Datasheet: MCA74BT

Description:	RAT ANTI MOUSE CD11b:Biotin
Specificity:	CD11b
Other names:	INTEGRIN ALPHA M CHAIN, MAC-1
Format:	Biotin
Product Type:	Monoclonal Antibody
Clone:	M1/70.15
Isotype:	IgG2b
Quantity:	25 µg

Product Details

RRID AB_1100608

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 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, Rabbit
N.B. Antibody reactivity and working conditions may vary between species.

Product Form Purified IgG conjugated to Biotin - liquid

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 0.1 mg/ml

Immunogen T cell enriched splenocytes from B10 mice.

External Database
UniProt:

Links

P05555 Related reagents

Entrez Gene:

16409 Itgam Related reagents

Fusion Partners

Spleen cells from immunised 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 *et al.* 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 *et al.* 1995).

This product is routinely tested in flow cytometry on mouse peritoneal macrophages.

References

1. Beller, D.I. *et al.* (1982) Anti-Mac-1 selectively inhibits the mouse and human type three complement receptor. J Exp Med. 156 (4): 1000-9.
2. 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/PPARγ 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].

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.
Guarantee	18 months from date of despatch.
Health And Safety Information	Material Safety Datasheet documentation #10041 available at: 10041: https://www.bio-rad-antibodies.com/uploads/MSDS/10041.pdf
Regulatory	For research purposes only

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