

## Datasheet: MCA711SBUV665

**BATCH NUMBER 100006103**

<b>Description:</b>	RAT ANTI MOUSE CD11b:StarBright UltraViolet 665
<b>Specificity:</b>	CD11b
<b>Other names:</b>	INTEGRIN ALPHA M CHAIN, MAC-1
<b>Format:</b>	StarBright UltraViolet 665
<b>Product Type:</b>	Monoclonal Antibody
<b>Clone:</b>	5C6
<b>Isotype:</b>	IgG2b
<b>Quantity:</b>	100 TESTS/0.5ml

### 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	▪			Neat

Where this product 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 product 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. 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 StarBright UltraViolet 665 - liquid

Max Ex/Em	Fluorophore	Excitation Max (nm)	Emission Max (nm)
	StarBright UltraViolet 665	340	684

#### Preparation

Purified IgG prepared by ion exchange chromatography

<b>Buffer Solution</b>	Phosphate buffered saline
<b>Preservative</b>	0.09% Sodium Azide (NaN <sub>3</sub> )
<b>Stabilisers</b>	1% Bovine Serum Albumin 0.1% Pluronic F68 0.1% PEG 3350 0.05% Tween 20
<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>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 5ul of the suggested working dilution to label 10 <sup>6</sup> cells in 100ul. Best practices suggest a 5 minutes centrifugation at 6,000g prior to sample application.
<b>References</b>	<ol style="list-style-type: none"> <li>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>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>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> <li>Khorooshi, R. <i>et al.</i> (2008) NF-kappaB-driven STAT2 and CCL2 expression in astrocytes in response to brain injury. <a href="#">J Immunol. 181: 7284-91.</a></li> <li>Hickman, S.E. <i>et al.</i> (2008) Microglial dysfunction and defective beta-amyloid clearance pathways in aging Alzheimer's disease mice. <a href="#">J Neurosci. 28 (33): 8354-60.</a></li> <li>Tysseling, V.M. <i>et al.</i> (2011) SDF1 in the dorsal corticospinal tract promotes CXCR4+ cell migration after spinal cord injury. <a href="#">J Neuroinflammation. 8:16.</a></li> <li>Wu, T. <i>et al.</i> (2011) Expression and cellular localization of cyclooxygenases and</li> </ol>

- 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. Saura, J. (2007) Microglial cells in astroglial cultures: a cautionary note. [J Neuroinflammation. 4: 26.](#)
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 $\Delta$ E9 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.](#)
53. Bernier, L.P. *et al.* (2019) Nanoscale Surveillance of the Brain by Microglia via cAMP-Regulated Filopodia. [Cell Rep. 27 \(10\): 2895-2908.e4.](#)
54. Brunialti, E. *et al.* (2021) Inhibition of microglial GBA hampers the microglia-mediated anti-oxidant and protective response in neurons. [bioRxiv 2021.01.20.427380 \[Preprint\]](#)
55. Hou, L. *et al.* (2018) Taurine protects noradrenergic locus coeruleus neurons in a mouse Parkinson's disease model by inhibiting microglial M1 polarization. [Amino Acids. 50 \(5\): 547-556.](#)
56. Cope, E.C. *et al.* (2018) Microglia Play an Active Role in Obesity-Associated Cognitive Decline. [J Neurosci. 38 \(41\): 8889-904.](#)
57. Mouton-Liger, F. *et al.* (2018) Parkin deficiency modulates NLRP3 inflammasome activation by attenuating an A20-dependent negative feedback loop. [Glia. 66 \(8\): 1736-51.](#)
58. Di Benedetto, G. *et al.* (2019) Beneficial effects of curtailing immune susceptibility in an Alzheimer's disease model. [J Neuroinflammation. 16 \(1\): 166.](#)
59. Gomez-Nicola, D. *et al.* (2019) Measuring Microglial Turnover in the Adult Brain. [Methods Mol Biol. 2034: 207-15.](#)
60. Zheng, J. *et al.* (2018) Evaluation of metastatic niches in distant organs after surgical removal of tumor-bearing lymph nodes. [BMC Cancer. 18 \(1\): 608.](#)
61. Soto, M. *et al.* (2018) Gut microbiota modulate neurobehavior through changes in brain insulin sensitivity and metabolism. [Mol Psychiatry. 23 \(12\): 2287-2301.](#)
62. Song, S. *et al.* (2019) Noradrenergic dysfunction accelerates LPS-elicited inflammation-related ascending sequential neurodegeneration and deficits in non-motor/motor functions. [Brain Behav Immun. 81: 374-87.](#)
63. Da Ros, F. *et al.* (2017) Targeting Interleukin-1 $\beta$  Protects from Aortic Aneurysms Induced by Disrupted Transforming Growth Factor  $\beta$  Signaling. [Immunity. 47 \(5\): 959-973.e9.](#)
64. Tunesi, M. *et al.* (2019) Hydrogel-based delivery of Tat-fused protein Hsp70 protects dopaminergic cells in vitro and in a mouse model of Parkinson's disease [NPG Asia Materials. 11: 28.](#)

65. Mañucat-Tan, N. *et al.* (2021) Hypochlorite-induced aggregation of fibrinogen underlies a novel antioxidant role in blood plasma. [Redox Biol. 40: 101847.](#)
66. Brunialti, E. *et al.* (2021) Inhibition of microglial  $\beta$ -glucocerebrosidase hampers the microglia-mediated antioxidant and protective response in neurons. [J Neuroinflammation. 18 \(1\): 220.](#)
67. Liu, Z. *et al.* (2019) IL-17A exacerbates neuroinflammation and neurodegeneration by activating microglia in rodent models of Parkinson's disease. [Brain Behav Immun. 81: 630-45.](#)
68. Roberts, J.M. *et al.* (2018) Bilateral carotid artery stenosis causes unexpected early changes in brain extracellular matrix and blood-brain barrier integrity in mice. [PLoS One. 13 \(4\): e0195765.](#)
69. Ji, N. *et al.* (2022) VSIG4 Attenuates NLRP3 and Ameliorates Neuroinflammation via JAK2-STAT3-A20 Pathway after Intracerebral Hemorrhage in Mice. [Neurotox Res. 40 \(1\): 78-88.](#)
70. Spitzel, M. *et al.* (2022) Dysregulation of Immune Response Mediators and Pain-Related Ion Channels Is Associated with Pain-like Behavior in the GLA KO Mouse Model of Fabry Disease. [Cells. 11 \(11\): 1730.](#)

<b>Storage</b>	Store at +4°C. DO NOT FREEZE. This product should be stored undiluted.
<b>Guarantee</b>	12 months from date of despatch
<b>Acknowledgements</b>	This product is covered by U.S. Patent No. 10,150,841 and related U.S. and foreign counterparts
<b>Health And Safety Information</b>	Material Safety Datasheet documentation #20471 available at: <a href="https://www.bio-rad-antibodies.com/SDS/MCA711SBUV665">https://www.bio-rad-antibodies.com/SDS/MCA711SBUV665</a> 20471
<b>Regulatory</b>	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](mailto: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](mailto: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](mailto:antibody_sales_de@bio-rad.com)

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)

'M393371:211221'

Printed on 01 Jun 2023