

## Datasheet: MCA711G

**BATCH NUMBER 154201**

<b>Description:</b>	RAT ANTI MOUSE CD11b
<b>Specificity:</b>	CD11b
<b>Other names:</b>	INTEGRIN ALPHA M CHAIN, MAC-1
<b>Format:</b>	Purified
<b>Product Type:</b>	Monoclonal Antibody
<b>Clone:</b>	5C6
<b>Isotype:</b>	IgG2b
<b>Quantity:</b>	0.25 mg

## 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](http://www.bio-rad-antibodies.com/protocols).

	Yes	No	Not Determined	Suggested Dilution
Flow Cytometry	▪			1/100
Immunohistology - Frozen	▪			
Immunohistology - Paraffin			▪	
ELISA			▪	
Immunoprecipitation	▪			
Western Blotting			▪	
Immunofluorescence	▪			

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.

<b>Target Species</b>	Mouse
<b>Species Cross Reactivity</b>	<p>Reacts with: Human</p> <p><b>N.B.</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.</p>
<b>Product Form</b>	Purified IgG - liquid

<b>Preparation</b>	Purified IgG prepared by ion exchange chromatography
<b>Buffer Solution</b>	Phosphate buffered saline
<b>Preservative Stabilisers</b>	0.09% Sodium Azide
<b>Carrier Free</b>	Yes
<b>Approx. Protein Concentrations</b>	IgG concentration 1 mg/ml
<b>Immunogen</b>	Thioglycollate-elicited peritoneal macrophages (TPM)
<b>External Database Links</b>	<p><b>UniProt:</b>  <a href="#">P05555</a>    <a href="#">Related reagents</a></p> <p><b>Entrez Gene:</b>  <a href="#">16409</a> Itgam    <a href="#">Related reagents</a></p>
<b>RRID</b>	AB_323167
<b>Fusion Partners</b>	Spleen cells from AO rats were fused with cells of the Y3 rat myeloma cell line
<b>Specificity</b>	<p><b>Rat anti Mouse CD11b antibody, clone 5C6</b> 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.</p> <p>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 <i>in vitro</i> and inflammatory recruitment <i>in vivo</i>. Rat anti Mouse CD11b antibody, clone 5C6 also inhibits delayed hypersensitivity, potentiates bacterial infections and inhibits type 1 diabetes.</p>
<b>Flow Cytometry</b>	Use 10ul of the suggested working dilution to label 10 <sup>6</sup> cells in 100ul.
<b>Histology Positive Control Tissue</b>	Spleen
<b>References</b>	<ol style="list-style-type: none"> <li>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. <a href="#">J Exp Med. 166: 1685-701.</a></li> <li>2. Rosen, H. <i>et al.</i> (1989) Antibody to the murine type 3 complement receptor inhibits T lymphocyte-dependent recruitment of myelomonocytic cells <i>in vivo</i>. <a href="#">J Exp Med. 169: 535-48.</a></li> <li>3. Devey, L. <i>et al.</i> (2008) Tissue-resident Macrophages protect the Liver From Ischemia Reperfusion Injury via a Heme Oxygenase-1-Dependent mechanism. <a href="#">Mol Ther. 1: 65-72.</a></li> </ol>

4. Khorrooshi, 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- $\kappa$ 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, .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 $\gamma$ /RXR $\alpha$ -induced and CD36-mediated microglial amyloid- $\beta$  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- $\beta$ 1 acts via T $\beta$ 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. Crépeaux, 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  $\alpha$ -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 $\beta$  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.](#)

43. Myhre, C.L. *et al.* (2019) Microglia Express Insulin-Like Growth Factor-1 in the Hippocampus of Aged APP<sub>swe</sub>/PS1<sub>ΔE9</sub> Transgenic Mice. [Front Cell Neurosci. 13: 308.](#)

44. Hilla, A.M. *et al.* (2017) Microglia Are Irrelevant for Neuronal Degeneration and Axon Regeneration after Acute Injury. [J Neurosci. 37 \(25\): 6113-24.](#)

45. Ellman, D.G. *et al.* (2020) Conditional Ablation of Myeloid TNF Improves Functional Outcome and Decreases Lesion Size after Spinal Cord Injury in Mice. [Cells. 9 \(11\)Nov 03 \[Epub ahead of print\].](#)

46. Madore, C. *et al.* (2020) Essential omega-3 fatty acids tune microglial phagocytosis of synaptic elements in the mouse developing brain. [Nat Commun. 11 \(1\): 6133.](#)

47. Wi, R. *et al.* (2020) Functional Crosstalk between CB and TRPV1 Receptors Protects Nigrostriatal Dopaminergic Neurons in the MPTP Model of Parkinson's Disease. [J Immunol Res. 2020: 5093493.](#)

48. Poti, F. *et al.* (2020) Impact of S1P Mimetics on Mesenteric Ischemia/Reperfusion Injury. [Pharmaceuticals \(Basel\). 13 \(10\) 298.](#)

49. Yang, P. *et al.* (2020) Suppression of cGMP-Dependent Photoreceptor Cytotoxicity With Mycophenolate Is Neuroprotective in Murine Models of Retinitis Pigmentosa. [Invest Ophthalmol Vis Sci. 61 \(10\): 25.](#)

50. Hauptmann, J. *et al.* (2020) Interleukin-1 promotes autoimmune neuroinflammation by suppressing endothelial heme oxygenase-1 at the blood-brain barrier. [Acta Neuropathol. 140 \(4\): 549-67.](#)

51. Yoshizaki, S. *et al.* (2021) Microglial inflammation after chronic spinal cord injury is enhanced by reactive astrocytes via the fibronectin/ $\beta$ 1 integrin pathway. [J Neuroinflammation. 18 \(1\): 12.](#)

52. Elabi, O. *et al.* (2021) Human  $\alpha$ -synuclein overexpression in a mouse model of Parkinson's disease leads to vascular pathology, blood brain barrier leakage and pericyte activation. [Sci Rep. 11 \(1\): 1120.](#)

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**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.

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**Guarantee**

12 months from date of despatch

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**Health And Safety Information**

Material Safety Datasheet documentation #10040 available at: <https://www.bio-rad-antibodies.com/SDS/MCA711G>  
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**Regulatory**

For research purposes only

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## Related Products

### Recommended Secondary Antibodies

Rabbit Anti Rat IgG (STAR16...)	<a href="#">DyLight®800</a>
Rabbit Anti Rat IgG (STAR17...)	<a href="#">FITC</a>
Goat Anti Rat IgG (STAR73...)	<a href="#">RPE</a>
Rabbit Anti Rat IgG (STAR21...)	<a href="#">HRP</a>
Goat Anti Rat IgG (MOUSE ADSORBED) (STAR71...)	<a href="#">DyLight®550</a> , <a href="#">DyLight®650</a> , <a href="#">DyLight®800</a>
Goat Anti Rat IgG (STAR131...)	<a href="#">Alk. Phos.</a> , <a href="#">Biotin</a>
Goat Anti Rat IgG (STAR72...)	<a href="#">HRP</a>
Goat Anti Rat IgG (STAR69...)	<a href="#">FITC</a>

<b>North &amp; South America</b>	Tel: +1 800 265 7376 Fax: +1 919 878 3751 Email: <a href="mailto:antibody_sales_us@bio-rad.com">antibody_sales_us@bio-rad.com</a>	<b>Worldwide</b>	Tel: +44 (0)1865 852 700 Fax: +44 (0)1865 852 739 Email: <a href="mailto:antibody_sales_uk@bio-rad.com">antibody_sales_uk@bio-rad.com</a>	<b>Europe</b>	Tel: +49 (0) 89 8090 95 21 Fax: +49 (0) 89 8090 95 50 Email: <a href="mailto:antibody_sales_de@bio-rad.com">antibody_sales_de@bio-rad.com</a>
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