

Datasheet: MCA341A647

BATCH NUMBER 156082

Description:	MOUSE ANTI RAT CD68:Alexa Fluor® 647
Specificity:	CD68
Other names:	ED1
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. Cross reactivity is derived from testing within our laboratories, peer-reviewed publications or personal communications from the originators. Please refer to references indicated for further information.

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
RRID	AB_566874
Fusion Partners	Spleen cells from immunised BALB/c mice were fused with cells of the SP2/0-Ag14 mouse myeloma cell line.
Specificity	<p>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).</p> <p>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).</p> <p>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.</p>
Flow Cytometry	Use 10ul of the suggested working dilution to label 1×10^6 cells in 100ul.
References	<ol style="list-style-type: none"> Damoiseaux, J.G. <i>et al.</i> (1994) Rat macrophage lysosomal membrane antigen recognized by monoclonal antibody ED1. Immunology. 83 (1): 140-7. Bauer, J. <i>et al.</i> (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. Wu, L. <i>et al.</i> (2004) Dietary approach to attenuate oxidative stress, hypertension, and inflammation in the cardiovascular system. Proc Natl Acad Sci U S A. 101 (18): 7094-9. Bao, F. <i>et al.</i> (2004) Early anti-inflammatory treatment reduces lipid peroxidation and protein nitration after spinal cord injury in rats. J Neurochem. 88 (6): 1335-44. Zilka, N. <i>et al.</i> (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.

6. 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.](#)
7. 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.](#)
8. Wei, X. *et al.* (2014) Dural fibroblasts play a potential role in headache pathophysiology. [Pain. 155: 1238-44.](#)
9. Naito, Y. *et al.* (2011) Dietary iron restriction prevents hypertensive cardiovascular remodeling in dahl salt-sensitive rats. [Hypertension. 57: 497-504.](#)
10. 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.](#)
11. 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.](#)
12. Liew, H.K. *et al.* (2012) Systemic administration of urocortin after intracerebral hemorrhage reduces neurological deficits and neuroinflammation in rats. [J Neuroinflammation. 9: 13.](#)
13. 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.](#)
14. Glorie, L.L. *et al.* (2012) DPP4 inhibition improves functional outcome after renal ischemia-reperfusion injury. [Am J Physiol Renal Physiol. 303: F681-8.](#)
15. Quan, L.D. *et al.* (2010) Development of a macromolecular prodrug for the treatment of inflammatory arthritis: mechanisms involved in arthritropism and sustained therapeutic efficacy. [Arthritis Res Ther. 12: R170.](#)
16. 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.](#)
17. Matsuda, K. *et al.* (2010) Hemophagocytic histiocytic sarcoma in a Japanese black cow. [Vet Pathol. 47: 339-42.](#)
18. 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.](#)
19. Xiang, Y. *et al.* (2013) L-carnitine protects against cyclosporine-induced pancreatic and renal injury in rats. [Transplant Proc. 45 \(8\): 3127-34.](#)
20. 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.](#)
21. 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.](#)
22. 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.](#)
23. 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.](#)

24. 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.](#)
25. Xu, X. *et al.* (2014) Aging aggravates long-term renal ischemia-reperfusion injury in a rat model. [J Surg Res. 187 \(1\): 289-96.](#)
26. 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.](#)
27. Lin, Y.C. *et al.* (2015) Time-course effect of electrical stimulation on nerve regeneration of diabetic rats. [PLoS One. 10: e0116711.](#)
28. Matsuda, K. *et al.* (2009) Two cases of bovine sarcoma in clinically long-standing lesions. [J Vet Med Sci. 71 \(2\): 221-4.](#)
29. 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.](#)
30. 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.](#)
31. Bijarnia, R.K. *et al.* (2015) Sodium thiosulfate ameliorates oxidative stress and preserves renal function in hyperoxaluric rats. [PLoS One. 10 \(4\): e0124881.](#)
32. 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.](#)
33. Nagai, H. *et al.* (2015) Pulmonary Macrophages Attenuate Hypoxic Pulmonary Vasoconstriction via β 3AR/iNOS Pathway in Rats Exposed to Chronic Intermittent Hypoxia. [PLoS One. 10 \(7\): e0131923.](#)
34. 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.](#)
35. 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.](#)
36. Ibarra, V. *et al.* (2016) This paper is a winner in the Undergraduate category for the SFB awards: Evaluation of the tissue response to alginate encapsulated islets in an omentum pouch model. [J Biomed Mater Res A. 104 \(7\): 1581-90.](#)
37. 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.](#)
38. Xu K *et al.* (2016) Expression of aryl hydrocarbon receptor in rat brain lesions following traumatic brain injury. [Diagn Pathol. 11 \(1\): 72.](#)
39. Gällentoft, L. *et al.* (2016) Impact of degradable nanowires on long-term brain tissue responses. [J Nanobiotechnology. 14 \(1\): 64.](#)
40. Córdor 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.](#)
41. Herold, S. *et al.* (2016) CatWalk gait analysis in a rat model of multiple sclerosis. [BMC Neurosci. 17 \(1\): 78.](#)
42. Szmydynger-Chodobska, J. *et al.* (2016) The Involvement of Pial Microvessels in Leukocyte Invasion after Mild Traumatic Brain Injury. [PLoS One. 11 \(12\): e0167677.](#)

43. 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.](#)
44. 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.](#)
45. 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.](#)
46. Faleiros, C.M. *et al.* (2017) Effects of previous physical training on adriamycin nephropathy and its relationship with endothelial lesions and angiogenesis in the renal cortex. [Life Sci. 169: 43-51.](#)
47. 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.](#)
48. Landeck, N. *et al.* (2017) Toxic effects of human and rodent variants of alpha-synuclein *in vivo*. [Eur J Neurosci. 45 \(4\): 536-47.](#)
49. Carrillo-de Sauvage, M.A. *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.](#)
50. Chang, C.Y. *et al.* (2015) Tetramethylpyrazine inhibits neutrophil activation following permanent cerebral ischemia in rats. [Biochem Biophys Res Commun. 463 \(3\): 421-7.](#)
51. Londono, R. *et al.* (2017) The effect of cell debris within biologic scaffolds upon the macrophage response. [J Biomed Mater Res A. 105 \(8\): 2109-18.](#)
52. Xue, Y. *et al.* (2017) Hydroxyapatite nanoparticle-induced mitochondrial energy metabolism impairment in liver cells: *in vitro* and *in vivo* studies. [J Appl Toxicol. 37 \(8\): 1004-1016.](#)
53. Wang, M. *et al.* (2017) Characterization of the Micro-Environment of the Testis that Shapes the Phenotype and Function of Testicular Macrophages. [J Immunol. 198 \(11\): 4327-40.](#)
54. 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.](#)
55. 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.](#)
56. 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.](#)
57. 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.](#)
58. 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.](#)
59. 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. 56 \(9\): 6341-70.](#)
60. Fontana, J. *et al.* (2017) Impact of Steroids on the Inflammatory Response after Ischemic Acute Kidney Injury in Rats. [Indian J Nephrol. 27 \(5\): 365-71.](#)

61. Tourki, B. *et al.* (2019) Lebetin 2, a Snake Venom-Derived B-Type Natriuretic Peptide, Provides Immediate and Prolonged Protection against Myocardial Ischemia-Reperfusion Injury via Modulation of Post-Ischemic Inflammatory Response. [Toxins \(Basel\). 11 \(9\)Sep 10 \[Epub ahead of print\].](#)
62. Silva, F.M.O. *et al.* (2019) Tamoxifen and bone morphogenic protein-7 modulate fibrosis and inflammation in the peritoneal fibrosis model developed in uremic rats. [Mol Med. 25 \(1\): 41.](#)
63. Nozomu, A. *et al.* (2019) Delayed Rectifier K⁺-Channel Is a Novel Therapeutic Target for Interstitial Renal Fibrosis in Rats with Unilateral Ureteral Obstruction [BioMed Res Intl. 2019: 1-11.](#)
64. Muri, L. *et al.* (2020) Repetitive transcranial magnetic stimulation activates glial cells and inhibits neurogenesis after pneumococcal meningitis. [PLoS ONE 15\(9\): e0232863.](#)
65. Jahandideh, A. *et al.* (2020) Folate Receptor β -Targeted PET Imaging of Macrophages in Autoimmune Myocarditis. [J Nucl Med. 61 \(11\): 1643-9.](#)
66. Zhang, Z. *et al.* (2020) Mesenchymal Stem Cells Promote the Resolution of Cardiac Inflammation After Ischemia Reperfusion Via Enhancing Efferocytosis of Neutrophils. [J Am Heart Assoc. 9 \(5\): e014397.](#)
67. Zhang, L.Y. *et al.* (2020) Microglia exacerbate white matter injury via complement C3/C3aR pathway after hypoperfusion. [Theranostics. 10 \(1\): 74-90.](#)
68. Rodionova, K. *et al.* (2020) Neurogenic tachykinin mechanisms in experimental nephritis of rats. [Pflugers Arch. Oct 17 \[Epub ahead of print\].](#)
69. Leisengang, S. *et al.* (2020) Primary culture of the rat spinal dorsal horn: a tool to investigate the effects of inflammatory stimulation on the afferent somatosensory system. [Pflugers Arch. Oct 24 \[Epub ahead of print\].](#)
70. Haase, N. *et al.* (2020) RNA interference therapeutics targeting angiotensinogen ameliorate preeclamptic phenotype in rodent models. [J Clin Invest. 130 \(6\): 2928-42.](#)
71. Rivera, J. *et al.* (2019) Infusion of HIV-1 Nef-expressing astrocytes into the rat hippocampus induces enteropathy and interstitial pneumonitis and increases blood-brain-barrier permeability. [PLoS One. 14 \(11\): e0225760.](#)
72. Luo, K. *et al.* (2019) Cilastatin protects against tacrolimus-induced nephrotoxicity via anti-oxidative and anti-apoptotic properties. [BMC Nephrol. 20 \(1\): 221.](#)
73. Amaral, J. *et al.* (2013) 7-Ketocholesterol induces inflammation and angiogenesis *in vivo*: a novel rat model. [PLoS One. 8 \(2\): e56099.](#)
74. Sogi, Y. *et al.* (2020) Joint hemorrhage accelerates cartilage degeneration in a rat immobilized knee model. [BMC Musculoskelet Disord. 21 \(1\): 761.](#)
75. Li, L. *et al.* (2021) Ascorbic acid accelerates Wallerian degeneration after peripheral nerve injury [Neural Regeneration Research. 16:6. 1078-85.](#)
76. Solár, P. *et al.* (2020) Subarachnoid Hemorrhage Increases Level of Heme Oxygenase-1 and Biliverdin Reductase in the Choroid Plexus [Frontiers in Cellular Neuroscience. 14 \[Epub ahead of print\].](#)
77. Wang, Q. *et al.* (2020) Urinary phosphate-containing nanoparticle contributes to inflammation and kidney injury in a salt-sensitive hypertension rat model. [Commun Biol. 3 \(1\): 575.](#)
78. Hoff, U. *et al.* (2019) A synthetic epoxyeicosatrienoic acid analogue prevents the initiation of ischemic acute kidney injury. [Acta Physiol \(Oxf\). 227 \(2\): e13297.](#)
79. Noh, J.E. *et al.* (2020) Intracerebral Transplants of GMP-Grade Human Umbilical Cord-Derived Mesenchymal Stromal Cells Effectively Treat Subacute-Phase Ischemic

- Stroke in a Rodent Model. [Front Cell Neurosci. 14: 546659.](#)
80. Ismail, S.F. *et al.* (2020) Ammonia Induced Microglial Activation Modulates Connexin 43 and Aquaporin 4 Expression in Astrocyte-microglia Co-culture Model [BMC Neurosci. Preprint Sep 22 \[Epub ahead of print\].](#)
81. Zhao, H.Y. *et al.* (2020) L-carnitine treatment attenuates renal tubulointerstitial fibrosis induced by unilateral ureteral obstruction. [Korean J Intern Med. Sep 18 \[Epub ahead of print\].](#)
82. Bennett, M. *et al.* (2020) Proteoglycan 4 Reduces Neuroinflammation and Protects the Blood-Brain Barrier after Traumatic Brain Injury. [J Neurotrauma. Oct 19 \[Epub ahead of print\].](#)
83. de Araújo L.A. *et al.* (2020) Sodium Oxalate-Induced Acute Kidney Injury Associated With Glomerular and Tubulointerstitial Damage in Rats. [Front Physiol. 11: 1076.](#)
84. Kaur, G. *et al.* (2020) Neonatal Pig Sertoli Cells Survive Xenotransplantation by Creating an Immune Modulatory Environment Involving CD4 and CD8 Regulatory T Cells. [Cell Transplant. 29: 963689720947102.](#)
85. Yao, X. *et al.* (2020) Acellular Collagen Scaffold With Basic Fibroblast Growth Factor for Repair of Traumatic Tympanic Membrane Perforation in a Rat Model. [Otolaryngol Head Neck Surg. : 194599820938345.](#)
86. Choi, Y. *et al.* (2020) Immunohistochemical analysis of periostin in the hearts of Lewis rats with experimental autoimmune myocarditis. [J Vet Med Sci. 82 \(10\): 1545-50.](#)
87. Zhang, K. *et al.* (2020) Applying Complex Network and Cell-Cell Communication Network Diagram Methods to Explore the Key Cytokines and Immune Cells in Local Acupoint Involved in Acupuncture Treating Inflammatory Pain. [Evid Based Complement Alternat Med. 2020: 2585960.](#)
88. Lee, H. *et al.* (2020) TissueGene-C promotes an anti-inflammatory micro-environment in a rat monoiodoacetate model of osteoarthritis via polarization of M2 macrophages leading to pain relief and structural improvement. [Inflammopharmacology. 28 \(5\): 1237-52.](#)
89. Tanaka, J. *et al.* (2020) Generation of CSF1-Independent Ramified Microglia-Like Cells from Leptomeninges *In Vitro*.. [Cells. 10 \(1\)Dec 25 \[Epub ahead of print\].](#)
90. Nagatani, Y. *et al.* (2021) Thromboxane A2 Receptor Antagonist (ONO-8809) Attenuates the Renal Disorders Caused by Salt-Overload in Stroke-Prone Spontaneously Hypertensive Rats. [Jan 18 \[Epub ahead of print\].](#)
91. Tong, Y. *et al.* (2021) The effects of wheel-running using the upper limbs following immobilization after inducing arthritis in the knees of rats. [Physiol Res. 70 \(1\) Jan 14 \[Epub ahead of print\].](#)
92. Elo, P. *et al.* (2021) Efficacy and tolerability of folate-aminopterin therapy in a rat focal model of multiple sclerosis. [J Neuroinflammation. 18 \(1\): 30.](#)
93. Costalonga, E.C. *et al.* (2020) Adipose-Derived Mesenchymal Stem Cells Modulate Fibrosis and Inflammation in the Peritoneal Fibrosis Model Developed in Uremic Rats. [Stem Cells Int. 2020: 3768718.](#)
94. Marsh, D.R. & Flemming, J.M. (2011) Inhibition of CXCR1 and CXCR2 chemokine receptors attenuates acute inflammation, preserves gray matter and diminishes autonomic dysreflexia after spinal cord injury. [Spinal Cord. 49 \(3\): 337-44.](#)
95. Li, R. *et al.* (2020) Bone marrow mesenchymal stem cell-derived exosomal microRNA-124-3p attenuates neurological damage in spinal cord ischemia-reperfusion injury by downregulating Ern1 and promoting M2 macrophage polarization. [Arthritis Res Ther. 22 \(1\): 75.](#)

96. Kodam, A. *et al.* (2019) A role for astrocyte-derived amyloid β peptides in the degeneration of neurons in an animal model of temporal lobe epilepsy. [Brain Pathol. 29 \(1\): 28-44.](#)
97. Russo, E.R. *et al.* (2018) Oral administration of powdered dried rhizomes of *Curcuma longa*. L. (turmeric, *Zingiberaceae*.) is effective in the treatment of doxorubicin-induced kidney injury in rats. [Phytother Res. 32 \(12\): 2408-16.](#)
98. Ornellas, F.M. *et al.* (2019) Mesenchymal Stromal Cells Induce Podocyte Protection in the Puromycin Injury Model. [Sci Rep. 9 \(1\): 19604.](#)
99. Silveira, M.A.D. *et al.* (2021) Green propolis extract attenuates acute kidney injury and lung injury in a rat model of sepsis. [Sci Rep. 11 \(1\): 5925.](#)
100. Winkler, A. *et al.* (2021) Blood-brain barrier resealing in neuromyelitis optica occurs independently of astrocyte regeneration. [J Clin Invest. 131\(5\):e141694.](#)

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. 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.

Guarantee

12 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: <https://www.bio-rad-antibodies.com/SDS/MCA341A647>
10041

Regulatory

For research purposes only

Related Products

Recommended Negative Controls

[MOUSE IgG1 NEGATIVE CONTROL:Alexa Fluor® 647 \(MCA1209A647\)](#)

To find a batch/lot specific datasheet for this product, please use our online search tool at: [bio-rad-antibodies.com/datasheets](https://www.bio-rad-antibodies.com/datasheets)

North & South Tel: +1 800 265 7376

America 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

'M367603:200529'

Europe

Tel: +49 (0) 89 8090 95 21

Fax: +49 (0) 89 8090 95 50

Email: antibody_sales_de@bio-rad.com

Printed on 07 May 2024

© 2024 Bio-Rad Laboratories Inc | [Legal](#) | [Imprint](#)