Datasheet: MCA519G

BATCH NUMBER 151552

Description:	RAT ANTI MOUSE MACROPHAGES/MONOCYTES
Specificity:	MACROPHAGES/MONOCYTES
Format:	Purified
Product Type:	Monoclonal Antibody
Clone:	MOMA-2
Isotype:	IgG2b
Quantity:	0.25 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 (1)	▪			
Immunohistology - Frozen	▪			1/25
Immunohistology - Paraffin			▪	
ELISA			▪	
Immunoprecipitation			▪	
Western Blotting			▪	
Immunofluorescence	▪			

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.

*Membrane permeabilisation is required for this application. Bio-Rad recommends the use of Leucoperm™ (Product Code BUF09) for this purpose.
(1)**Membrane permeabilisation is required for this application. Bio-Rad recommends the use of Leucoperm™ (Product Code BUF09) for this purpose.**

Target Species	Mouse
Product Form	Purified IgG - 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
Approx. Protein Concentrations	IgG concentration 0.5 mg/ml
Immunogen	Mouse lymph node stroma.
RRID	AB_321970
Fusion Partners	Spleen cells from immunised Wistar rats were fused with cells of the SP/0 myeloma cell line.
Specificity	**Rat anti Mouse Macrophages/Monocytes antibody, clone MOMA-2** recognizes an intracellular antigen of mouse macrophages and monocytes. It reacts strongly with macrophages in lymphoid organs such as tingible body macrophages and macrophages in T cell dependant areas and is extremely useful in immunohistochemistry. Reacts on all mouse strains tested.

References

1. van der Sluis, R.J. *et al.* (2014) Prolactin receptor antagonism uncouples lipids from atherosclerosis susceptibility. J Endocrinol. 222 (3): 341-50.
2. Nakai, Y. *et al.* (2004) Natural killer T cells accelerate atherogenesis in mice. Blood. 104 (7): 2051-9.
3. Skoura, A. *et al.* (2011) Sphingosine-1-phosphate receptor-2 function in myeloid cells regulates vascular inflammation and atherosclerosis. Arterioscler Thromb Vasc Biol. 31 (1): 81-5.
4. Madrigal-Matute, J. *et al.* (2010) Heat shock protein 90 inhibitors attenuate inflammatory responses in atherosclerosis. Cardiovasc Res. 86 (2): 330-7.
5. de Jager, S.C. *et al.* (2011) Growth differentiation factor 15 deficiency protects against atherosclerosis by attenuating CCR2-mediated macrophage chemotaxis. J Exp Med. 208 (2): 217-25.
6. Frossard, J.L. *et al.* (2011) Role of CCL-2, CCR-2 and CCR-4 in cerulein-induced acute pancreatitis and pancreatitis-associated lung injury. J Clin Pathol. 64 (5): 387-93.
7. Bhatia, V.K. *et al* (2007) Complement C1q reduces early atherosclerosis in low-density lipoprotein receptor-deficient mice. Am J Pathol.170: 416-26.
8. Bourdillon, M.C. *et al.* (2006) Reduced atherosclerotic lesion size in P-selectin deficient apolipoprotein E-knockout mice fed a chow but not a fat diet. J Biomed Biotechnol. 2006 (2): 49193.
9. Duewell, P. *et al.* (2010) NLRP3 inflammasomes are required for atherogenesis and activated by cholesterol crystals. Nature. 464: 1357-61.
10. Weingärtner, O. *et al.* (2011) Differential effects on inhibition of cholesterol absorption by plant stanol and plant sterol esters in apoE-/- mice. Cardiovasc Res. 90: 484-92.
11. Yamamoto, S. *et al.* (2011) Oral activated charcoal adsorbent (AST-120) ameliorates extent and instability of atherosclerosis accelerated by kidney disease in apolipoprotein E-deficient mice. Nephrol Dial Transplant. 26 (8): 2491-7.
12. Ng, H.P. *et al.* (2011) Attenuated atherosclerotic lesions in apoE-Fcγ-chain-deficient

hyperlipidemic mouse model is associated with inhibition of Th17 cells and promotion of regulatory T cells. J Immunol. 187 (11): 6082-93.
13. Ruf, M.T. *et al.* (2012) Chemotherapy-Associated Changes of Histopathological Features of *Mycobacterium ulcerans* Lesions in a Buruli Ulcer Mouse Model. Antimicrob Agents Chemother. 56: 687-96.
14. Che, J. *et al.* (2011) Endothelial FGF receptor signaling accelerates atherosclerosis. Am J Physiol Heart Circ Physiol. 300: H154-61.
15. Chen, S. (2010) IL-17A is proatherogenic in high-fat diet-induced and *Chlamydia pneumoniae* infection-accelerated atherosclerosis in mice. J Immunol. 185: 5619-27.
16. Dieleman, L.A. *et al.* (1998) Chronic experimental colitis induced by dextran sulphate sodium (DSS) is characterized by Th1 and Th2 cytokines. Clin Exp Immunol. 114: 385-91.
17. Gao, Q. *et al.* (2010) A critical function of Th17 proinflammatory cells in the development of atherosclerotic plaque in mice. J Immunol. 185: 5820-7.
18. Pedersen, T.X. *et al.* (2010) The pro-inflammatory effect of uraemia overrules the anti-atherogenic potential of immunization with oxidized LDL in apoE-/- mice. Nephrol Dial Transplant. 25: 2486-91.
19. Lee, M.R. *et al.* (2014) The adipokine Retnla modulates cholesterol homeostasis in hyperlipidemic mice. Nat Commun. 5: 4410.
20. Hoeksema, M.A. *et al.* (2014) Targeting macrophage Histone deacetylase 3 stabilizes atherosclerotic lesions. EMBO Mol Med. 6 (9): 1124-32.
21. Yamamoto, S. *et al.* (2015) Atherosclerosis following renal injury is ameliorated by pioglitazone and losartan via macrophage phenotype Atherosclerosis. 242 (1): 56-64.
22. Wan W *et al.* (2015) Atypical chemokine receptor 1 deficiency reduces atherogenesis in ApoE-knockout mice. Cardiovasc Res. 106 (3): 478-87.
23. Babaei, S. *et al.* (2000) Blockade of endothelin receptors markedly reduces atherosclerosis in LDL receptor deficient mice: role of endothelin in macrophage foam cell formation. Cardiovasc Res. 2000 Oct;48: 158-67.
24. Krishack, P.A. *et al.* (2015) Serum Amyloid A Facilitates Early Lesion Development in Ldlr-/- Mice. J Am Heart Assoc. 4 (7): pii: e001858.
25. Aoki, S. *et al.* (2015) Oral administration of the β-glucan produced by *Aureobasidium pullulans* ameliorates development of atherosclerosis in apolipoprotein E deficient mice Journal Funct Foods. 18: 22-7.
26. Song, G. *et al.* (2015) Molecular hydrogen stabilizes atherosclerotic plaque in low-density lipoprotein receptor-knockout mice. Free Radic Biol Med. 87: 58-68.
27. Takata, H. *et al.* (2015) Vascular angiotensin II type 2 receptor attenuates atherosclerosis via a kinin/NO-dependent mechanism. J Renin Angiotensin Aldosterone Syst. 16 (2): 311-20.
28. Wezel, A. *et al.* (2015) Mast cells mediate neutrophil recruitment during atherosclerotic plaque progression. Atherosclerosis. 241 (2): 289-96.
29. Oguiza A *et al.* (2015) Peptide-based inhibition of IκB kinase/nuclear factor-κB pathway protects against diabetes-associated nephropathy and atherosclerosis in a mouse model of type 1 diabetes. Diabetologia. 58 (7): 1656-67.
30. Shuto, Y. *et al.* (2015) Repetitive Glucose Spikes Accelerate Atherosclerotic Lesion Formation in C57BL/6 Mice. PLoS One. 10 (8): e0136840.
31. Peng, Y. *et al.* (2016) Inactivation of Semicarbazide-Sensitive Amine Oxidase Stabilizes the Established Atherosclerotic Lesions via Inducing the Phenotypic Switch of Smooth Muscle Cells. PLoS One. 11 (4): e0152758.

32. Hong, Y.F. *et al.* (2016) *Lactobacillus acidophilus* K301 Inhibits Atherogenesis via Induction of 24 (S), 25-Epoxycholesterol-Mediated ABCA1 and ABCG1 Production and Cholesterol Efflux in Macrophages. PLoS One. 11 (4): e0154302.
33. Grootaert, M.O. *et al.* (2016) NecroX-7 reduces necrotic core formation in atherosclerotic plaques of Apoe knockout mice. Atherosclerosis. 252: 166-74.
34. Oguro, A. *et al.* (2003) NaF induces early differentiation of murine bone marrow cells along the granulocytic pathway but not the monocytic or preosteoclastic pathway *in vitro*. In Vitro Cell Dev Biol Anim. 39 (5-6): 243-8.
35. van der Sluis, R.J. *et al.* (2015) Haloperidol inhibits the development of atherosclerotic lesions in LDL receptor knockout mice. Br J Pharmacol. 172 (9): 2397-405.
36. Addison, C.L. *et al.* (2004) Overexpression of the duffy antigen receptor for chemokines (DARC) by NSCLC tumor cells results in increased tumor necrosis. BMC Cancer. 4: 28.
37. Neele, A.E. *et al.* (2018) Myeloid Kdm6b deficiency results in advanced atherosclerosis. Atherosclerosis. 275: 156-65.
38. Tang, G. *et al.* (2019) Metformin inhibited Nod-like receptor protein 3 inflammasomes activation and suppressed diabetes-accelerated atherosclerosis in apoE$^{-/-}$ mice. Biomed Pharmacother. 119: 109410.
39. van Duijn, J. *et al.* (2019) CD8+ T-cells contribute to lesion stabilization in advanced atherosclerosis by limiting macrophage content and CD4+ T-cell responses. Cardiovasc Res. 115 (4): 729-38.
40. Kato, T. *et al.* (2020) A non-selective endothelin receptor antagonist bosentan modulates kinetics of bone marrow-derived cells in ameliorating pulmonary hypertension in mice. Pulm Circ. 10 (2): 2045894020919355.
41. Gajeton, J. *et al.* (2020) miR-467 Prevents Inflammation And Insulin Resistance In Response To Hyperglycemia BioR$_X$iv. Jun 11 Preprint [Epub ahead of print].
42. Lecoeur, H. *et al.* (2020) Targeting Macrophage Histone H3 Modification as a Leishmania Strategy to Dampen the NF-κB/NLRP3-Mediated Inflammatory Response. Cell Rep. 30 (6): 1870-1882.e4.
43. van Duijn, J. *et al.* (2020) Tc17 CD8+ T cells accumulate in murine atherosclerotic lesions, but do not contribute to early atherosclerosis development Cardiovasc Res. Oct 16 [Epub ahead of print].
44. Baardman, J. *et al.* (2020) Macrophage ATP citrate lyase deficiency stabilizes atherosclerotic plaques. Nat Commun. 11 (1): 6296.
45. Luque-Martin, R. *et al.* (2019) Targeting Histone Deacetylases in Myeloid Cells Inhibits Their Maturation and Inflammatory Function With Limited Effects on Atherosclerosis. Front Pharmacol. 10: 1242.
46. Zhao, J. *et al.* (2019) Atherogenesis in the Carotid Artery with and without Interrupted Blood Flow of Two Hyperlipidemic Mouse Strains. J Vasc Res. 56 (5): 241-254.
47. Burris, R.L. *et al.* (2020) Maternal exposure to soy diet reduces atheroma in hyperlipidemic F1 offspring mice by promoting macrophage and T cell anti-inflammatory responses. Atherosclerosis. 313: 26-34.

Storage

Store at +4^{o}C or at -20^{o}C if preferred.

This product should be stored undiluted.

	Storage in frost-free freezers is not recommended. Avoid repeated freezing and thawing as this may denature the antibody. Should this product contain a precipitate we recommend microcentrifugation before use.
Guarantee	12 months from date of despatch
Health And Safety Information	Material Safety Datasheet documentation #10040 available at: https://www.bio-rad-antibodies.com/SDS/MCA519G 10040
Regulatory	For research purposes only

Related Products

Recommended Secondary Antibodies

Rabbit Anti Rat IgG (STAR16...)	DyLight®800
Rabbit Anti Rat IgG (STAR17...)	FITC
Goat Anti Rat IgG (STAR72...)	HRP
Goat Anti Rat IgG (STAR69...)	FITC
Goat Anti Rat IgG (STAR73...)	RPE
Rabbit Anti Rat IgG (STAR21...)	HRP
Goat Anti Rat IgG (MOUSE ADSORBED) (STAR71...)	DyLight®550, DyLight®650, DyLight®800
Goat Anti Rat IgG (STAR131...)	Alk. Phos., Biotin

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

'M368169:200529'

Printed on 11 Apr 2024