

Datasheet: MCA2389SBY720

BATCH NUMBER 100007302

| Description: | RAT ANTI MOUSE Ly-6C:StarBright Yellow 720 | | |
|----------------------|--|--|--|
| Specificity: | Ly-6C | | |
| Other names: | Lymphocyte antigen 6C2 | | |
| Format: | StarBright Yellow 720 | | |
| 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 conjugate | Purified IgG conjugated to StarBright Yellow 720 - liquid | | | |
| Max Ex/Em | Fluorophore | Excitation Max (nm) | Emission Max (nm | | |
| | StarBright Yellow 720 | 548 | 719 | | |
| Preparation | Purified IgG prepared supernatant | by affinity chromatog | raphy on Protein G | | |
| ffer Solution | Phosphate buffered sa | aline | | | |
| eservative | 0.09% Sodium Azide | (NaN ₃) | | | |
| tabilisers | 1% Bovine Serum Albumin | | | | |
| | 0.1% Pluronic F68 | | | | |
| | 0.1% PEG 3350 | | | | |

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 <u>ER-MP12</u> 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 <u>LY6C2</u>. The <u>LY6C1</u> gene encodes a similar protein with ~95% sequence homology to LY6C2.

Flow Cytometry

Use 5μl of the suggested working dilution to label 10⁶ cells in 100μl. 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. <u>Infect Immun</u> 78: 2329-41.
- 2. Leenen, P.J. *et al.* (1990) Murine macrophage precursor characterization. II. Monoclonal antibodies against macrophage precursor antigens. <u>Eur J Immunol. 20 (1): 27-34.</u>
- 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. <u>J Immunol Methods. 217 (1-2): 27-39.</u>
- 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. <u>Am J Pathol. 158 (1): 131-45.</u>
- 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. <u>Cancer Res. 72: 876-86.</u>
- 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. <u>Blood. 93:2849-58.</u>
- 14. Bossaller, L. *et al.* (2013) Overexpression of membrane-bound fas ligand (CD95L) exacerbates autoimmune disease and renal pathology in pristane-induced lupus. <u>J. Immunol.</u> 191: 2104-14.
- 15. Garcia, J.A. *et al.* (2013) Regulation of adaptive immunity by the fractalkine receptor during autoimmune inflammation. <u>J Immunol. 191: 1063-72.</u>
- 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) <u>BIO-PROTOCOL</u>. 4 (22).
- 18. Morganti, J.M. *et al.* (2016) Age exacerbates the CCR2/5-mediated neuroinflammatory response to traumatic brain injury. <u>J Neuroinflammation</u>. 13 (1): 80.
- 19. Mooney, J.E. *et al.* (2010) Cellular plasticity of inflammatory myeloid cells in the peritoneal foreign body response. <u>Am J Pathol. 176 (1): 369-80.</u>
- 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. <u>Cancer Res. 72</u> (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. <u>Eur J Immunol. 39 (12): 3538-51.</u>
- 23. Bossaller, L. *et al.* (2016) TLR9 Deficiency Leads to Accelerated Renal Disease and Myeloid Lineage Abnormalities in Pristane-Induced Murine Lupus. <u>J Immunol. 197 (4):</u> 1044-53.
- 24. Barnes, M.A. *et al.* (2015) Macrophage migration inhibitory factor is required for recruitment of scar-associated macrophages during liver fibrosis. <u>J Leukoc Biol. 97 (1):</u>

161-9.

- 25. Ohnishi, K. *et al.* (2012) Immunohistochemical detection of possible cellular origin of hepatic histiocytic sarcoma in mice. <u>J Clin Exp Hematop. 52 (3): 171-7.</u>
- 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. <u>J Immunol Methods</u>. 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. <u>Eur J Immunol. 39 (10):</u> 2865-76.
- 29. Cardona, S.M. *et al.* (2015) Disruption of Fractalkine Signaling Leads to Microglial Activation and Neuronal Damage in the Diabetic Retina. <u>ASN Neuro. 7</u> (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. <u>J Immunol.</u> 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. <u>J Leukoc Biol. 100 (3): 513-23.</u>
- 33. Cao, Y. *et al.* (2017) TNF-α has both stimulatory and inhibitory effects on mouse monocyte-derived osteoclastogenesis. <u>J Cell Physiol. 232 (12): 3273-85.</u>
- 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. <u>Sci Rep. 10 (1): 16601.</u>
- 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. <u>Int J Mol Sci. 21 (11): 3774.</u>
- 38. Pluijmert, N.J. *et al.* (2021) Phosphorylcholine antibodies restrict infarct size and left ventricular remodelling by attenuating the unreperfused post-ischaemic inflammatory response. <u>J Cell Mol Med. 25 (16): 7772-82.</u>
- 39. Njock, M-K. (2022) Endothelial extracellular vesicles promote tumour growth by tumour-associated macrophage reprogramming <u>J Extracell Vesicles 2022</u> <u>Jun;11(6):e12228.</u>
- 40. Vainchtein, I.D. *et al.* (2023) Characterizing microglial gene expression in a model of secondary progressive multiple sclerosis. Glia. 71 (3): 588-601.

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/MCA2389SBY720 20471 | | | |
| Regulatory | For research purposes only | | | |

Related Products

Recommended Useful Reagents

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

North & South Tel: +1 800 265 7376 America

Worldwide

Tel: +44 (0)1865 852 700

Europe Tel: +49 (0) 89 8090 95 21

Fax: +1 919 878 3751

Email: antibody_sales_us@bio-rad.com

Fax: +44 (0)1865 852 739 Email: antibody_sales_uk@bio-rad.com 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 'M416129:230130'

Printed on 08 Mar 2024

© 2024 Bio-Rad Laboratories Inc | Legal | Imprint