

Datasheet: MCA2389B

BATCH NUMBER 0414

Description:	RAT ANTI MOUSE Ly-6C:Biotin
Specificity:	Ly-6C
Other names:	Lymphocyte antigen 6C2
Format:	Biotin
Product Type:	Monoclonal Antibody
Clone:	ER-MP20
Isotype:	IgG2a
Quantity:	0.1 mg

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 - 1/50

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 biotin - liquid
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
Approx. Protein Concentrations	IgG concentration 0.1 mg/ml
Immunogen	Balb/c macrophage precursor cell hybrids.

External Database Links	UniProt: P0CW03 Related reagents
RRID	AB_844550
Fusion Partners	Spleen cells from immunised rats were fused with cells of the Y3-Ag1.2.3 myeloma cell line.
Specificity	<p>Rat anti Mouse Ly-6C antibody, clone ER-MP20 recognizes murine Ly-6C, a 131 amino acid ~14 kDa differentiation antigen, expressed on macrophage/dendritic cell precursors in mid-stage development (late CFU-M, monoblasts and immature monocytes), granulocytes, and on a wide range of endothelial cells and subpopulations of B- and T-lymphocytes.</p> <p>Rat anti Mouse Ly-6C antibody, clone ER-MP20 is able to distinguish multiple mouse blood monocyte subsets: immature Ly-6C^{hi} monocytes are recruited to acute peripheral inflammation and develop into Ly-6C⁺ exudate macrophages, whereas more mature Ly-6C^{-/lo} monocytes are precursors for tissue macrophages and dendritic cells in steady state.</p> <p>Rat anti Mouse Ly-6C, clone ER-MP20 can be used in conjunction with clone ER-MP12 in two colour flow cytometric analysis, to identify different stages of myeloid progenitor cells in mouse bone marrow (Leenen et al. 1990).</p> <p>Rat anti Mouse Ly-6C was originally described as recognizing a protein encoded by the LY6C gene. It has subsequently become apparent that the LY6C locus demonstrates polymorphism and the LY6C gene has been re-designated LY6C2. The LY6C1 gene encodes a similar protein with ~95% sequence homology to LY6C2.</p>
Flow Cytometry	<p>Use 10ul of the suggested working dilution to label 10⁶ cells in 100ul.</p> <p>The Fc region of monoclonal antibodies may bind to cells expressing low affinity Fc receptors. This may be reduced through the use of the SeroBlock FcR reagent.</p>
References	<ol style="list-style-type: none"> Zhang, Y. & Bliska, J.B. (2010) YopJ-promoted cytotoxicity and systemic colonization are associated with high levels of murine interleukin-18, gamma interferon, and neutrophils in a live vaccine model of <i>Yersinia pseudotuberculosis</i> infection. Infect Immun 78: 2329-41. Leenen, P.J. <i>et al.</i> (1990) Murine macrophage precursor characterization. II. Monoclonal antibodies against macrophage precursor antigens. Eur J Immunol. 20 (1): 27-34. de Bruijn, M.F. <i>et al.</i> (1998) Bone marrow cellular composition in Listeria monocytogenes infected mice detected using ER-MP12 and ER-MP20 antibodies: a flow cytometric alternative to differential counting. J Immunol Methods. 217 (1-2): 27-39. Schatteman, G.C. <i>et al.</i> (2010) Lin⁻ Cells Mediate Tissue Repair by Regulating MCP-1/CCL-2. Am J Pathol. 177: 2002-10. Baumeister, T. <i>et al.</i> (2003) Interleukin-3Ralpha⁺ myeloid dendritic cells and mast cells

- develop simultaneously from different bone marrow precursors in cultures with interleukin-3. [J Invest Dermatol. 121: 280-8.](#)
6. Devey, L. *et al.* (2009) Tissue-resident macrophages protect the liver from ischemia reperfusion injury via a heme oxygenase-1-dependent mechanism. [Mol Ther. 17: 65-72.](#)
 7. Nikolic, T. *et al.* (2003) Developmental stages of myeloid dendritic cells in mouse bone marrow. [Int Immunol. 15: 515-24.](#)
 8. Wynn, A.A. *et al.* (2001) Role of granulocyte/macrophage colony-stimulating factor in zymocel-induced hepatic granuloma formation. [Am J Pathol. 158 \(1\): 131-45.](#)
 9. Lesokhin, A.M. *et al.* (2012) Monocytic CCR2+ Myeloid-Derived Suppressor Cells Promote Immune Escape by Limiting Activated CD8 T-cell Infiltration into the Tumor Microenvironment. [Cancer Res. 72: 876-86.](#)
 10. Chan, J. *et al.* (1998) Macrophage lineage cells in inflammation: characterization by colony-stimulating factor-1 (CSF-1) receptor (c-Fms), ER-MP58, and ER-MP20 (Ly-6C) expression. [Blood. 92: 1423-31.](#)
 11. van Rijt, L.S. *et al.* (2002) Allergen-induced accumulation of airway dendritic cells is supported by an increase in CD31(hi)Ly-6C(neg) bone marrow precursors in a mouse model of asthma. [Blood. 100: 3663-71.](#)
 12. Arnardottir, H.H. *et al.* (2012) Dietary Fish Oil Decreases the Proportion of Classical Monocytes in Blood in Healthy Mice but Increases Their Proportion upon Induction of Inflammation. [J Nutr. 142: 803-8.](#)
 13. Henkel, G. *et al.* (1999) Commitment to the monocytic lineage occurs in the absence of the transcription factor PU.1. [Blood. 93:2849-58.](#)
 14. Bossaller, L. *et al.* (2013) Overexpression of membrane-bound fas ligand (CD95L) exacerbates autoimmune disease and renal pathology in pristane-induced lupus. [J Immunol. 191: 2104-14.](#)
 15. Garcia, J.A. *et al.* (2013) Regulation of adaptive immunity by the fractalkine receptor during autoimmune inflammation. [J Immunol. 191: 1063-72.](#)
 16. Benoit, S. *et al.* (2015) Murine Liver Myeloid Cell Isolation Protocol [BIO-PROTOCOL. 5 \(10\) \[Epub ahead of print\].](#)
 17. Damya, L. *et al.* (2014) Purification of Tumor-Associated Macrophages (TAM) and Tumor-Associated Dendritic Cells (TADC) [BIO-PROTOCOL. 4 \(22\) \[Epub ahead of print\].](#)
 18. Morganti, J.M. *et al.* (2016) Age exacerbates the CCR2/5-mediated neuroinflammatory response to traumatic brain injury. [J Neuroinflammation. 13 \(1\): 80.](#)
 19. Mooney, J.E. *et al.* (2010) Cellular plasticity of inflammatory myeloid cells in the peritoneal foreign body response. [Am J Pathol. 176 \(1\): 369-80.](#)
 20. Iwasaki, Y. *et al.* (2011) *In situ* proliferation and differentiation of macrophages in dental pulp. [Cell Tissue Res. 346 \(1\): 99-109.](#)
 21. Movahedi, K. *et al.* (2012) Nanobody-based targeting of the macrophage mannose receptor for effective in vivo imaging of tumor-associated macrophages. [Cancer Res. 72 \(16\): 4165-77.](#)
 22. Ribechini, E. *et al.* (2009) Gr-1 antibody induces STAT signaling, macrophage marker expression and abrogation of myeloid-derived suppressor cell activity in BM cells. [Eur J Immunol. 39 \(12\): 3538-51.](#)
 23. Bossaller, L. *et al.* (2016) TLR9 Deficiency Leads to Accelerated Renal Disease and Myeloid Lineage Abnormalities in Pristane-Induced Murine Lupus. [J Immunol. 197 \(4\): 1044-53.](#)
 24. Barnes, M.A. *et al.* (2015) Macrophage migration inhibitory factor is required for

- recruitment of scar-associated macrophages during liver fibrosis. [J Leukoc Biol. 97 \(1\): 161-9.](#)
25. Ohnishi, K. *et al.* (2012) Immunohistochemical detection of possible cellular origin of hepatic histiocytic sarcoma in mice. [J Clin Exp Hematop. 52 \(3\): 171-7.](#)
26. Van den Bossche. J. *et al.* (2012) Claudin-1, claudin-2 and claudin-11 genes differentially associate with distinct types of anti-inflammatory macrophages *in vitro* and with parasite- and tumour-elicited macrophages *in vivo*. [Scand J Immunol. 75 \(6\): 588-98.](#)
27. Houthuys, E. *et al.* (2010) A method for the isolation and purification of mouse peripheral blood monocytes. [J Immunol Methods. 359 \(1-2\): 1-10.](#)
28. Greifenberg, V. *et al.* (2009) Myeloid-derived suppressor cell activation by combined LPS and IFN-gamma treatment impairs DC development. [Eur J Immunol. 39 \(10\): 2865-76.](#)
29. Cardona, S.M.*et al.* (2015) Disruption of Fractalkine Signaling Leads to Microglial Activation and Neuronal Damage in the Diabetic Retina. [ASN Neuro. 7 \(5\)Oct 29 \[Epub ahead of print\].](#)
30. Waddell, A. *et al.* (2011) Colonic eosinophilic inflammation in experimental colitis is mediated by Ly6C(high) CCR2(+) inflammatory monocyte/macrophage-derived CCL11. [J Immunol. 186 \(10\): 5993-6003.](#)
31. Robbie, S.J. *et al.* (2016) Enhanced Ccl2-Ccr2 signaling drives more severe choroidal neovascularization with aging. [Neurobiol Aging. 40: 110-9.](#)
32. Cao, Y. *et al.* (2016) IL-1 β differently stimulates proliferation and multinucleation of distinct mouse bone marrow osteoclast precursor subsets. [J Leukoc Biol. 100 \(3\): 513-23.](#)
33. Cao, Y. *et al.* (2017) TNF- α has both stimulatory and inhibitory effects on mouse monocyte-derived osteoclastogenesis. [J Cell Physiol. 232 \(12\): 3273-85.](#)
34. Khedoe, P.P.S.J. *et al.* (2017) Acute and chronic effects of treatment with mesenchymal stromal cells on LPS-induced pulmonary inflammation, emphysema and atherosclerosis development. [PLoS One. 12 \(9\): e0183741.](#)
35. Koohy, H. *et al.* (2018) Genome organization and chromatin analysis identify transcriptional downregulation of insulin-like growth factor signaling as a hallmark of aging in developing B cells. [Genome Biol. 19 \(1\): 126.](#)
36. Pluijmert, N.J. *et al.* (2020) Effects on cardiac function, remodeling and inflammation following myocardial ischemia-reperfusion injury or unreperfused myocardial infarction in hypercholesterolemic APOE*3-Leiden mice. [Sci Rep. 10 \(1\): 16601.](#)
37. Ascone, G. *et al.* (2020) Increase in the Number of Bone Marrow Osteoclast Precursors at Different Skeletal Sites, Particularly in Long Bone and Jaw Marrow in Mice Lacking IL-1RA. [Int J Mol Sci. 21 \(11\): 3774.](#)

Storage	<p>Store at +4°C or at -20°C if preferred.</p> <p>Storage in frost-free freezers is not recommended.</p> <p>This product should be stored undiluted. Avoid repeated freezing and thawing as this may denature the antibody. Should this product contain a precipitate we recommend microcentrifugation before use.</p>
Guarantee	12 months from date of despatch
Health And Safety Information	<p>Material Safety Datasheet documentation #10041 available at: https://www.bio-rad-antibodies.com/SDS/MCA2389B</p> <p>10041</p>

RegulatoryFor research purposes only

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