Datasheet: MCA341B

Description:	MOUSE ANTI RAT CD68:Biotin
Specificity:	CD68
Other names:	ED1, MACROSIALIN
Format:	Biotin
Product Type:	Monoclonal Antibody
Clone:	ED1
Isotype:	IgG1
Quantity:	100 TESTS

Product Details

RRID AB_2074860

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			▪	
Immunohistology - Frozen	▪			1/10

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 control.antibodies.

Target Species Rat

Species Cross Reactivity

Reacts with: Bovine
Does not react with:Horse
N.B. Antibody reactivity and working conditions may vary between species.

Product Form Purified IgG conjugated to Biotin - liquid

Preparation Purified IgG prepared by affinity chromatography on Protein A from tissue culture supernatant

Buffer Solution Phosphate buffered saline

Preservative Stabilisers

0.09% Sodium Azide
1% Bovine Serum Albumin

Approx. Protein Concentrations IgG concentration 0.1 mg/ml

Immunogen Rat spleen cells

External Database Links	**UniProt:** Q4FZY1 Related reagents
Fusion Partners	Spleen cells from immunised BALB/c mice were fused with cells of the SP2/0-Ag14 mouse myeloma cell line.
Specificity	**Mouse anti rat CD68, clone ED1** recognizes the rat ED1 antigen, a heavily glycosylated protein of ~90 -110 KDa, also known as rat CD68 (Dijkstra *et al.* 1985). The ED1 antigen is expressed on most macrophages populations, as well as on monocytes and is considered as a pan-macrophage marker in the rat (Damoiseaux *et al.* 1994). ED1 is expressed predominantly on the lysosomal membrane and lightly on the cell surface (Dijkstra *et al.* 1985). The expression of ED1 antigen being predominantly cytoplasmic (Dijkstra *et al.* 1985), flow cytometry results are improved by the use of a membrane permeabilization procedure, such as Leucoperm, prior to staining.
Flow Cytometry	Use 10ul of the suggested working dilution to label 10^6 cells in 100ul.
References	1. Damoiseaux, J.G. *et al.* (1994) Rat macrophage lysosomal membrane antigen recognized by monoclonal antibody ED1. Immunology. 83 (1): 140-7. 2. Bauer, J. *et al.* (1994) Phagocytic activity of macrophages and microglial cells during the course of acute and chronic relapsing experimental autoimmune encephalomyelitis. J Neurosci Res. 38 (4): 365-75. 3. Bao, F. *et al.* (2004) Early anti-inflammatory treatment reduces lipid peroxidation and protein nitration after spinal cord injury in rats. J Neurochem. 88 (6): 1335-44. 4. Zilka, N. *et al.* (2009) Human misfolded truncated tau protein promotes activation of microglia and leukocyte infiltration in the transgenic rat model of tauopathy. J. Neuroimmunol. 209: 16-25. 5. Fujita, E. *et al.* (2010) Statin attenuates experimental anti-glomerular basement membrane glomerulonephritis together with the augmentation of alternatively activated macrophages. Am J Pathol. 177 (3): 1143-54. 6. Salegio, E.A. *et al.* (2011) Macrophage presence is essential for the regeneration of ascending afferent fibres following a conditioning sciatic nerve lesion in adult rats. BMC Neurosci. 12: 11. 7. Wei, X. *et al.* (2014) Dural fibroblasts play a potential role in headache pathophysiology. Pain. 155: 1238-44. 8. Naito, Y. *et al.* (2011) Dietary iron restriction prevents hypertensive cardiovascular remodeling in dahl salt-sensitive rats. Hypertension. 57: 497-504. 9. Baker, S.C. *et al.* (2011) Cellular integration and vascularisation promoted by a resorbable, particulate-leached, cross-linked poly(ε-caprolactone) scaffold. Macromol Biosci. 11 (5): 618-27. 10. Bedi, A. *et al.* (2010) Effect of early and delayed mechanical loading on tendon-to-bone healing after anterior cruciate ligament reconstruction. J Bone Joint Surg Am. 92: 2387-401. 11. Liew, H.K. *et al.* (2012) Systemic administration of urocortin after intracerebral hemorrhage reduces neurological deficits and neuroinflammation in rats. J Neuroinflammation. 9: 13. 12. Chiu, T.L. *et al.* (2012) The treatment of glioblastoma multiforme through activation of microglia and TRAIL induced by rAAV2-mediated IL-12 in a syngeneic rat model. J Biomed Sci. 19: 45. 13. Glorie, L.L. *et al.* (2012) DPP4 inhibition improves functional outcome after renal ischemia-reperfusion injury. Am J Physiol Renal Physiol. 303: F681-8. 14. Quan, L.D. *et al.* (2010) Development of a macromolecular prodrug for the treatment of inflammatory arthritis: mechanisms involved in arthrotropism and sustained therapeutic efficacy. Arthritis Res Ther.12: R170. 15. Peng, J.H. *et al.* (2012) Effects of Puerariae Radix Extract on Endotoxin Receptors and TNF-α Expression Induced by Gut-Derived Endotoxin in Chronic Alcoholic Liver Injury. Evid Based

Complement Alternat Med. 2012: 234987.
16. Matsuda, K. *et al.* (2010) Hemophagocytic histiocytic sarcoma in a Japanese black cow. Vet Pathol. 47: 339-42.
17. Tian, Y.F. *et al.* (2013) Lipoic acid suppresses portal endotoxemia-induced steatohepatitis and pancreatic inflammation in rats. World J Gastroenterol. 19 (18): 2761-71.
18. Xiang, Y. *et al.* (2013) L-carnitine protects against cyclosporine-induced pancreatic and renal injury in rats. Transplant Proc. 45 (8): 3127-34.
19. Wang-Rosenke, Y. *et al.* (2013) Tyrosine kinases inhibition by Imatinib slows progression in chronic anti-thy1 glomerulosclerosis of the rat. BMC Nephrol. 14: 223.
20. Dort, J. *et al.* (2013) Beneficial Effects of Cod Protein on Inflammatory Cell Accumulation in Rat Skeletal Muscle after Injury Are Driven by Its High Levels of Arginine, Glycine, Taurine and Lysine. PLoS One. 8: e77274.
21. Chang, C.Y. *et al.* (2013) Docosahexaenoic acid reduces cellular inflammatory response following permanent focal cerebral ischemia in rats. J Nutr Biochem. 24 (12): 2127-37.
22. Machelska, H. *et al.* (2004) Selectins and integrins but not platelet-endothelial cell adhesion molecule-1 regulate opioid inhibition of inflammatory pain. Br J Pharmacol. 142 (4): 772-80.
23. Sakuraya, K. *et al.* (2014) The synergistic effect of mizoribine and a direct renin inhibitor, aliskiren, on unilateral ureteral obstruction induced renal fibrosis in rats. J Urol. 191 (4): 1139-46.
24. Xu, X. *et al.* (2014) Aging aggravates long-term renal ischemia-reperfusion injury in a rat model. J Surg Res. 187 (1): 289-96.
25. Kim, Y.H. *et al.* (2014) Enhancement of bone regeneration by dual release of a macrophage recruitment agent and platelet-rich plasma from gelatin hydrogels. Biomaterials. 35 (1): 214-24.
26. Lin, Y.C. *et al.* (2015) Time-course effect of electrical stimulation on nerve regeneration of diabetic rats. PLoS One. 10: e0116711.
27. Matsuda, K. *et al.* (2009) Two cases of bovine sarcoma in clinically long-standing lesions. J Vet Med Sci. 71 (2): 221-4.
28. Thieme, K. & Oliveira-Souza, M. (2015) Renal Hemodynamic and Morphological Changes after 7 and 28 Days of Leptin Treatment: The Participation of Angiotensin II via the AT1 Receptor. PLoS One. 10 (3): e0122265.
29. Ayoub, M.A. *et al.* (2015) Functional Interaction between Angiotensin II Receptor Type 1 and Chemokine (C-C Motif) Receptor 2 with Implications for Chronic Kidney Disease. PLoS One. 10 (3): e0119803.
30. Bijarnia, R.K. *et al.* (2015) Sodium thiosulfate ameliorates oxidative stress and preserves renal function in hyperoxaluric rats. PLoS One. 10 (4): e0124881.
31. Oboshi, M. *et al.* (2015) Temporary dietary iron restriction affects the process of thrombus resolution in a rat model of deep vein thrombosis. PLoS One. 10 (5): e0126611.
32. Nagai, H. *et al.* (2015) Pulmonary Macrophages Attenuate Hypoxic Pulmonary Vasoconstriction via β3AR/iNOS Pathway in Rats Exposed to Chronic Intermittent Hypoxia. PLoS One. 10 (7): e0131923.
33. Adamo, H.H. *et al.* (2015) Adaptive (TINT) Changes in the Tumor Bearing Organ Are Related to Prostate Tumor Size and Aggressiveness. PLoS One. 10 (11): e0141601.
34. Paulsen, I.M.S. *et al.* (2015) A single simple procedure for dewaxing, hydration and heat-induced epitope retrieval (HIER) for immunohistochemistry in formalin fixed paraffin-embedded tissue. European Journal of Histochemistry. 59 (4): 2532-9.
35. Ibarra, V. *et al.* (2016) Evaluation of the Tissue Response to Alginate Encapsulated Islets in an Omentum Pouch Model. J Biomed Mater Res A. May 3. [Epub ahead of print]
36. Zeka, B. *et al.* (2016) Aquaporin 4-specific T cells and NMO-IgG cause primary retinal damage in experimental NMO/SD. Acta Neuropathol Commun. 4 (1): 82.
37. Xu K *et al.* (2016) Expression of aryl hydrocarbon receptor in rat brain lesions following traumatic brain injury. Diagn Pathol. 11 (1): 72.
38. Gällentoft, L. *et al.* (2016) Impact of degradable nanowires on long-term brain tissue responses. J Nanobiotechnology. 14 (1): 64.
39. Cóndor JM *et al.* (2016) Treatment With Human Wharton's Jelly-Derived Mesenchymal Stem

Cells Attenuates Sepsis-Induced Kidney Injury, Liver Injury, and Endothelial Dysfunction. Stem Cells Transl Med. 5 (8): 1048-57.
40. Herold, S. *et al.* (2016) CatWalk gait analysis in a rat model of multiple sclerosis. BMC Neurosci. 17 (1): 78.
41. Szmydynger-Chodobska, J. *et al.* (2016) The Involvement of Pial Microvessels in Leukocyte Invasion after Mild Traumatic Brain Injury. PLoS One. 11 (12): e0167677.
42. Hashmat, S. *et al.* (2016) Interleukin-6 inhibition attenuates hypertension and associated renal damage in Dahl salt-sensitive rats. Am J Physiol Renal Physiol. 311 (3): F555-61.
43. Cha, S.J. *et al.* (2016) Identification of GAPDH on the surface of *Plasmodium* sporozoites as a new candidate for targeting malaria liver invasion. J Exp Med. 213 (10): 2099-112.
44. Murata, M. *et al.* (2016) Surfactant protein D is a useful biomarker for monitoring acute lung injury in rats. Exp Lung Res. 42 (6): 314-21.
45. Faleiros, C.M. *et al.* (2016) Effects of previous physical training on adriamycin nephropathy and its relationship with endothelial lesions and angiogenesis in the renal cortex. Life Sci. pii: S0024-3205(16)30665-8. [Epub ahead of print]
46. Haba, D. *et al.* (2017) Morphological study on the pressure ulcer-like dermal lesions formed in the rat heel skin after transection of the sciatic nerves. Acta Histochem. 119 (1): 39-47.
47. Landeck, N. *et al.* (2016) Toxic effects of human and rodent variants of alpha-synuclein *in vivo*. Eur J Neurosci. Nov 28. [Epub ahead of print]
48. Carrillo-de Sauvage MA *et al.* (2015) The neuroprotective agent CNTF decreases neuronal metabolites in the rat striatum: an *in vivo* multimodal magnetic resonance imaging study. J Cereb Blood Flow Metab. 35 (6): 917-21.
49. Chang, C.Y. *et al.* (2015) Tetramethylpyrazine inhibits neutrophil activation following permanent cerebral ischemia in rats. Biochem Biophys Res Commun. 463 (3): 421-7.
50. Londono, R. *et al.* (2017) The Effect of Cell Debris within Biologic Scaffolds upon the Macrophage Response. J Biomed Mater Res A. Mar 6. [Epub ahead of print]
51. Xue, Y. *et al.* (2017) Hydroxyapatite nanoparticle-induced mitochondrial energy metabolism impairment in liver cells: *in vitro* and *in vivo* studies. J Appl Toxicol. Mar 6. [Epub ahead of print]
52. Wang, M. *et al.* (2017) Characterization of the Micro-Environment of the Testis that Shapes the Phenotype and Function of Testicular Macrophages. J Immunol. May 1. pii: 1700162. [Epub ahead of print]
53. Menzies, R.I. *et al.* (2015) Inhibition of the purinergic P2X7 receptor improves renal perfusion in angiotensin-II-infused rats. Kidney Int. 88 (5): 1079-87.
54. Aarts, S.A.B.M. *et al.* (2017) Inhibition of CD40-TRAF6 interactions by the small molecule inhibitor 6877002 reduces neuroinflammation. J Neuroinflammation. 14 (1): 105.
55. Han, T.T. *et al.* (2015) Adipose-derived stromal cells mediate in vivo adipogenesis, angiogenesis and inflammation in decellularized adipose tissue bioscaffolds. Biomaterials. 72: 125-37.
56. Kanamori, H. *et al.* (2017) Influence of nicotine on choline-deficient, L-amino acid-defined diet-induced non-alcoholic steatohepatitis in rats. PLoS One. 12 (6): e0180475.
57. Kühne, L. *et al.* (2017) Renal allograft rejection, lymphocyte infiltration, and de novo donor-specific antibodies in a novel model of non-adherence to immunosuppressive therapy. BMC Immunol. 18 (1): 52.
58. Jaworska, J. *et al.* (2019) Effect of the HDAC Inhibitor, Sodium Butyrate, on Neurogenesis in a Rat Model of Neonatal Hypoxia-Ischemia: Potential Mechanism of Action. Mol Neurobiol. Feb 14 [Epub ahead of print].

Storage

Store at +4°C or at -20°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	18 months from date of despatch.
Health And Safety Information	Material Safety Datasheet documentation #10041 available at: 10041: https://www.bio-rad-antibodies.com/uploads/MSDS/10041.pdf
Regulatory	For research purposes only

Related Products

Recommended Negative Controls

MOUSE IgG1 NEGATIVE CONTROL:Biotin (MCA1209B)

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

'M342124:190110'

Printed on 20 May 2019