

Datasheet: MCA711PE

Description:	RAT ANTI MOUSE CD11b:RPE
Specificity:	CD11b
Other names:	INTEGRIN ALPHA M CHAIN, MAC-1
Format:	RPE
Product Type:	Monoclonal Antibody
Clone:	5C6
Isotype:	IgG2b
Quantity:	100 TESTS

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	■			1/10

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 controls.

Target Species	Mouse		
Species Cross Reactivity	Reacts with: Human N.B. Antibody reactivity and working conditions may vary between species.		
Product Form	Purified IgG conjugated to R. Phycoerythrin (RPE) - lyophilized		
Reconstitution	Reconstitute with 1 ml distilled water		
Max Ex/Em	Fluorophore	Excitation Max (nm)	Emission Max (nm)
	RPE 488nm laser	496	578
Preparation	Purified IgG prepared by ion exchange chromatography		
Buffer Solution	Phosphate buffered saline		
Preservative Stabilisers	0.09% Sodium Azide		
	1%	Bovine Serum Albumin	
	5%	Sucrose	
Immunogen	Thioglycollate-elicited peritoneal macrophages (TPM)		

**External Database
Links**

UniProt:

[P05555](#)

[Related reagents](#)

Entrez Gene:

[16409](#)

Itgam

[Related reagents](#)

Fusion Partners

Spleen cells from AO rats were fused with cells of the Y3 rat myeloma cell line

Specificity

Rat anti Mouse CD11b antibody, clone 5C6 recognizes CD11b, also known as the integrin alpha M chain. CD11b is implicated in various adhesive interactions of monocytes, macrophages and granulocytes as well as in mediating the uptake of complement-coated particles.

Rat anti Mouse CD11b antibody, clone 5C6 immunoprecipitates a heterodimer of ~165 and ~95 kDa. This clone also exhibits various functional properties, reportedly inhibiting adhesion *in vitro* and inflammatory recruitment *in vivo*. Rat anti Mouse CD11b antibody, clone 5C6 also inhibits delayed hypersensitivity, potentiates bacterial infections and inhibits type 1 diabetes.

Flow Cytometry

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

The Fc region of monoclonal antibodies may bind non-specifically to cells expressing low affinity Fc receptors. This may be reduced by using SeroBlock FcR ([BUF041A/B](#)).

References

1. Rosen, H. and Gordon, S. (1987) Monoclonal antibody to the murine type 3 complement receptor inhibits adhesion of myelomonocytic cells in vitro and inflammatory cell recruitment in vivo. [J Exp Med. 166: 1685-701.](#)
2. Rosen, H. *et al.* (1989) Antibody to the murine type 3 complement receptor inhibits T lymphocyte-dependent recruitment of myelomonocytic cells *in vivo*. [J Exp Med. 169: 535-48.](#)
3. Devey, L. *et al.* (2008) Tissue-resident Macrophages protect the Liver From Ischemia Reperfusion Injury via a Heme Oxygenase-1-Dependent mechanism. [Mol Ther. 1: 65-72.](#)
4. Khoroshii, R. *et al.* (2008) NF-kappaB-driven STAT2 and CCL2 expression in astrocytes in response to brain injury. [J Immunol. 181: 7284-91.](#)
5. Hickman, S.E. *et al.* (2008) Microglial dysfunction and defective beta-amyloid clearance pathways in aging Alzheimer's disease mice. [J Neurosci. 28 \(33\): 8354-60.](#)
6. Tysseling, V.M. *et al.* (2011) SDF1 in the dorsal corticospinal tract promotes CXCR4+ cell migration after spinal cord injury. [J Neuroinflammation. 8:16.](#)
7. Wu, T. *et al.* (2011) Expression and cellular localization of cyclooxygenases and prostaglandin E synthases in the hemorrhagic brain. [J Neuroinflammation. 8:22.](#)
8. Basso, A.S. *et al.* (2008) Reversal of axonal loss and disability in a mouse model of progressive multiple sclerosis. [J Clin Invest. 118: 1532-43.](#)
9. Clausen, B.H. *et al.* (2008) Interleukin-1beta and tumor necrosis factor-alpha are expressed by different subsets of microglia and macrophages after ischemic stroke in mice. [J Neuroinflammation. 5: 46.](#)
10. Terwel, D. *et al.* (2011) Critical Role of Astroglial Apolipoprotein E and Liver X Receptor-{alpha} Expression for Microglial A{beta} Phagocytosis. [J Neurosci. 31: 7049-59.](#)
11. McDonald, J.U. *et al.* (2011) *In vivo* functional analysis and genetic modification of *in vitro*-derived mouse neutrophils. [FASEB J. 25: 1972-82.](#)
12. Heydenreich, N. *et al.* (2012) C1-inhibitor protects from brain ischemia-reperfusion injury by combined antiinflammatory and antithrombotic mechanisms. [Stroke. 43 \(9\): 2457-67.](#)
13. Sato, A. *et al.* (2012) Interleukin-1 participates in the classical and alternative activation of microglia/macrophages after spinal cord injury. [J Neuroinflammation. 9: 65.](#)
14. Carenini, S. *et al.* (2001) The role of macrophages in demyelinating peripheral nervous system of mice heterozygously deficient in p0. [J Cell Biol. 152: 301-8.](#)

15. Lu, J. *et al.* (2010) Ursolic acid attenuates D-galactose-induced inflammatory response in mouse prefrontal cortex through inhibiting AGEs/RAGE/NF- κ B pathway activation. [Cereb Cortex. 20: 2540-8.](#)
16. Halle, A. *et al.* (2008) The NALP3 inflammasome is involved in the innate immune response to amyloid-beta. [Nat Immunol. 9: 857-65.](#)
17. Traka, J.M. *et al.* (2010) A genetic mouse model of adult-onset, pervasive central nervous system demyelination with robust remyelination. [Brain. 133: 3017-29.](#)
18. Yamanaka M *et al.* (2012) PPAR γ /RXR α -induced and CD36-mediated microglial amyloid- β phagocytosis results in cognitive improvement in amyloid precursor protein/presenilin 1 mice. [J Neurosci. 32 \(48\): 17321-31.](#)
19. Babcock, A.A. *et al.* (2015) Cytokine-producing microglia have an altered beta-amyloid load in aged APP/PS1 Tg mice. [Brain Behav Immun. 48: 86-101.](#)
20. Bisht K *et al.* (2016) Dark microglia: A new phenotype predominantly associated with pathological states. [Glia. Feb 5. \[Epub ahead of print\]](#)
21. Shinohara M *et al.* (2016) APOE2 eases cognitive decline during aging: clinical and preclinical evaluations. [Ann Neurol. Mar 2. \[Epub ahead of print\]](#)
22. Mencl, S. *et al.* (2014) FTY720 does not protect from traumatic brain injury in mice despite reducing posttraumatic inflammation. [J Neuroimmunol. 274 \(1-2\): 125-31.](#)
23. Liu, Z. *et al.* (2016) Transforming growth factor- β 1 acts via T β R-I on microglia to protect against MPP(+)-induced dopaminergic neuronal loss. [Brain Behav Immun. 51: 131-43.](#)
24. Tachibana, M. *et al.* (2016) Rescuing effects of RXR agonist bexarotene on aging-related synapse loss depend on neuronal LRP1. [Exp Neurol. 277: 1-9.](#)
25. Kami, K. *et al.* (2016) Histone acetylation in microglia contributes to exercise-induced hypoalgesia in neuropathic pain model mice. [J Pain. Feb 1. pii: S1526-5900\(16\)00502-2. \[Epub ahead of print\]](#)
26. Sun, H. *et al.* (2016) Aquaporin-4 mediates communication between astrocyte and microglia: Implications of neuroinflammation in experimental Parkinson's disease. [Neuroscience. 317: 65-75.](#)
27. Ye, M. *et al.* (2016) Neuroprotective effects of bee venom phospholipase A2 in the 3xTg AD mouse model of Alzheimer's disease. [J Neuroinflammation. 13 \(1\): 10.](#)
28. Hristova M *et al.* (2016) Inhibition of Signal Transducer and Activator of Transcription 3 (STAT3) reduces neonatal hypoxic-ischaemic brain damage. [J Neurochem. 136 \(5\): 981-994.](#)
29. Kaindlstorfer, C. *et al.* (2015) Failure of Neuroprotection Despite Microglial Suppression by Delayed-Start Myeloperoxidase Inhibition in a Model of Advanced Multiple System Atrophy: Clinical Implications. [Neurotox Res. 28 \(3\): 185-94.](#)
30. Natrajan, M.S. *et al.* (2015) Retinoid X receptor activation reverses age-related deficiencies in myelin debris phagocytosis and remyelination. [Brain. 138 \(Pt 12\): 3581-97.](#)
31. Zhang, D. & Teng, J. (2016) Nrf2 knockout: The effect on neurological dysfunction and the activation of glial cells of mice after brain injury [Pak. J. Pharm. Sci., Vol.29, No.4\(Suppl\): 1365-9.](#)
32. Cr peaux, G. *et al.* (2017) Non-linear dose-response of aluminium hydroxide adjuvant particles: Selective low dose neurotoxicity. [Toxicology. 375: 48-57.](#)
33. Nagai, J. *et al.* (2016) Inhibition of CRMP2 phosphorylation repairs CNS by regulating neurotrophic and inhibitory responses. [Exp Neurol. 277: 283-95.](#)
34. Garcia-Mesa Y *et al.* (2016) immortalization of primary microglia: a new platform to study HIV regulation in the central nervous system. [J Neurovirol. Nov 21. \[Epub ahead of print\]](#)
35. Rabl R *et al.* (2017) Early start of progressive motor deficits in Line 61 α -synuclein transgenic mice. [BMC Neurosci. 18 \(1\): 22.](#)
36. Mittal, A. *et al.* (2003) CD11b+ cells are the major source of oxidative stress in UV radiation-irradiated skin: possible role in photoaging and photocarcinogenesis. [Photochem Photobiol. 77 \(3\): 259-64.](#)
37. Schuhmann, M.K. *et al.* (2017) Blocking of platelet glycoprotein receptor Ib reduces "thrombo-inflammation" in mice with acute ischemic stroke. [J Neuroinflammation. 14 \(1\): 18.](#)
38. Laurent, C. *et al.* (2017) Hippocampal T cell infiltration promotes neuroinflammation and cognitive decline in a mouse model of tauopathy. [Brain. 140 \(Pt 1\): 184-200.](#)

39. Lu, Y. *et al.* (2016) Annexin A10 is involved in the development and maintenance of neuropathic pain in mice. [Neurosci Lett. 631: 1-6.](#)
40. Thomsen, M.S. *et al.* (2017) Synthesis and deposition of basement membrane proteins by primary brain capillary endothelial cells in a murine model of the blood-brain barrier. [J Neurochem. 140 \(5\): 741-754.](#)
41. Pulido-Salgado, M. *et al.* (2017) Myeloid C/EBP β deficiency reshapes microglial gene expression and is protective in experimental autoimmune encephalomyelitis. [J Neuroinflammation. 14 \(1\): 54.](#)
42. Paizs, M. *et al.* (2017) Axotomy Leads to Reduced Calcium Increase and Earlier Termination of CCL2 Release in Spinal Motoneurons with Upregulated Parvalbumin Followed by Decreased Neighboring Microglial Activation. [CNS Neurol Disord Drug Targets. 16 \(3\): 356-67.](#)

Storage

Store at +4°C.

DO NOT FREEZE

This product should be stored undiluted. This product is photosensitive and should be protected from light. Should this product contain a precipitate we recommend microcentrifugation before use.

Shelf Life

12 months from date of reconstitution.

Health And Safety Information

Material Safety Datasheet documentation #10075 available at:
10075: <https://www.bio-rad-antibodies.com/uploads/MSDS/10075.pdf>

Regulatory

For research purposes only

Related Products

Recommended Useful Reagents

[MOUSE SEROBLOCK FcR \(BUF041A\)](#)

[MOUSE SEROBLOCK FcR \(BUF041B\)](#)

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

'M300616:170106'

Printed on 05 May 2018