

Datasheet: MCA74PB

BATCH NUMBER 1704

Description:	RAT ANTI MOUSE CD11b:Pacific Blue®
Specificity:	CD11b
Other names:	INTEGRIN ALPHA M CHAIN, MAC-1
Format:	Pacific Blue®
Product Type:	Monoclonal Antibody
Clone:	M1/70.15
Isotype:	IgG2b
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

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, 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 Pacific Blue - liquid

Max Ex/Em	Fluorophore	Excitation Max (nm)	Emission Max (nm)
	Pacific Blue®	410	455

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 1% Bovine Serum Albumin
Approx. Protein Concentrations	IgG concentration 0.05 mg/ml
Immunogen	T cell enriched splenocytes from B10 mice.
External Database Links	<p>UniProt: P05555 Related reagents</p> <p>Entrez Gene: 16409 Itgam Related reagents</p>
Fusion Partners	Spleen cells from immunised DA rats were fused with cells of the NS1/1.Ag4.1 mouse myeloma cell line.
Specificity	<p>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.</p> <p>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.</p> <p>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).</p> <p>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).</p> <p>This product is routinely tested in flow cytometry on mouse peritoneal macrophages.</p>
Flow Cytometry	<p>Use 10ul of the suggested working dilution to label 10^6 cells in 100ul.</p> <p>The Fc region of monoclonal antibodies may bind non-specifically via the Fc region to cells expressing low affinity Fc receptors. Non-specific FcR binding may be reduced by using SeroBlock FcR reagent.</p>
References	<ol style="list-style-type: none"> 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. 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.

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. Terrando, N. *et al.* (2010) The impact of IL-1 modulation on the development of lipopolysaccharide-induced cognitive dysfunction. [Crit Care. 14 \(3\): R88.](#)
5. Redensek, A. *et al.* (2011) Expression and detrimental role of hematopoietic prostaglandin D synthase in spinal cord contusion injury. [Glia. 59: 603-14.](#)
6. 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.](#)
7. Chinnery, H.R. *et al.* (2010) Novel characterization of monocyte-derived cell populations in the meninges and choroid plexus and their rates of replenishment in bone marrow chimeric mice. [J Neuropathol Exp Neurol. 69: 896-909.](#)
8. Ferger, A.I. *et al.* (2010) Effects of mitochondrial dysfunction on the immunological properties of microglia. [J Neuroinflammation. 7: 45.](#)
9. Gales, A. *et al.* (2010) PPARgamma controls dectin-1 expression required for host antifungal defense against *Candida albicans*. [PLoS Pathog. 6 : e1000714.](#)
10. Geier, H. and Celli, J. (2011) Phagocytic Receptors Dictate Phagosomal Escape and Intracellular Proliferation of *Francisella tularensis*. [Infect Immun. 79: 2204-14.](#)
11. 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.](#)
12. Huang, Q.Q. *et al.* (2008) Role of H2-calponin in regulating macrophage motility and phagocytosis. [J Biol Chem. 283: 25887-99.](#)
13. 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.](#)
14. 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.](#)
15. 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.](#)
16. 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.](#)
17. 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.](#)
18. Samanta, J. *et al.* (2010) Noggin protects against ischemic brain injury in rodents. [Stroke. 41: 357-62.](#)
19. 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.](#)
20. Kondo, Y. *et al.* (2011) Macrophages counteract demyelination in a mouse model of globoid cell leukodystrophy. [J Neurosci. 31: 3610-24.](#)
21. Macrez, R. *et al.* (2016) Neuroendothelial NMDA receptors as therapeutic targets in experimental autoimmune encephalomyelitis. [Brain. Jul 19. pii: aww172. \[Epub ahead of print\]](#)
22. 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. Jul 8. \[Epub ahead of print\]](#)
23. 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.](#)
24. Certo, M. *et al.* (2015) Activation of RXR/PPAR γ underlies neuroprotection by bexarotene in ischemic stroke. [Pharmacol Res. 102: 298-307.](#)
25. 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.](#)
26. 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.](#)
27. 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.](#)
28. 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.](#)
29. 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.](#)
30. 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.](#)
31. Ji, J. *et al.* (2015) Iptakalim protects against ischemic injury by improving neurovascular unit function in the mouse brain. [Clin Exp Pharmacol Physiol. 42 \(7\): 766-71.](#)
32. 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.](#)
33. 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.](#)
34. 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.](#)
35. 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.](#)
36. 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.](#)
37. 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.](#)
38. 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 \(4\)Apr 02 \[Epub ahead of print\].](#)
39. 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.](#)
40. Thiesler, H. *et al.* (2020) Polysialic acid and Siglec-E orchestrate negative feedback

regulation of microglia activation. [Cell Mol Life Sci. Jul 28 \[Epub ahead of print\]](#).
41. Lemaitre, D. *et al.* (2020) Collateral Sprouting of Peripheral Sensory Neurons Exhibits a Unique Transcriptomic Profile. [Mol Neurobiol. 57 \(10\): 4232-49.](#)
42. Groh, J. *et al.* (2021) Immune modulation attenuates infantile neuronal ceroid lipofuscinosis in mice before and after disease onset [Brain Communications. fcab047 \[Epub ahead of print\]](#).
43. 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.](#)

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. 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.

Guarantee 12 months from date of despatch

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Health And Safety Information Material Safety Datasheet documentation #10041 available at: <https://www.bio-rad-antibodies.com/SDS/MCA74PB>
10041

Regulatory For research purposes only

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Recommended Useful Reagents

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

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