

Datasheet: MCA2387SBUV700

Description:	RAT ANTI MOUSE Gr-1:StarBright UltraViolet 700
Specificity:	Gr-1
Other names:	Ly-6G
Format:	StarBright UltraViolet 700
Product Type:	Monoclonal Antibody
Clone:	RB6-8C5
Isotype:	IgG2b
Quantity:	100 TESTS/0.5ml

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 (1)	■			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.

(1) Staining at lower temperatures generally requires longer incubation to reach antibody binding equilibrium, and this effect is more pronounced for StarBright Dyes due to their larger size. For optimum staining, Bio-Rad recommends incubating samples either overnight at 4°C or 1 hour at room temperature.

Target Species	Mouse		
Product Form	Purified IgG conjugated to StarBright UltraViolet 700 - liquid		
Max Ex/Em	Fluorophore	Excitation Max (nm)	Emission Max (nm)
	StarBright UltraViolet 700	340	700
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 (NaN ₃) 1% Bovine Serum Albumin 0.1% Pluronic F68 0.1% PEG 3350 0.05% Tween 20
Approx. Protein Concentrations	For information on the concentration of our StarBright Dye conjugated reagents please visit our FAQ page.
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 <i>in vivo</i> (Czuprynski et al 1994, Daley et al. 2008).
Flow Cytometry	Use 5µl of the suggested working dilution to label 0.5x10 ⁶ cells in 100µl. Best practices suggest a 5 min centrifugation at 6,000g prior to sample application.
References	- Hestdal, K. <i>et al.</i> (1991) Characterization and regulation of RB6-8C5 antigen expression on murine bone marrow cells. J Immunol. 147 (1): 22-8. - Fleming, T.J. <i>et al.</i> (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. - Czuprynski, C.J. <i>et al.</i> (1994) Administration of anti-granulocyte mAb RB6-8C5 impairs the resistance of mice to <i>Listeria monocytogenes</i> infection. J Immunol. 152 (4): 1836-46. - Conlan, J. and North, R. (1994) Neutrophils are essential for early anti-<i>Listeria</i> 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	Store at +4°C. DO NOT FREEZE. This product should be stored undiluted.
Guarantee	12 months from date of despatch
Acknowledgements	This product is covered by U.S. Patent No. 10,150,841 and related U.S. and foreign counterparts
Health And Safety	Material Safety Datasheet documentation #20471 available at:

Information <https://www.bio-rad-antibodies.com/SDS/MCA2387SBUV700>

Regulatory For research purposes only

Related Products

Recommended Useful Reagents

[MOUSE SEROBLOCK FcR \(BUF041A\)](#)

[MOUSE SEROBLOCK FcR \(BUF041B\)](#)

Product inquiries: www.bio-rad-antibodies.com/technical-support

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