Datasheet: MCA341A647

Description:	MOUSE ANTI RAT CD68:Alexa Fluor® 647
Specificity:	CD68
Other names:	ED1, MACROSIALIN
Format:	ALEXA FLUOR® 647
Product Type:	Monoclonal Antibody
Clone:	ED1
Isotype:	IgG1
Quantity:	100 TESTS/1ml

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)	▪			Neat

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.

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

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 Alexa Fluor® 647 - liquid

Max Ex/Em

Fluorophore	Excitation Max (nm)	Emission Max (nm)
Alexa Fluor®647	650	665

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 0.05 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 1x10^6 cells in 100ul.
References	1. Damoiseaux, J.G. *et al*. (1994) Rat macrophage lysosomal membrane antigen recognised by monoclonal antibody ED1. Immunol. 83: 140-147. 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: 365-375. 3. Bao, F. *et al*. (2004) Early anti-inflammatory treatment reduces lipid peroxidation and protein nitration after spinal cord injury in rats. J, Neuro-chem. 88:1335-1344. 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.

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. This product is photosensitive and should be protected from light.

	Avoid repeated freezing and thawing as this may denature the antibody. Should this product contain a precipitate we recommend microcentrifugation before use.
Shelf Life	18 months from date of despatch.
Acknowledgements	This product is provided under an intellectual property licence from Life Technologies Corporation. The transfer of this product is contingent on the buyer using the purchase product solely in research, excluding contract research or any fee for service research, and the buyer must not sell or otherwise transfer this product or its components for (a) diagnostic, therapeutic or prophylactic purposes; (b) testing, analysis or screening services, or information in return for compensation on a per-test basis; (c) manufacturing or quality assurance or quality control, or (d) resale, whether or not resold for use in research. For information on purchasing a license to this product for purposes other than as described above, contact Life Technologies Corporation, 5791 Van Allen Way, Carlsbad CA 92008 USA or outlicensing@thermofisher.com
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:Alexa Fluor® 647 (MCA1209A647)

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

'M300445:170105'

Printed on 20 Jun 2018