

Datasheet: MCA275A647

Description:	MOUSE ANTI RAT CD11b:Alexa Fluor® 647
Specificity:	CD11b
Other names:	INTEGRIN ALPHA M CHAIN, MAC-1
Format:	ALEXA FLUOR® 647
Product Type:	Monoclonal Antibody
Clone:	OX-42
Isotype:	IgG2a
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	■			Neat - 1/20

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.

Target Species	Rat		
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 G from tissue culture supernatant.		
Buffer Solution	Phosphate buffered saline		
Preservative	0.09% Sodium Azide		
Stabilisers	1% Bovine Serum Albumin		
Approx. Protein Concentrations	IgG concentration 0.05 mg/ml		
Immunogen	Resident rat peritoneal macrophages.		
Fusion Partners	Spleen cells from immunised BALB/c mice were fused with cells of the NSO/U mouse myeloma cell line.		
Specificity	Mouse anti Rat CD11b, clone OX-42, recognizes rat CD11b, also known as integrin alpha-M , the		

receptor for the iC3b component of complement. CD11b is a 1151 amino acid single pass type 1 transmembrane glycoprotein possessing a single [vWFA](#) domain and multiple [FG-GAP](#) repeats. CD11b is expressed on most macrophages, including resident and activated peritoneal macrophages and Kupffer cells and around 35% of alveolar macrophages. The antibody also labels dendritic cells, granulocytes and [microglia](#) in the brain ([Robinson et al.1986](#)).

Mouse anti Rat CD11b, clone OX-42 is reported to inhibit complement mediated rosettes ([Robinson et al.1986](#)) as well as inhibit myelin binding and uptake ([van der Laan et al.1996](#)).

Flow Cytometry

Use 10ul of the suggested working dilution to label 10⁶ cells in 100ul.

References

1. Robinson, A.P. *et al.* (1986) Macrophage heterogeneity in the rat as delineated by two monoclonal antibodies MRC OX-41 and MRC OX-42, the latter recognizing complement receptor type 3. [Immunology. 57 \(2\): 239-47.](#)
2. Barclay, A.N. (1981) The localization of population of lymphocytes defined by monoclonal antibodies in rat lymphoid tissues. [Immunology. 42: 593-600.](#)
3. Milligan, C.E. *et al.* (1991) Differential immunochemical markers reveal the normal distribution of brain macrophages and microglia in the developing rat brain. [J Comp Neurol. 314 \(1\): 125-35.](#)
4. Whiteland, J.L. *et al.* (1995) Immunohistochemical detection of T-cell subsets and other leukocytes in paraffin-embedded rat and mouse tissues with monoclonal antibodies. [J Histochem Cytochem. 43 \(3\): 313-20.](#)
5. 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 \(1-2\): 16-25.](#)
6. Shokouhi, B.N. *et al* (2010) Microglial responses around intrinsic CNS neurons are correlated with axonal regeneration. [BMC Neurosci. 11: 13.](#)
7. Calvo, M. *et al.* (2010) Neuregulin-ErbB signaling promotes microglial proliferation and chemotaxis contributing to microgliosis and pain after peripheral nerve injury. [J Neurosci. 30 \(15\): 5437-50.](#)
8. Jean, Y.H. *et al.* (2009) Capnellene, a natural marine compound derived from soft coral, attenuates chronic constriction injury-induced neuropathic pain in rats [Br J Pharmacol. 158: 713-25.](#)
9. Morales-Garcia, J.A. *et al.* (2011) Phosphodiesterase 7 inhibition preserves dopaminergic neurons in cellular and rodent models of Parkinson disease. [PLoS One. 6\(2\):e17240.](#)
10. Spencer-Segal, J.L. *et al.* (2011) Distribution of Phosphorylated TrkB Receptor in the Mouse Hippocampal Formation Depends on Sex and Estrous Cycle Stage. [J Neurosci. 31: 6780-90.](#)
11. Chew, S.S. *et al.* (2011) Response of retinal Connexin43 to optic nerve injury. [Invest Ophthalmol Vis Sci. 52: 3620-9.](#)
12. Huh, S.H. *et al* (2011) Ethyl pyruvate rescues nigrostriatal dopaminergic neurons by regulating glial activation in a mouse model of Parkinson's disease. [J Immunol. 187: 960-9.](#)
13. Jeong, H.K. *et al.* (2010) Inflammatory responses are not sufficient to cause delayed neuronal death in ATP-induced acute brain injury. [PLoS One. 5: e13756.](#)
14. Liew, H.K. *et al.* (2012) Systemic administration of urocortin after intracerebral hemorrhage reduces neurological deficits and neuroinflammation in rats. [J Neuroinflammation. 9: 13.](#)
15. Szymdynger-Chodobska, J. *et al.* (2011) Multiple sites of vasopressin synthesis in the injured brain. [J Cereb Blood Flow Metab. 31: 47-51.](#)
16. Tchoukalova, Y.D. *et al.* (2012) *In vivo* adipogenesis in rats measured by cell kinetics in adipocytes and plastic-adherent stroma-vascular cells in response to high-fat diet and thiazolidinedione. [Diabetes. 61: 137-44.](#)
17. Xu, Q. *et al.* (2011) Spinal phosphoinositide 3-kinase-Akt-mammalian target of rapamycin signaling cascades in inflammation-induced hyperalgesia. [J Neurosci. 31: 2113-24.](#)
18. Lovett-Barr, M.R. *et al.* (2012) Repetitive intermittent hypoxia induces respiratory and somatic motor recovery after chronic cervical spinal injury. [J Neurosci. 32 \(11\): 3591-600.](#)
19. Lavis, S. *et al.* (2012) Reactive astrocytes overexpress TSPO and are detected by TSPO

- positron emission tomography imaging. [J Neurosci. 32: 10809-18.](#)
20. Ortega, F.J. *et al.* (2012) Glibenclamide enhances neurogenesis and improves long-term functional recovery after transient focal cerebral ischemia. [J Cereb Blood Flow Metab. 33: 356-64.](#)
21. Zhao, H. *et al.* (2013) Brain 3-Mercaptopyrivate Sulfurtransferase (3MST): Cellular Localization and Downregulation after Acute Stroke. [PLoS One. 8\(6\):e67322.](#)
22. Huang S *et al.* (2015) Expression of Peroxiredoxin 1 After Traumatic Spinal Cord Injury in Rats. [Cell Mol Neurobiol. May 24. \[Epub ahead of print\]](#)
23. Wang, A.Y. *et al.* (2015) Searching for a rat model of chronic tympanic membrane perforation: Healing delayed by mitomycin C/dexamethasone but not paper implantation or iterative myringotomy. [Int J Pediatr Otorhinolaryngol. 79 \(8\): 1240-7.](#)
24. Hernangómez M *et al.* (2016) CD200R1 agonist attenuates glial activation, inflammatory reactions, and hypersensitivity immediately after its intrathecal application in a rat neuropathic pain model. [J Neuroinflammation. 13 \(1\): 43.](#)
25. Signarovitz, A.L. *et al.* (2012) Mucosal immunization with live attenuated *Francisella novicida* U112ΔiglB protects against pulmonary *F. tularensis* SCHU S4 in the Fischer 344 rat model. [PLoS One. 7: e47639.](#)
26. Liu, Z. *et al.* (2016) Leukocyte Infiltration Triggers Seizure Recurrence in a Rat Model of Temporal Lobe Epilepsy. [Inflammation. Apr 4. \[Epub ahead of print\].](#)
27. Szymdynger-Chodobska, J. *et al.* (2016) The Involvement of Pial Microvessels in Leukocyte Invasion after Mild Traumatic Brain Injury. [PLoS One. 11 \(12\): e0167677.](#)
28. Ejaz, S. *et al.* (2014) MRI and neuropathological validations of the involvement of air pollutants in cortical selective neuronal loss. [Environ Sci Pollut Res Int. 21 \(5\): 3351-62.](#)
29. Alizadeh, A. *et al.* (2017) Neuregulin-1 positively modulates glial response and improves neurological recovery following traumatic spinal cord injury. [Glia. Apr 29. \[Epub ahead of print\]](#)
30. Popielek-Barczyk, K. *et al.* (2017) Biphalin, a Dimeric Enkephalin, Alleviates LPS-Induced Activation in Rat Primary Microglial Cultures in Opioid Receptor-Dependent and Receptor-Independent Manners. [Neural Plasticity. 2017: 1-19.](#)
31. Huang RY *et al.* (2017) Rapid and Delayed Effects of Pulsed Radiofrequency on Neuropathic Pain: Electrophysiological, Molecular, and Behavioral Evidence Supporting Long-Term Depression. [Pain Physician. 20 \(2\): E269-E283.](#)
32. Bourke, G. *et al.* (2017) Effects of early nerve repair on experimental brachial plexus injury in neonatal rats. [J Hand Surg \(Eur Vol\). 1753193417732696 \[Epub ahead of print\].](#)
33. Wang, Z.C. *et al.* (2017) Involvement of NF-κB and the CX3CR1 Signaling Network in Mechanical Allodynia Induced by Tetanic Sciatic Stimulation. [Neurosci Bull. Jun 13 \[Epub ahead of print\].](#)

Storage

Store at +4°C or at -20°C if preferred.
Storage in frost-free freezers is not recommended.
This product should be stored undiluted. 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

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Health And Safety Information	Material Safety Datasheet documentation #10041 available at: 10041: https://www.bio-rad-antibodies.com/uploads/MSDS/10041.pdf
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Regulatory	For research purposes only
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Related Products

Recommended Negative Controls

[MOUSE IgG2a NEGATIVE CONTROL:Alexa Fluor® 647 \(MCA1210A647\)](#)

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
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