

Datasheet: MCA2389SBUV740

| Description: | RAT ANTI MOUSE Ly-6C:StarBright UltraViolet 740 |
|---------------|---|
| Specificity: | Ly-6C |
| Other names: | Lymphocyte antigen 6C2 |
| Format: | StarBright UltraViolet 740 |
| Product Type: | Monoclonal Antibody |
| Clone: | ER-MP20 |
| Isotype: | lgG2a |
| 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 <u>www.bio-rad-antibodies.com/protocols</u> . | | | | | |
|-----------------------------|--|---------------|--------|-------------------|--------------------|--|
| | | 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 UltraViolet 740 - liquid | | | | | |
| Max Ex/Em | Fluorophore | Excitation Ma | x (nm) | Emission Max (nm) | | |
| | StarBright UltraViolet 740 | 344 | | 743 | | |
| 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: <u>P0CW03</u> <u>Related reagents</u> |
| Fusion Partners | Spleen cells from immunized 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 (<u>Leenen <i>et al.</i> 1990</u>). |
| | 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 5µl of the suggested working dilution to label 10 ⁶ cells in 100µl. Best practices suggest a 5 minutes centrifugation at 6,000g prior to sample application. |
| References | 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. <u>Eur J Immunol. 20 (1): 27-34.</u> 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. <u>J Immunol Methods. 217 (1-2): 27-39.</u> Schatteman, G.C. <i>et al.</i> (2010) Lin- Cells Mediate Tissue Repair by Regulating MCP-1/CCL-2. <u>Am J Pathol. 177: 2002-10.</u> 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.

Devey, L. *et al.* (2009) Tissue-resident macrophages protect the liver from ischemia reperfusion injury via a heme oxygenase-1-dependent mechanism. <u>Mol Ther. 17: 65-72.</u>
 Nikolic, T. *et al.* (2003) Developmental stages of myeloid dendritic cells in mouse bone marrow. <u>Int Immunol. 15: 515-24.</u>

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. <u>Blood. 92: 1423-31.</u>

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. <u>Blood. 100: 3663-71.</u>

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. <u>J Nutr. 142: 803-8.</u>

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. 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 <u>BIO-PROTOCOL. 5 (10).</u>

17. Damya, L. *et al.* (2014) Purification of Tumor-Associated Macrophages (TAM) and Tumor-Associated Dendritic Cells (TADC) <u>BIO-PROTOCOL. 4 (22).</u>

18. Morganti, J.M. *et al.* (2016) Age exacerbates the CCR2/5-mediated neuroinflammatory response to traumatic brain injury. <u>J Neuroinflammation. 13 (1): 80.</u>

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. <u>Cell Tissue Res. 346 (1): 99-109.</u>

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> (<u>16</u>): <u>4165-77</u>.

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</u> <u>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>: <u>1044-53.</u>

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>:

<u>161-9.</u>

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*. <u>Scand J Immunol. 75 (6): 588-98.</u>
27. Houthuys, E. *et al.* (2010) A method for the isolation and purification of mouse peripheral blood monocytes. <u>J Immunol Methods. 359 (1-2): 1-10.</u>

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. J Immunol. 186 (10): 5993-6003.

31. Robbie, S.J. *et al.* (2016) Enhanced Ccl2-Ccr2 signaling drives more severe choroidal neovascularization with aging. <u>Neurobiol Aging. 40: 110-9.</u>

32. Cao, Y. *et al.* (2016) IL-1 β 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. 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. <u>PLoS One. 12 (9): e0183741.</u>

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. <u>Genome Biol. 19 (1): 126.</u>

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. 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 <u>J Extracell Vesicles 2022</u> Jun;11(6):e12228.

40. Vainchtein, I.D. *et al.* (2023) Characterizing microglial gene expression in a model of secondary progressive multiple sclerosis. <u>Glia. 71 (3): 588-601.</u>

41. Mielczarek, O. *et al.* (2023) Intra- and interchromosomal contact mapping reveals the lgh locus has extensive conformational heterogeneity and interacts with B-lineage genes. <u>Cell Rep 42 (9):113074.</u>

42. Thiem, K. et al. (2019) Deletion of hematopoietic Dectin-2 or CARD9 does not protect

| | against atherosclerotic plaque formation in hyperlipidemic mice. <u>Sci Rep. 9 (1): 4337.</u> | | | |
|----------------------|---|--|--|--|
| | 43. Heissig, B. <i>et al.</i> (2022) siRNA against CD40 delivered via a fungal recognition | | | |
| | receptor ameliorates murine acute graft-versus-host disease. <u>EJHaem. 3 (3): 849-61.</u> | | | |
| | 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. <i>et al.</i> (2023) Thrombin-activated interleukin-1 α drives atherogenesi | | | |
| | 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 | | | |
| | activation and infiltration into the skin following stimulation with alarmins BioRxiv 1 | | | |
| | [Epub ahead of print]. | | | |
| | 47. Lepland, A. <i>et al.</i> (2024) Therapeutic Tumor Macrophage Reprogramming in Breast | | | |
| | Cancer Through a Peptide-Drug Conjugate <u>bioRxiv: 12 Aug. [Epub ahead of print].</u> | | | |
| | | | | |
| Storage | Store at +4°C. DO NOT FREEZE. This product should be stored undiluted. | | | |
| Storage Guarantee | DO NOT FREEZE. | | | |
| | DO NOT FREEZE. This product should be stored undiluted. | | | |
| Guarantee | DO NOT FREEZE. This product should be stored undiluted. 12 months from date of despatch This product is covered by U.S. Patent No. 10,150,841 and related U.S. and foreign | | | |

Related Products

Recommended Useful Reagents

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

| North & South | Tel: +1 800 265 7376 | Worldwide | Tel: +44 (0)1865 852 700 | Europe | Tel: +49 (0) 89 8090 95 21 |
|---------------|----------------------------------|-----------|----------------------------------|--------|--------------------------------------|
| America | Fax: +1 919 878 3751 | | Fax: +44 (0)1865 852 739 | | Fax: +49 (0) 89 8090 95 50 |
| | Email: antibody_sales_us@bio-rad | .com | Email: antibody_sales_uk@bio-rac | d.com | 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 'M417339:230314'

Printed on 12 Dec 2024

© 2024 Bio-Rad Laboratories Inc | Legal | Imprint