

## Datasheet: MCA2389SBB700

**BATCH NUMBER 64695920**

<b>Description:</b>	RAT ANTI MOUSE Ly-6C:StarBright Blue 700
<b>Specificity:</b>	Ly-6C
<b>Other names:</b>	Lymphocyte antigen 6C2
<b>Format:</b>	StarBright Blue 700
<b>Product Type:</b>	Monoclonal Antibody
<b>Clone:</b>	ER-MP20
<b>Isotype:</b>	IgG2a
<b>Quantity:</b>	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](http://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 StarBright Blue 700 - liquid

#### Max Ex/Em

Fluorophore	Excitation Max (nm)	Emission Max (nm)
StarBright Blue 700	473	703

#### 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<sub>3</sub>)  
1% Bovine Serum Albumin  
0.1% Pluronic F68  
0.1% PEG 3350

<b>Approx. Protein Concentrations</b>	For information on the concentration of our StarBright Dye conjugated reagents please visit our <a href="#">FAQ</a> page.
<b>Immunogen</b>	Balb/c macrophage precursor cell hybrids.
<b>External Database Links</b>	<b>UniProt:</b> <a href="#">P0CW03</a> <a href="#">Related reagents</a>
<b>Fusion Partners</b>	Spleen cells from immunized rats were fused with cells of the Y3-Ag1.2.3 myeloma cell line.
<b>Specificity</b>	<p><b>Rat anti Mouse Ly-6C antibody, clone ER-MP20</b> 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<sup>hi</sup> monocytes are recruited to acute peripheral inflammation and develop into Ly-6C<sup>+</sup> exudate macrophages, whereas more mature Ly-6C<sup>-lo</sup> 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 <a href="#">ER-MP12</a> in two colour flow cytometric analysis, to identify different stages of myeloid progenitor cells in mouse bone marrow (<a href="#">Leenen et al. 1990</a>).</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 <a href="#">LY6C2</a>. The <a href="#">LY6C1</a> gene encodes a similar protein with ~95% sequence homology to LY6C2.</p>
<b>Flow Cytometry</b>	Use 5µl of the suggested working dilution to label 10 <sup>6</sup> cells in 100µl. Best practices suggest a 5 minutes centrifugation at 6,000g prior to sample application.
<b>References</b>	<ol style="list-style-type: none"> <li>Zhang, Y. &amp; 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. <a href="#">Infect Immun</a> <b>78</b>: 2329-41.</li> <li>Leenen, P.J. et al. (1990) Murine macrophage precursor characterization. II. Monoclonal antibodies against macrophage precursor antigens. <a href="#">Eur J Immunol</a>. <b>20</b> (1): 27-34.</li> <li>de Bruijn, M.F. et al. (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. <a href="#">J Immunol Methods</a>. <b>217</b> (1-2): 27-39.</li> <li>Schatteman, G.C. et al. (2010) Lin- Cells Mediate Tissue Repair by Regulating MCP-1/CCL-2. <a href="#">Am J Pathol</a>. <b>177</b>: 2002-10.</li> <li>Baumeister, T. et al. (2003) Interleukin-3Ralpha+ myeloid dendritic cells and mast cells</li> </ol>

- 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. Stijlemans, B. *et al.* (2015) Murine Liver Myeloid Cell Isolation Protocol [BIO-PROTOCOL. 5 \(10\).](#)
  17. Damya, L. *et al.* (2014) Purification of Tumor-Associated Macrophages (TAM) and Tumor-Associated Dendritic Cells (TADC) [BIO-PROTOCOL. 4 \(22\).](#)
  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 \(5\):1759091415608204.](#)
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 $\beta$  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- $\alpha$  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.](#)
38. Pluijmert, N.J. *et al.* (2021) Phosphorylcholine antibodies restrict infarct size and left ventricular remodelling by attenuating the unreperfused post-ischaemic inflammatory response. [J Cell Mol Med. 25 \(16\): 7772-82.](#)
39. Njock, M-K. (2022) Endothelial extracellular vesicles promote tumour growth by tumour-associated macrophage reprogramming [J Extracell Vesicles 2022 Jun;11\(6\):e12228.](#)
40. Vainchtein, I.D. *et al.* (2023) Characterizing microglial gene expression in a model of secondary progressive multiple sclerosis. [Glia. 71 \(3\): 588-601.](#)
41. Mielczarek, O. *et al.* (2023) Intra- and interchromosomal contact mapping reveals the Igh locus has extensive conformational heterogeneity and interacts with B-lineage genes. [Cell Rep 42 \(9\):113074.](#)

42. Thiem, K. *et al.* (2019) Deletion of hematopoietic Dectin-2 or CARD9 does not protect against atherosclerotic plaque formation in hyperlipidemic mice. [Sci Rep. 9 \(1\): 4337.](#)
43. Heissig, B. *et al.* (2022) siRNA against CD40 delivered via a fungal recognition receptor ameliorates murine acute graft-versus-host disease. [EJHaem. 3 \(3\): 849-61.](#)
44. Cardona, S.M. *et al.* (2018) Role of the Fractalkine Receptor in CNS Autoimmune Inflammation: New Approach Utilizing a Mouse Model Expressing the Human CX3CR1(I249/M280) Variant. [Front Cell Neurosci. 12: 365.](#)
45. Burzynski, L.C. *et al.* (2023) Thrombin-activated interleukin-1 $\alpha$  drives atherogenesis, but also promotes vascular smooth muscle cell proliferation and collagen production. [Cardiovasc Res. 119 \(12\): 2179-89.](#)
46. Story, 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 16 Jul \[Epub ahead of print\].](#)
47. Lepland, A. *et al.* (2024) Therapeutic Tumor Macrophage Reprogramming in Breast Cancer Through a Peptide-Drug Conjugate [bioRxiv: 12 Aug. \[Epub ahead of print\].](#)

<b>Storage</b>	This product is shipped at ambient temperature. Store at +4°C. DO NOT FREEZE. This product should be stored undiluted.
<b>Guarantee</b>	12 months from date of despatch
<b>Acknowledgements</b>	This product is covered by U.S. Patent No. 10,150,841 and related U.S. and foreign counterparts
<b>Health And Safety Information</b>	Material Safety Datasheet documentation #20438 available at: <a href="https://www.bio-rad-antibodies.com/SDS/MCA2389SBB700">https://www.bio-rad-antibodies.com/SDS/MCA2389SBB700</a>
<b>Regulatory</b>	For research purposes only

## Related Products

### Recommended Useful Reagents

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

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

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