

Datasheet: MCA74SBUV540

Description:	RAT ANTI MOUSE CD11b:StarBright UltraViolet 540
Specificity:	CD11b
Other names:	CD11, INTEGRIN ALPHA M CHAIN, MAC-1
Format:	StarBright UltraViolet 540
Product Type:	Monoclonal Antibody
Clone:	M1/70.15
Isotype:	IgG2b
Quantity:	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.

	Yes	No	Not Determined	Suggested Dilution
Flow Cytometry (1)	▪			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.

(1) Staining at lower temperatures generally requires longer incubation to reach antibody binding equilibrium, and this effect is more pronounced for StarBright Dyes due to their larger size. For optimum staining, Bio-Rad recommends incubating samples either overnight at 4°C or 1 hour at room temperature.

Target Species	Mouse		
Species Cross Reactivity	Reacts with: Human, Rabbit 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 540 - liquid		
Max Ex/Em	Fluorophore	Excitation Max (nm)	Emission Max (nm)
	StarBright UltraViolet 540	338	540

Preparation	Purified IgG prepared by affinity chromatography on Protein G from tissue culture supernatant
Buffer Solution	Phosphate buffered saline
Preservative Stabilisers	0.09% Sodium Azide (NaN ₃) 1% Bovine Serum Albumin 0.1% Pluronic F68 0.1% PEG 3350 0.05% Tween 20
Approx. Protein Concentrations	For information on the concentration of our StarBright Dye conjugated reagents please visit our FAQ page.
Immunogen	T cell enriched splenocytes from B10 mice.
External Database Links	UniProt: P05555 Related reagents Entrez Gene: 16409 Itgam Related reagents
Fusion Partners	Spleen cells from immunized DA rats were fused with cells of the NS1/1.Ag4.1 mouse myeloma cell line.
Specificity	Rat anti Mouse CD11b antibody, clone M1/70.15 recognizes the murine CD11b cell surface antigen also known as the alpha M integrin chain or MAC-1, a differentiation antigen expressed by granulocytes, monocytes, NK cells and tissue macrophages. The expression of CD11b increases during monocyte maturation and expression levels vary on tissue macrophages. Peritoneal macrophages are reported to express higher levels of CD11b than splenic macrophages. Rat anti Mouse CD11b antibody, clone M1/70.15 has been reported to block iC3b binding to its receptor (Beller <i>et al.</i> 1982). Rat anti Mouse CD11b antibody, clone M1/70.15 has been reported to as being suitable for use on PLP fixed paraffin embedded tissue but has not been tested for use on formalin fixed tissue (Whiteland <i>et al.</i> 1995). This product is routinely tested in flow cytometry on mouse peritoneal macrophages.
Flow Cytometry	Use 5µl of the suggested working dilution to label 0.5x10 ⁶ cells in 100µl. Best practices suggest a 5 min centrifugation at 6,000g prior to sample application.
References	1. Beller, D.I. <i>et al.</i> (1982) Anti-Mac-1 selectively inhibits the mouse and human type three complement receptor. J Exp Med. 156 (4): 1000-9.

2. 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.](#)
3. Welt, F.G. *et al.* (2000) Neutrophil, not macrophage, infiltration precedes neointimal thickening in balloon-injured arteries. [Arterioscler Thromb Vasc Biol. 20 \(12\): 2553-8.](#)
4. Kapturczak, M.H. *et al.* (2004) Heme oxygenase-1 modulates early inflammatory responses: evidence from the heme oxygenase-1-deficient mouse. [Am J Pathol. 165: 1045-53.](#)
5. Patel, P.C. and Harrison, R.E. (2008) Membrane ruffles capture C3bi-opsonized particles in activated macrophages. [Mol Biol Cell. 19: 4628-39.](#)
6. Huang, Q.Q. *et al.* (2008) Role of H2-calponin in regulating macrophage motility and phagocytosis. [J Biol Chem. 283: 25887-99.](#)
7. Brochard, V. *et al.* (2009) Infiltration of CD4+ lymphocytes into the brain contributes to neurodegeneration in a mouse model of Parkinson disease. [J Clin Invest. 119: 182-92.](#)
8. Hudcovic, T. *et al.* (2009) Monocolonization with *Bacteroides ovatus* protects immunodeficient SCID mice from mortality in chronic intestinal inflammation caused by long-lasting dextran sodium sulfate treatment. [Physiol Res. 58: 101-10.](#)
9. Kroner, A. *et al.* (2010) Ectopic T-cell specificity and absence of perforin and granzyme B alleviate neural damage in oligodendrocyte mutant mice. [Am J Pathol. 176: 549-55.](#)
10. Kanu, N. *et al.* (2010) The ATM cofactor ATMIN protects against oxidative stress and accumulation of DNA damage in the aging brain. [J Biol Chem. 285: 38534-42.](#)
11. Terrando, N. *et al.* (2010) The impact of IL-1 modulation on the development of lipopolysaccharide-induced cognitive dysfunction. [Crit Care. 14 \(3\): R88.](#)
12. Ferger, A.I. *et al.* (2010) Effects of mitochondrial dysfunction on the immunological properties of microglia. [J Neuroinflammation. 7: 45.](#)
13. Gales, A. *et al.* (2010) PPARgamma controls dectin-1 expression required for host antifungal defense against *Candida albicans*. [PLoS Pathog. 6 : e1000714.](#)
14. Ghasemlou, N. *et al.* (2010) Mitogen-activated protein kinase-activated protein kinase 2 (MK2) contributes to secondary damage after spinal cord injury. [J Neurosci. 30: 13750-9.](#)
15. Lefevre, L. *et al.* (2010) PPARγ ligands switched high fat diet-induced macrophage M2b polarization toward M2a thereby improving intestinal *Candida* elimination. [PLoS One. 5: e12828.](#)
16. Samanta, J. *et al.* (2010) Noggin protects against ischemic brain injury in rodents. [Stroke. 41: 357-62.](#)
17. Yang, X. *et al.* (2010) The role of the JAK2-STAT3 pathway in pro-inflammatory responses of EMF-stimulated N9 microglial cells. [J Neuroinflammation. 7: 54.](#)
18. Zhang, H. *et al.* (2010) A p38 mitogen-activated protein kinase-dependent mechanism of disinhibition in spinal synaptic transmission induced by tumor necrosis factor-α. [J Neurosci. 30: 12844-55.](#)
19. L'Episcopo, F. *et al.* (2010) Combining nitric oxide release with anti-inflammatory activity preserves nigrostriatal dopaminergic innervation and prevents motor impairment in a 1-methyl-4-phenyl-1,2,3,6-tetrahydropyridine model of Parkinson's disease. [J Neuroinflammation. 7: 83.](#)
20. Lebson, L. *et al.* (2010) Trafficking CD11b-positive blood cells deliver therapeutic genes to the brain of amyloid-depositing transgenic mice. [J Neurosci. 30: 9651-8.](#)
21. Kondo, Y. *et al.* (2011) Macrophages counteract demyelination in a mouse model of

- globoid cell leukodystrophy. [J Neurosci. 31: 3610-24.](#)
22. Geier, H. and Celli, J. (2011) Phagocytic Receptors Dictate Phagosomal Escape and Intracellular Proliferation of *Francisella tularensis*. [Infect Immun. 79: 2204-14.](#)
 23. Redensek, A. *et al.* (2011) Expression and detrimental role of hematopoietic prostaglandin D synthase in spinal cord contusion injury. [Glia. 59: 603-14.](#)
 24. Cunningham, K. *et al.* (2011) Conditional deletion of Ccm2 causes hemorrhage in the adult brain: a mouse model of human cerebral cavernous malformations. [Hum Mol Genet. 20: 3198-206.](#)
 25. Fernández-Suárez, D. (2014) The monoacylglycerol lipase inhibitor JZL184 is neuroprotective and alters glial cell phenotype in the chronic MPTP mouse model [Neurobiol Aging. 35: 2603-16.](#)
 26. Certo, M. *et al.* (2015) Activation of RXR/PPAR γ underlies neuroprotection by bexarotene in ischemic stroke. [Pharmacol Res. 102: 298-307.](#)
 27. Jones, R.S. *et al.* (2015) Inhibition of JAK2 attenuates the increase in inflammatory markers in microglia from APP/PS1 mice. [Neurobiol Aging. 36 \(10\): 2716-24.](#)
 28. Nishikawa, K. *et al.* (2015) Resveratrol increases CD68⁺ Kupffer cells colocalized with adipose differentiation-related protein and ameliorates high-fat-diet-induced fatty liver in mice. [Mol Nutr Food Res. 59 \(6\): 1155-70.](#)
 29. Khan, A.A. *et al.* (2015) Therapeutic Immunization with a Mixture of Herpes Simplex Virus Type 1 Glycoprotein D Derived "Asymptomatic" Human CD8⁺ T-cell Epitopes Decreases Spontaneous Ocular Shedding in Latently Infected HLA Transgenic Rabbits: Association with Low Frequency of Local PD-1+TIM-3+CD8⁺ Exhausted T Cells. [J Virol. pii: JVI.00788-15.](#)
 30. Kim, B.W. *et al.* (2015) α -Asarone attenuates microglia-mediated neuroinflammation by inhibiting NF kappa B activation and mitigates MPTP-induced behavioral deficits in a mouse model of Parkinson's disease. [Neuropharmacology. 97: 46-57.](#)
 31. Bains, M. & Roberts, J.L. (2016) Estrogen protects against dopamine neuron toxicity in primary mesencephalic cultures through an indirect P13K/Akt mediated astrocyte pathway. [Neurosci Lett. 610: 79-85.](#)
 32. Amantea, D. *et al.* (2016) Azithromycin protects mice against ischemic stroke injury by promoting macrophage transition towards M2 phenotype. [Exp Neurol. 275 Pt 1: 116-25.](#)
 33. Macrez, R. *et al.* (2016) Neuroendothelial NMDA receptors as therapeutic targets in experimental autoimmune encephalomyelitis. [Brain. 139 \(Pt 9\): 2406-19.](#)
 34. Chen, Z.Z. *et al.* (2016) Memantine mediates neuroprotection via regulating neurovascular unit in a mouse model of focal cerebral ischemia. [Life Sci. 150: 8-14.](#)
 35. Rich, M.C. *et al.* (2016) Site-targeted complement inhibition by a complement receptor 2-conjugated inhibitor (mTT30) ameliorates post-injury neuropathology in mouse brains. [Neurosci Lett. 617: 188-94.](#)
 36. Werneburg, S. *et al.* (2016) Polysialylation and lipopolysaccharide-induced shedding of E-selectin ligand-1 and neuropilin-2 by microglia and THP-1 macrophages. [Glia. 64 \(8\): 1314-30.](#)
 37. Amantea, D. *et al.* (2016) Neuroprotective Properties of a Macrolide Antibiotic in a Mouse Model of Middle Cerebral Artery Occlusion: Characterization of the Immunomodulatory Effects and Validation of the Efficacy of Intravenous Administration. [Assay Drug Dev Technol. 14 \(5\): 298-307.](#)
 38. McCarthy, R.C. *et al.* (2016) Characterization of a novel adult murine immortalized microglial cell line and its activation by amyloid-beta. [J Neuroinflammation. 13: 21.](#)

39. Jiang, H. *et al.* (2017) Dense Intra-adipose Sympathetic Arborizations Are Essential for Cold-Induced Beiging of Mouse White Adipose Tissue. [Cell Metab. 26 \(4\): 686-692.e3.](#)
40. Zhang, J.C. *et al.* (2017) Prophylactic effects of sulforaphane on depression-like behavior and dendritic changes in mice after inflammation. [J Nutr Biochem. 39: 134-44.](#)
41. Petković, F. *et al.* (2017) Reduced cuprizone-induced cerebellar demyelination in mice with astrocyte-targeted production of IL-6 is associated with chronically activated, but less responsive microglia. [J Neuroimmunol. 310: 97-102.](#)
42. Martiskainen, H. *et al.* (2017) DHCR24 exerts neuroprotection upon inflammation-induced neuronal death. [J Neuroinflammation. 14 \(1\): 215.](#)
43. Olesen, M. N. *et al.* (2018) CD4 T cells react to local increase of α -synuclein in a pathology-associated variant-dependent manner and modify brain microglia in absence of brain pathology [Heliyon. 4 \(1\): e00513.](#)
44. Shin, D. *et al.* (2018) Bee Venom Phospholipase A2 Alleviate House Dust Mite-Induced Atopic Dermatitis-Like Skin Lesions by the CD206 Mannose Receptor. [Toxins \(Basel\). 10 \(4\): 146.](#)
45. Dos-Santos-Pereira, M. *et al.* (2018) Microglial glutamate release evoked by α -synuclein aggregates is prevented by dopamine. [Glia. 66 \(11\): 2353-2365.](#)
46. Price, B.R. *et al.* (2020) Therapeutic Trem2 activation ameliorates amyloid-beta deposition and improves cognition in the 5XFAD model of amyloid deposition. [J Neuroinflammation. 17 \(1\): 238.](#)
47. Lemaitre, D. *et al.* (2020) Collateral Sprouting of Peripheral Sensory Neurons Exhibits a Unique Transcriptomic Profile. [Mol Neurobiol. 57 \(10\): 4232-49.](#)
48. Lim, S.L. *et al.* (2020) Genetic Ablation of Hematopoietic Cell Kinase Accelerates Alzheimer's Disease-Like Neuropathology in Tg2576 Mice. [Mol Neurobiol. 57 \(5\): 2447-60.](#)
49. Paasila, P.J. *et al.* (2021) Ground state depletion microscopy as a tool for studying microglia-synapse interactions. [J Neurosci Res. 99 \(6\): 1515-32.](#)
50. Thiesler, H. *et al.* (2021) Polysialic acid and Siglec-E orchestrate negative feedback regulation of microglia activation. [Cell Mol Life Sci. 78 \(4\): 1637-53.](#)
51. Groh, J. *et al.* (2021) Immune modulation attenuates infantile neuronal ceroid lipofuscinosis in mice before and after disease onset. [Brain Commun. 3 \(2\): fcab047.](#)
52. Badr, M. *et al.* (2022) Expansion of regulatory T cells by CD28 superagonistic antibodies attenuates neurodegeneration in A53T- α -synuclein Parkinson's disease mice. [J Neuroinflammation. 19 \(1\): 319.](#)
53. Machado-Pereira, M. *et al.* (2022) Argonaute-2 protects the neurovascular unit from damage caused by systemic inflammation. [J Neuroinflammation. 19 \(1\): 11.](#)
54. Karikari, A.A. *et al.* (2022) Neurodegeneration by α -synuclein-specific T cells in AAV-A53T- α -synuclein Parkinson's disease mice. [Brain Behav Immun. 101: 194-210.](#)
55. Zhao, Y. *et al.* (2022) Using Extracellular Vesicles Released by GDNF-Transfected Macrophages for Therapy of Parkinson Disease. [Cells. 11 \(12\): 1933.](#)
56. 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.](#)
57. Jang, M. *et al.* (2023) Micrandilactone C, a Nortriterpenoid Isolated from Roots of Schisandra chinensis, Ameliorates Huntington's Disease by Inhibiting Microglial STAT3 Pathways [Cells. 12 \(5\): 786.](#)
58. Tseng, K.Y. *et al.* (2023) Augmenting hematoma-scavenging capacity of innate

immune cells by CDNF reduces brain injury and promotes functional recovery after intracerebral hemorrhage. [Cell Death Dis. 14 \(2\): 128.](#)

59. Wilton, D.K. *et al.* (2023) Microglia and complement mediate early corticostriatal synapse loss and cognitive dysfunction in Huntington's disease. [Nat Med. Oct 09 \[Epub ahead of print\].](#)

60. McFleder, R.L. *et al.* (2023) Brain-to-gut trafficking of alpha-synuclein by CD11c(+) cells in a mouse model of Parkinson's disease. [Nat Commun. 14 \(1\): 7529.](#)

61. Wang, Q. *et al.* (2018) Sarm1/Myd88-5 Regulates Neuronal Intrinsic Immune Response to Traumatic Axonal Injuries. [Cell Rep. 23 \(3\): 716-24.](#)

62. Türk Börü, Ü. *et al.* (2024) Alterations in the spinal cord, trigeminal nerve ganglion, and infraorbital nerve through inducing compression of the dorsal horn region at the upper cervical cord in trigeminal neuralgia. [Brain Res. 1832: 148842.](#)

63. Amantea, D. *et al.* (2022) Ischemic Preconditioning Modulates the Peripheral Innate Immune System to Promote Anti-Inflammatory and Protective Responses in Mice Subjected to Focal Cerebral Ischemia. [Front Immunol. 13: 825834.](#)

64. Simkin, J. *et al.* (2017) Macrophages are necessary for epimorphic regeneration in African spiny mice. [Elife. 6May 16 \[Epub ahead of print\].](#)

65. Wang, X. *et al.* (2020) Acute effects of human protein S administration after traumatic brain injury in mice. [Neural Regen Res. 15 \(11\): 2073-81.](#)

66. Choi, Y. *et al.* (2025) Blood-derived APLP1(+) extracellular vesicles are potential biomarkers for the early diagnosis of brain diseases. [Sci Adv. 11 \(1\): eado6894.](#)

67. Burkhart, A. *et al.* (2024) Activation of glial cells induces proinflammatory properties in brain capillary endothelial cells *in vitro*. [Sci Rep. 14 \(1\): 26580.](#)

68. Wang, M.Q. *et al.* (2025) CIC-3-depedent polarization of microglia protects against cerebral ischemic injury in mice. [Int Immunopharmacol. 155: 114618.](#)

Storage	Store at +4°C. DO NOT FREEZE. This product should be stored undiluted.
Guarantee	12 months from date of despatch
Acknowledgements	This product is covered by U.S. Patent No. 10,150,841 and related U.S. and foreign counterparts
Health And Safety Information	Material Safety Datasheet documentation #20471 available at: https://www.bio-rad-antibodies.com/SDS/MCA74SBUV540
Regulatory	For research purposes only

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Printed on 27 Aug 2026

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