cancer Res.</u> 66: 8250-7.
- 8. Nix, R.N. *et al.* (2007) Hemophagocytic macrophages harbor *Salmonella enterica* during persistent infection. PLoS Pathog. 3: e193.
- 9. Kanda, N. *et al.* (2011) Visfatin Enhances CXCL8, CXCL10, and CCL20 Production in Human Keratinocytes. <u>Endocrinology</u>. 152: 3155-64.
- 10. Conlan, J. and North, R. (1994) Neutrophils are essential for early anti-*Listeria* defense in the liver, but not in the spleen or peritoneal cavity, as revealed by a granulocyte-depleting monoclonal antibody. <u>J Exp Med. 179:259-68.</u>
- 11. Takebe, M. *et al.* (2014) Inhibition of histone deacetylases protects septic mice from lung and splenic apoptosis. J Surg Res. 187 (2): 559-70.
- 12. Francke, A. *et al.* (2011) Generation of mature murine monocytes from heterogeneous bone marrow and description of their properties. <u>J Histochem Cytochem.</u> 59: 813-25.
- 13. Sharp, P.E. et al. (2013) FcyRIIb on myeloid cells and intrinsic renal cells rather than B cells

protects from nephrotoxic nephritis. <u>J Immunol.190: 340-8.</u>

- 14. Hamers, A.A. *et al.* (2014) Limited role of nuclear receptor Nur77 in *Escherichia coli*-induced peritonitis. Infect Immun. 82 (1): 253-64.
- 15. Roche, J.A. *et al.* (2015) Myofiber damage precedes macrophage infiltration after *in vivo* injury in dysferlin-deficient a/j mouse skeletal muscle. Am J Pathol. 185 (6): 1686-98.
- 16. Lee, Y.S. *et al.* (2015) Interleukin-1 (IL-1) signaling in intestinal stromal cells controls KC/CXCL1 secretion, which correlates with recruitment of IL-22- secreting neutrophils at early stages of *Citrobacter rodentium* infection. <u>Infect Immun. 83 (8): 3257-67.</u>
- 17. Heckelsmiller, K. *et al.* (2002) Combined dendritic cell- and CpG oligonucleotide-based immune therapy cures large murine tumors that resist chemotherapy. <u>Eur J Immunol.</u> 32 (11): 3235-45.
- 18. Zhang, M.Z. *et al.* (2015) Inhibition of cyclooxygenase-2 in hematopoietic cells results in salt-sensitive hypertension. <u>J Clin Invest. 125 (11): 4281-94.</u>
- 19. Leblond, A.L. *et al.* (2015) Systemic and Cardiac Depletion of M2 Macrophage through CSF-1R Signaling Inhibition Alters Cardiac Function Post Myocardial Infarction. <u>PLoS One. 10 (9):</u> <u>e0137515.</u>
- 20. Kojo, K. *et al.* (2016) BLT1 signalling protects the liver against acetaminophen hepatotoxicity by preventing excessive accumulation of hepatic neutrophils. <u>Sci Rep. 6: 29650.</u>
- 21. Otsuru, S. *et al.* (2017) Hematopoietic derived cells do not contribute to osteogenesis as osteoblasts. Bone. 94: 1-9.
- 22. Wang, Y. *et al.* (2015) Proximal tubule-derived colony stimulating factor-1 mediates polarization of renal macrophages and dendritic cells, and recovery in acute kidney injury. <u>Kidney Int. 88 (6):</u> 1274-1282.
- 23. Cousins, F.L. *et al.* (2016) Evidence for a dynamic role for mononuclear phagocytes during endometrial repair and remodelling. <u>Sci Rep. 6: 36748.</u>
- 24. Cotrina ML *et al.* (2017) Direct comparison of microglial dynamics and inflammatory profile in photothrombotic and arterial occlusion evoked stroke. <u>Neuroscience</u>. 343: 483-494.

Storage

Prior to reconstitution store at +4°C.

After reconstitution store at +4°C.

DO NOT FREEZE. This product should be stored undiluted. This product is photosensitive and should be protected from light

Shelf Life

12 months from date of reconstitution

Acknowledgements

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Health And Safety Information

Material Safety Datasheet documentation #10075 available at: 10075: https://www.bio-rad-antibodies.com/uploads/MSDS/10075.pdf

Regulatory

For research purposes only

Related Products

Recommended Negative Controls

RAT IgG2b NEGATIVE CONTROL:RPE-Alexa Fluor® 750 (MCA6006P750)

Recommended Useful Reagents

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

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