Datasheet: MCA2389SBV710

BATCH NUMBER 100005492

Description:	RAT ANTI MOUSE Ly-6C:StarBright Violet 710
Specificity:	Ly-6C
Other names:	Lymphocyte antigen 6C2
Format:	StarBright Violet 710
Product Type:	Monoclonal Antibody
Clone:	ER-MP20
Isotype:	IgG2a
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	▪			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 Violet 710 - liquid

Max Ex/Em

Fluorophore	Excitation Max (nm)	Emission Max (nm)
StarBright Violet 710	401	713

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
Immunogen	Balb/c macrophage precursor cell hybrids.
External Database Links	**UniProt:** P0CW03 Related reagents
Fusion Partners	Spleen cells from immunised rats were fused with cells of the Y3-Ag1.2.3 myeloma cell line.
Specificity	**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. 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. 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). 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.
Flow Cytometry	Use 5ul of the suggested working dilution to label 10^6 cells in 100ul. Best practices suggest a 5 minutes centrifugation at 6,000g prior to sample application.
References	1. 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 *Yersinia pseudotuberculosis* infection. Infect Immun 78: 2329-41. 2. Leenen, P.J. *et al.* (1990) Murine macrophage precursor characterization. II. Monoclonal antibodies against macrophage precursor antigens. Eur J Immunol. 20 (1): 27-34. 3. 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. J Immunol Methods. 217 (1-2): 27-39. 4. Schatteman, G.C. *et al.* (2010) Lin- Cells Mediate Tissue Repair by Regulating MCP-1/CCL-2. Am J Pathol. 177: 2002-10. 5. Baumeister, T. *et al.* (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-1β 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.
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.

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 Information	Material Safety Datasheet documentation #20471 available at: https://www.bio-rad-antibodies.com/SDS/MCA2389SBV710 20471
Regulatory	For research purposes only

Related Products

Recommended Useful Reagents

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

North & South America	Tel: +1 800 265 7376 Fax: +1 919 878 3751 Email: antibody_sales_us@bio-rad.com	**Worldwide**	Tel: +44 (0)1865 852 700 Fax: +44 (0)1865 852 739 Email: antibody_sales_uk@bio-rad.com	**Europe**	Tel: +49 (0) 89 8090 95 21 Fax: +49 (0) 89 8090 95 50 Email: antibody_sales_de@bio-rad.com

To find a batch/lot specific datasheet for this product, please use our online search tool at: bio-rad-antibodies.com/datasheets

'M380270:210507'

Printed on 12 Dec 2024