

Datasheet: MCA2387A647

BATCH NUMBER 172252

| | |
|----------------------|--------------------------------------|
| Description: | RAT ANTI MOUSE Gr-1:Alexa Fluor® 647 |
| Specificity: | Gr-1 |
| Other names: | Ly-6G |
| Format: | ALEXA FLUOR® 647 |
| Product Type: | Monoclonal Antibody |
| Clone: | RB6-8C5 |
| Isotype: | IgG2b |
| Quantity: | 100 TESTS/1ml |

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 - 1/10 |

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 Alexa Fluor® 647 - liquid | | | | | | |
| Max Ex/Em | <table border="1"> <thead> <tr> <th>Fluorophore</th> <th>Excitation Max (nm)</th> <th>Emission Max (nm)</th> </tr> </thead> <tbody> <tr> <td>Alexa Fluor®647</td> <td>650</td> <td>665</td> </tr> </tbody> </table> | Fluorophore | Excitation Max (nm) | Emission Max (nm) | Alexa Fluor®647 | 650 | 665 |
| Fluorophore | Excitation Max (nm) | Emission Max (nm) | | | | | |
| Alexa Fluor®647 | 650 | 665 | | | | | |
| Preparation | Purified IgG prepared by affinity chromatography on Protein G from tissue culture supernatant | | | | | | |
| Buffer Solution | Phosphate buffered saline | | | | | | |
| Preservative | 0.09% sodium azide (NaN ₃) | | | | | | |
| Stabilisers | 1% bovine serum albumin | | | | | | |
| Approx. Protein | IgG concentration 0.05 mg/ml | | | | | | |

Concentrations

Immunogen Normal murine bone marrow cells.

External Database Links

UniProt:

[P35461](#) [Related reagents](#)

Entrez Gene:

[546644](#) Ly6g [Related reagents](#)

RRID AB_609771

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 et al 1994](#), [Daley et al. 2008](#)).

Flow Cytometry

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

The Fc region of monoclonal antibodies may bind to cells expressing low affinity Fc receptors. This may be reduced by using SeroBlock FcR ([BUF041A/BUF041B](#)).

References

1. Hestdal, K. *et al.* (1991) Characterization and regulation of RB6-8C5 antigen expression on murine bone marrow cells. [J Immunol. 147 \(1\): 22-8.](#)
2. 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.](#)
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. 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. [J Exp Med. 179:259-68.](#)
5. Heckelsmiller, K. *et al.* (2002) Combined dendritic cell- and CpG oligonucleotide-based immune therapy cures large murine tumors that resist chemotherapy. [Eur J Immunol. 32 \(11\): 3235-45.](#)
6. Suttman, H. *et al.* (2006) Neutrophil granulocytes are required for effective Bacillus

- Calmette-Guérin immunotherapy of bladder cancer and orchestrate local immune responses. [Cancer Res. 66: 8250-7.](#)
7. Nix, R.N. *et al.* (2007) Hemophagocytic macrophages harbor *Salmonella enterica* during persistent infection. [PLoS Pathog. 3: e193.](#)
 8. Sumagin R *et al.* (2010) LFA-1 and Mac-1 define characteristically different intraluminal crawling and emigration patterns for monocytes and neutrophils *in situ*. [J Immunol. 185 \(11\): 7057-66.](#)
 9. Giroux, M. *et al.* (2011) SMAD3 prevents graft-versus-host disease by restraining Th1 differentiation and granulocyte-mediated tissue damage. [Blood. 117: 1734-44.](#)
 10. Francke, A. *et al.* (2011) Generation of mature murine monocytes from heterogeneous bone marrow and description of their properties. [J Histochem Cytochem. 59: 813-25.](#)
 11. 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. [J Pharmacol Exp Ther. 336: 381-90.](#)
 12. Kanda, N. *et al.* (2011) Visfatin Enhances CXCL8, CXCL10, and CCL20 Production in Human Keratinocytes. [Endocrinology. 152: 3155-64.](#)
 13. Sharp, P.E. *et al.* (2013) FcγRIIb on myeloid cells and intrinsic renal cells rather than B cells protects from nephrotoxic nephritis. [J Immunol. 190: 340-8.](#)
 14. Takebe, M. *et al.* (2014) Inhibition of histone deacetylases protects septic mice from lung and splenic apoptosis. [J Surg Res. 187 \(2\): 559-70.](#)
 15. Hamers, A.A. *et al.* (2014) Limited role of nuclear receptor Nur77 in *Escherichia coli*-induced peritonitis. [Infect Immun. 82 \(1\): 253-64.](#)
 16. Leblond, A.L. *et al.* (2015) Systemic and Cardiac Depletion of M2 Macrophage through CSF-1R Signaling Inhibition Alters Cardiac Function Post Myocardial Infarction. [PLoS One. 10 \(9\): e0137515.](#)
 17. 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. [Kidney Int. 88 \(6\): 1274-1282.](#)
 18. Zhang, M.Z. *et al.* (2015) Inhibition of cyclooxygenase-2 in hematopoietic cells results in salt-sensitive hypertension. [J Clin Invest. 125 \(11\): 4281-94.](#)
 19. 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. [Infect Immun. 83 \(8\): 3257-67.](#)
 20. 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.](#)
 21. Kojo, K. *et al.* (2016) BLT1 signalling protects the liver against acetaminophen hepatotoxicity by preventing excessive accumulation of hepatic neutrophils. [Sci Rep. 6: 29650.](#)
 22. Cousins, F.L. *et al.* (2016) Evidence for a dynamic role for mononuclear phagocytes during endometrial repair and remodelling. [Sci Rep. 6: 36748.](#)
 23. Cotrina ML *et al.* (2017) Direct comparison of microglial dynamics and inflammatory profile in photothrombotic and arterial occlusion evoked stroke. [Neuroscience. 343: 483-94.](#)
 24. Natanov, R. *et al.* (2018) Blood cytokine expression correlates with early multi-organ damage in a mouse model of moderate hypothermia with circulatory arrest using cardiopulmonary bypass. [PLoS One. 13 \(10\): e0205437.](#)
 25. Qin, X. *et al.* (2018) Caspase recruitment domain-containing protein 9 (CARD9)

knockout reduces regional ischemia/reperfusion injury through an attenuated inflammatory response. [PLoS One. 13 \(6\): e0199711.](#)

26. Zhang, M.Z. *et al.* (2019) The Role of the EGF Receptor in Sex Differences in Kidney Injury. [J Am Soc Nephrol. 30 \(9\): 1659-73.](#)

27. Konishi, T. *et al.* (2019) Cell-specific regulatory effects of CXCR2 on cholestatic liver injury. [Am J Physiol Gastrointest Liver Physiol. 317 \(6\): G773-G783.](#)

28. Kamata, M. *et al.* (2019) Role of the high-affinity leukotriene B₄ receptor signaling in fibrosis after unilateral ureteral obstruction in mice. [PLoS One. 14 \(2\): e0202842.](#)

29. Idowu, T.O. *et al.* (2020) Identification of specific Tie2 cleavage sites and therapeutic modulation in experimental sepsis. [Elife. 9: e59520.](#)

30. Takahashi, R. *et al.* (2020) Microsomal prostaglandin E synthase-1 promotes lung metastasis via SDF-1/CXCR4-mediated recruitment of CD11b⁺Gr1⁺MDSCs from bone marrow. [Biomed Pharmacother. 121: 109581.](#)

31. Christodoulou-Vafeiadou, E. *et al.* (2020) Ectopic bone formation and systemic bone loss in a transmembrane TNF-driven model of human spondyloarthritis. [Arthritis Res Ther. 22 \(1\): 232.](#)

32. Idowu, T.O. *et al.* (2021) Flow-dependent regulation of endothelial Tie2 by GATA3 *in vivo*. [Intensive Care Med Exp. 9 \(1\): 38.](#)

33. Schünke, H. *et al.* (2021) OTULIN inhibits RIPK1-mediated keratinocyte necroptosis to prevent skin inflammation in mice. [Nat Commun. 12 \(1\): 5912.](#)

34. Störmer, J. *et al.* (2022) A Single Oral Dose of Diclofenac Causes Transition of Experimental Subclinical Acute Kidney Injury to Chronic Kidney Disease. [Biomedicines. 10 \(5\): 1198.](#)

35. Greite, R. *et al.* (2022) Cell-Free Hemoglobin in Acute Kidney Injury after Lung Transplantation and Experimental Renal Ischemia/Reperfusion. [Int J Mol Sci. 23\(21\):13272.](#)

36. Bobrovskyy, M. *et al.* (2023) The Type 7b Secretion System of *S. aureus* and Its Role in Colonization and Systemic Infection. [Infect Immun. 91 \(5\): e0001523.](#)

37. Gabrielli, E. *et al.* (2018) *Saccharomyces cerevisiae*-based probiotic as novel anti-fungal and anti-inflammatory agent for therapy of vaginal candidiasis. [Benef Microbes. 9 \(2\): 219-30.](#)

38. Storey, M.E. *et al.* (2024) Resident memory T cells in dirty mice suppress innate cell activation and infiltration into the skin following stimulation with alarmins [bioRxiv 2024.07.11.602963 \[Epub ahead of print\].](#)

Storage

This product is shipped at ambient temperature. It is recommended to aliquot and store at -20°C on receipt. When thawed, aliquot the sample as needed. Keep aliquots at 2-8°C for short term use (up to 4 weeks) and store the remaining aliquots at -20°C.

Avoid repeated freezing and thawing as this may denature the antibody. Storage in frost-free freezers is not recommended. This product is photosensitive and should be protected from light.

Guarantee

12 months from date of despatch

Acknowledgements

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