

Datasheet: MCA2235A488

Description:	RAT ANTI MOUSE CD206:Alexa Fluor® 488
Specificity:	CD206
Other names:	MANNOSE RECEPTOR C TYPE 1
Format:	ALEXA FLUOR® 488
Product Type:	Monoclonal Antibody
Clone:	MR5D3
Isotype:	IgG2a
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 (1)	▪			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 their own system using appropriate negative/positive controls.

(1) CD206 is expressed weakly at the cell surface. Staining may be increased following membrane permeabilization. We recommend the use of Leucoperm (Product Code [BUF09](#)) for this purpose.

Target Species	Mouse		
Product Form	Purified IgG conjugated to Alexa Fluor® 488 - liquid		
Max Ex/Em	Fluorophore Alexa Fluor®488	Excitation Max (nm) 495	Emission Max (nm) 519
Preparation	Purified IgG prepared by affinity chromatography on Protein G from tissue culture supernatant		
Buffer Solution	Phosphate buffered saline		
Preservative	0.09% sodium azide (NaN ₃)		
Stabilisers	1% bovine serum albumin		

Approx. Protein Concentrations	IgG concentration 0.05 mg/ml
Immunogen	Chimaeric CRD4-7-Fc protein
External Database Links	UniProt: Q61830 Related reagents Entrez Gene: 17533 Mrc1 Related reagents
RRID	AB_324891
Fusion Partners	Spleen cells from immunized Fischer rats were fused with cells of the Y3 myeloma cell line
Specificity	Rat anti Mouse CD206 antibody, clone MR5D3 recognizes the mouse mannose receptor, a ~175 kDa type 1 membrane glycoprotein that is also known as CD206. CD206 is expressed on most tissue macrophages, certain endothelial cells and <i>in vitro</i> derived dendritic cells (Zamze et al. 2002). The mannose receptor, CD206, is composed of a N-terminal cysteine-rich domain, a fibronectin type II domain, eight tandemly arranged C-type lectin domains (CTLD), a transmembrane domain, and a cytoplasmic domain. The terminal cysteine-rich domain binds sulfated sugars, and the CTLD recognizes carbohydrates terminating in mannose, fucose and N-acetylglucosamine, all sugars found on microorganisms and on some endogenous proteins (Su et al. 2005). Rat anti mouse CD206 antibody, clone MR5D3 has been reported to be non-inhibitory for the binding of the mannose receptor to carbohydrate ligands (Zamze et al. 2002). Clone MR5D3 has also been shown to work in western blotting (Martinez-Pomares et al. 2003 and Su et al. 2005).
Flow Cytometry	Use 10µl of the suggested working dilution to label 10⁶ cells in 100µl. The Fc region of monoclonal antibodies may bind to cells expressing low affinity Fc receptors. This may be reduced by using SeroBlock FcR (BUF041A/BUF041B).
References	1. Martinez-Pomares, L. <i>et al.</i> (2003) Analysis of mannose receptor regulation by IL-4, IL-10, and proteolytic processing using novel monoclonal antibodies. J Leukoc Biol. 73 (5): 604-13. 2. Su, Y. <i>et al.</i> (2005) Glycosylation influences the lectin activities of the macrophage mannose receptor. J Biol Chem. 280: 32811-20. 3. Hassan, M.F. <i>et al.</i> (2006) The <i>Schistosoma mansoni</i> hepatic egg granuloma provides a favorable microenvironment for sustained growth of <i>Leishmania donovani</i>. Am J Pathol. 169: 943-53. 4. Devey, L. <i>et al.</i> (2009) Tissue-resident macrophages protect the liver from ischemia reperfusion injury via a heme oxygenase-1-dependent mechanism. Mol Ther. 17: 65-72.

5. Vetrone, S.A. *et al.* (2009) Osteopontin promotes fibrosis in dystrophic mouse muscle by modulating immune cell subsets and intramuscular TGF-beta. [J Clin Invest. 119: 1583-94.](#)
6. Autenrieth, S.E. & Autenrieth, I.B. (2009) Variable antigen uptake due to different expression of the macrophage mannose receptor by dendritic cells in various inbred mouse strains. [Immunology 127: 523-9.](#)
7. Westcott, D.J. *et al.* (2009) MGL1 promotes adipose tissue inflammation and insulin resistance by regulating 7/4hi monocytes in obesity. [J Exp Med. 206: 3143-56.](#)
8. Nair, M.G. *et al.* (2009) Alternatively activated macrophage-derived RELM- α is a negative regulator of type 2 inflammation in the lung. [J Exp Med. 206: 937-52.](#)
9. Takagi, H. *et al.* (2009) Cooperation of specific ICAM-3 grabbing nonintegrin-related 1 (SIGNR1) and complement receptor type 3 (CR3) in the uptake of oligomannose-coated liposomes by macrophages. [Glycobiology 19: 258-66.](#)
10. Bacci, M. *et al.* (2009) Macrophages are alternatively activated in patients with endometriosis and required for growth and vascularization of lesions in a mouse model of disease. [Am J Pathol. 175: 547-56.](#)
11. Hawkes, C.A. *et al.* (2009) Selective targeting of perivascular macrophages for clearance of beta-amyloid in cerebral amyloid angiopathy. [Proc Natl Acad Sci USA 106: 1261-6.](#)
12. deSchoolmeester, M.L. *et al.* (2009) The mannose receptor binds *Trichuris muris* excretory/secretory proteins but is not essential for protective immunity. [Immunology 126: 246-55.](#)
13. Famulski, K.S. *et al.* (2010) Alternative macrophage activation-associated transcripts in T-cell-mediated rejection of mouse kidney allografts. [Am J Transplant 10 \(3\): 490-7.](#)
14. Hardison, S.E. *et al.* (2010) Pulmonary infection with an interferon-gamma-producing *Cryptococcus neoformans* strain results in classical macrophage activation and protection. [Am J Pathol. 176: 774-85.](#)
15. Lin, J.S. *et al.* (2010) Distinct roles of complement receptor 3, Dectin-1, and sialic acids in murine macrophage interaction with Histoplasma yeast. [J Leukoc Biol. 88: 95-106.](#)
16. Chavele, K.M. *et al.* (2010) Mannose receptor interacts with Fc receptors and is critical for the development of crescentic glomerulonephritis in mice. [J Clin Invest. 120: 1469-78.](#)
17. Hardison, S.E. *et al.* (2010) Interleukin-17 Is Not Required for Classical Macrophage Activation in a Pulmonary Mouse Model of *Cryptococcus neoformans* Infection. [Infect Immun. 78: 5341-51.](#)
18. Asano, J. *et al.* (2010) Nucleotide oligomerization binding domain-like receptor signaling enhances dendritic cell-mediated cross-priming *in vivo*. [J Immunol. 184: 736-45.](#)
19. Dewals, B.G. *et al.* (2010) IL-4 α -independent expression of mannose receptor and Ym1 by macrophages depends on their IL-10 responsiveness. [PLoS Negl Trop Dis. 4 \(5\): e689.](#)
20. Zehner, M. *et al.* (2011) Mannose receptor polyubiquitination regulates endosomal recruitment of p97 and cytosolic antigen translocation for cross-presentation. [Proc Natl Acad Sci USA 108: 9933-8.](#)
21. Geier, H. & Celli, J. (2011) Phagocytic receptors dictate phagosomal escape and intracellular proliferation of *Francisella tularensis*. [Infect Immun. 79 \(6\): 2204-14.](#)
22. Deepe, G.S. Jr. & Buesing, W.R. (2011) Deciphering the Pathways of Death of *Histoplasma capsulatum*-Infected Macrophages: Implications for the Immunopathogenesis

- of Early Infection. [J Immunol. 188: 334-44.](#)
23. Kondo, Y. *et al.* (2011) Macrophages counteract demyelination in a mouse model of globoid cell leukodystrophy. [J Neurosci. 31: 3610-24.](#)
 24. Sindrilaru, A. *et al.* (2011) An unrestrained proinflammatory M1 macrophage population induced by iron impairs wound healing in humans and mice. [J Clin Invest. 121: 985-97.](#)
 25. Schneider, D. *et al.* (2012) Neonatal rhinovirus infection induces mucous metaplasia and airways hyperresponsiveness. [J Immunol. 188 \(6\): 2894-904.](#)
 26. Joyce, K.L. *et al.* (2012) Using eggs from *Schistosoma mansoni* as an *in vivo* model of helminth-induced lung inflammation. [J Vis Exp. Jun 5 \(64\): e3905.](#)
 27. Fridlender, Z.G. *et al.* (2013) Using macrophage activation to augment immunotherapy of established tumours. [Br J Cancer. 108 \(6\): 1288-97.](#)
 28. Eskilsson, A. *et al.* (2014) Distribution of microsomal prostaglandin E synthase-1 in the mouse brain. [J Comp Neurol. 522 \(14\): 3229-44.](#)
 29. Espagnolle, N. *et al.* (2014) Specific Inhibition of the VEGFR-3 Tyrosine Kinase by SAR131675 Reduces Peripheral and Tumor Associated Immunosuppressive Myeloid Cells. [Cancers \(Basel\). 6 \(1\): 472-90.](#)
 30. Sameshima, A. *et al.* (2015) Teneligliptin improves metabolic abnormalities in a mouse model of postmenopausal obesity. [J Endocrinol. 227 \(1\): 25-36.](#)
 31. Manning, C.N. *et al.* (2015) Adipose-derived mesenchymal stromal cells modulate tendon fibroblast responses to macrophage-induced inflammation *in vitro*. [Stem Cell Res Ther. 6: 74.](#)
 32. Verheijden, S. *et al.* (2015) Identification of a chronic non-neurodegenerative microglia activation state in a mouse model of peroxisomal β -oxidation deficiency. [Glia. 63 \(9\): 1606-20.](#)
 33. O'Flaherty, B.M. *et al.* (2015) CD8+ T Cell Response to Gammaherpesvirus Infection Mediates Inflammation and Fibrosis in Interferon Gamma Receptor-Deficient Mice. [PLoS One. 10 \(8\): e0135719.](#)
 34. Øie, C.I. *et al.* (2016) FITC Conjugation Markedly Enhances Hepatic Clearance of N-Formyl Peptides. [PLoS One. 11 \(8\): e0160602.](#)
 35. Litvack ML *et al.* (2016) Alveolar-like Stem Cell-derived Myb(-) Macrophages Promote Recovery and Survival in Airway Disease. [Am J Respir Crit Care Med. 193 \(11\): 1219-29.](#)
 36. Eßlinger M *et al.* (2016) Schizophrenia associated sensory gating deficits develop after adolescent microglia activation. [Brain Behav Immun. 58: 99-106.](#)
 37. Hosono, K. *et al.* (2016) Signaling of Prostaglandin E Receptors, EP3 and EP4 Facilitates Wound Healing and Lymphangiogenesis with Enhanced Recruitment of M2 Macrophages in Mice. [PLoS One. 11 \(10\): e0162532.](#)
 38. Rahman, K. *et al.* (2017) Inflammatory Ly6Chi monocytes and their conversion to M2 macrophages drive atherosclerosis regression. [J Clin Invest. 127 \(8\): 2904-2915.](#)
 39. Brodaczewska, K. *et al.* (2017) Biodegradable Chitosan Decreases the Immune Response to *Trichinella spiralis* in Mice. [Molecules. 22\(11\):2008.](#)
 40. Braune, J. *et al.* (2017) IL-6 Regulates M2 Polarization and Local Proliferation of Adipose Tissue Macrophages in Obesity. [J Immunol. 198 \(7\): 2927-34.](#)
 41. Bongiorno, E.K. *et al.* (2017) Type 1 Immune Mechanisms Driven by the Response to Infection with Attenuated Rabies Virus Result in Changes in the Immune Bias of the Tumor Microenvironment and Necrosis of Mouse GL261 Brain Tumors. [J Immunol. 198 \(11\): 4513-23.](#)

42. Orsini, F. *et al.* (2018) Mannose-Binding Lectin Drives Platelet Inflammatory Phenotype and Vascular Damage After Cerebral Ischemia in Mice via IL (Interleukin)-1 α . [Arterioscler Thromb Vasc Biol. 38 \(11\): 2678-90.](#)
43. He, S. *et al.* (2018) Endothelial extracellular vesicles modulate the macrophage phenotype: Potential implications in atherosclerosis. [Scand J Immunol. 87 \(4\): e12648.](#)
44. Micanovic, R. *et al.* (2018) Tamm-Horsfall Protein Regulates Mononuclear Phagocytes in the Kidney. [J Am Soc Nephrol. 29 \(3\): 841-856.](#)
45. Igarashi, Y. *et al.* (2018) Partial depletion of CD206-positive M2-like macrophages induces proliferation of beige progenitors and enhances browning after cold stimulation. [Sci Rep. 8 \(1\): 14567.](#)
46. Han, Y.H. *et al.* (2019) A maresin 1/ROR α /12-lipoxygenase autoregulatory circuit prevents inflammation and progression of nonalcoholic steatohepatitis. [J Clin Invest. 130. pii: 124219](#)
47. Cao, W. *et al.* (2019) Hoxa5 alleviates obesity-induced chronic inflammation by reducing ER stress and promoting M2 macrophage polarization in mouse adipose tissue. [J Cell Mol Med. 23 \(10\): 7029-42.](#)
48. Sui, A. *et al.* (2020) Inhibiting NF- κ B Signaling Activation Reduces Retinal Neovascularization by Promoting a Polarization Shift in Macrophages. [Invest Ophthalmol Vis Sci. 61 \(6\): 4.](#)
49. Welc, S.S. *et al.* (2020) Modulation of Klotho expression in injured muscle perturbs Wnt signalling and influences the rate of muscle growth. [Exp Physiol. 105 \(1\): 132-47.](#)
50. Qiao, X. *et al.* (2020) Magnesium-doped Nanostructured Titanium Surface Modulates Macrophage-mediated Inflammatory Response for Ameliorative Osseointegration. [Int J Nanomedicine. 15: 7185-98.](#)
51. Fan, A. *et al.* (2020) High-salt diet decreases mechanical thresholds in mice that is mediated by a CCR2-dependent mechanism. [J Neuroinflammation. 17 \(1\): 179.](#)
52. Shiao, D.J. *et al.* (2020) Hepatocellular carcinoma-derived high mobility group box 1 triggers M2 macrophage polarization via a TLR2/NOX2/autophagy axis. [Sci Rep. 10 \(1\): 13582.](#)
53. Kishimoto, S. *et al.* (2020) Surgical Injury and Ischemia Prime the Adipose Stromal Vascular Fraction and Increase Angiogenic Capacity in a Mouse Limb Ischemia Model. [Stem Cells Int. 2020: 7219149.](#)
54. Kalovyrna, N. *et al.* (2020) A 3'UTR modification of the TNF- α mouse gene increases peripheral TNF- α and modulates the Alzheimer-like phenotype in 5XFAD mice. [Sci Rep. 10 \(1\): 8670.](#)
55. Lei, Y. *et al.* (2021) miR-129-5p Ameliorates Ischemic Brain Injury by Binding to SIAH1 and Activating the mTOR Signaling Pathway. [J Mol Neurosci. 71 \(9\): 1761-71.](#)
56. Ackermann, J. *et al.* (2021) Myeloid Cell-Specific IL-4 Receptor Knockout Partially Protects from Adipose Tissue Inflammation. [J Immunol. Nov 17;ji2100699.](#)
57. Flores, I. *et al.* (2021) Myeloid cell-mediated targeting of LIF to dystrophic muscle causes transient increases in muscle fiber lesions by disrupting the recruitment and dispersion of macrophages in muscle. [Hum Mol Genet. ddab230.](#)
58. Lindhorst, A. *et al.* (2021) Adipocyte death triggers a pro-inflammatory response and induces metabolic activation of resident macrophages. [Cell Death Dis. 12 \(6\): 579.](#)
59. Catrysse, L. *et al.* (2021) A20 deficiency in myeloid cells protects mice from diet-induced obesity and insulin resistance due to increased fatty acid metabolism. [Cell Rep. 36 \(12\): 109748.](#)

60. Zhang, H. *et al.* (2021) Circulating Pro-Inflammatory Exosomes Worsen Stroke Outcomes in Aging. [Circ Res. 129 \(7\): e121-e140.](#)
61. Yao, Y. *et al.* (2022) Antinociceptive and anti-inflammatory activities of ethanol-soluble acidic component from *Ganoderma atrum* by suppressing mannose receptor [Journal of Functional Foods. 89: 104915.](#)
62. Njock, M-S. (2022) Endothelial extracellular vesicles promote tumour growth by tumour-associated macrophage reprogramming. [J Extracell Vesicles. 2022 Jun;11\(6\):e12228.](#)
63. Balza, E. *et al.* (2022) Therapeutic efficacy of proton transport inhibitors alone or in combination with cisplatin in triple negative and hormone sensitive breast cancer models. [Cancer Med. 11 \(1\): 183-93.](#)
64. Yao, Y. *et al.* (2022) Antinociceptive and anti-inflammatory activities of ethanol-soluble acidic component from *Ganoderma atrum*. by suppressing mannose receptor. [J Funct Foods.89: 104915.](#)
65. Császár, E. *et al.* (2022) Microglia modulate blood flow, neurovascular coupling, and hypoperfusion via purinergic actions. [J Exp Med. 219 \(3\): e20211071.](#)
66. Klein, D. *et al.* (2022) Early targeting of endoneurial macrophages alleviates the neuropathy and affects abnormal Schwann cell differentiation in a mouse model of Charcot-Marie-Tooth 1A. [Glia. 70 \(6\): 1100-16.](#)
67. Han, I. *et al.* (2022) Therapeutic Effect of Melittin–dKLA Targeting Tumor-Associated Macrophages in Melanoma [International Journal of Molecular Sciences. 23 \(6\): 3094.](#)
68. Louet, E.R. *et al.* (2022) tPA-NMDAR Signaling Blockade Reduces the Incidence of Intracerebral Aneurysms. [Transl Stroke Res. 13 \(6\): 1005-16.](#)
69. Vlachou, F. *et al.* (2022) Galectin-3 interferes with tissue repair and promotes cardiac dysfunction and comorbidities in a genetic heart failure model. [Cell Mol Life Sci. 79 \(5\): 250.](#)
70. Bardin, M. *et al.* (2022) The resolvin D2 - GPR18 axis is expressed in human coronary atherosclerosis and transduces atheroprotection in apolipoprotein E deficient mice. [Biochem Pharmacol. : 115075.](#)
71. 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.](#)
72. Tsuneki, H. *et al.* (2022) Hypothalamic orexin prevents non-alcoholic steatohepatitis and hepatocellular carcinoma in obesity. [Cell Rep. 41 \(3\): 111497.](#)
73. Wang, Y. *et al.* (2022) Myeloid cell-specific mutation of Spi1 selectively reduces M2-biased macrophage numbers in skeletal muscle, reduces age-related muscle fibrosis and prevents sarcopenia. [Aging Cell. 21 \(10\): e13690.](#)
74. Femel, J. *et al.* (2022) Vaccination against galectin-1 promotes cytotoxic T-cell infiltration in melanoma and reduces tumor burden. [Cancer Immunol Immunother. 71 \(8\): 2029-40.](#)
75. Chen, Z. *et al.* (2023) Vascularized polypeptide hydrogel modulates macrophage polarization for wound healing. [Acta Biomater. 155: 218-34.](#)
76. San Emeterio, C.L. *et al.* (2017) Selective recruitment of non-classical monocytes promotes skeletal muscle repair. [Biomaterials. 117: 32-43.](#)
77. Lee, K.E. *et al.* (2018) Hif1 α Deletion Limits Tissue Regeneration via Aberrant B Cell Accumulation in Experimental Pancreatitis. [Cell Rep. 23 \(12\): 3457-64.](#)
78. Weimershaus, M. *et al.* (2020) IRAP Endosomes Control Phagosomal Maturation in

Dendritic Cells. [Front Cell Dev Biol. 8: 585713.](#)

79. Hagert, C. *et al.* (2018) The Macrophage Mannose Receptor Regulate Mannan-Induced Psoriasis, Psoriatic Arthritis, and Rheumatoid Arthritis-Like Disease Models. [Front Immunol. 9: 114.](#)

80. Ono, Y. *et al.* (2018) CD11c+ M1-like macrophages (Mø_s) but not CD206+ M2-like Mø are involved in folliculogenesis in mice ovary. [Sci Rep. 8 \(1\): 8171.](#)

81. Aikawa, S. *et al.* (2020) Uterine deficiency of high-mobility group box-1 (HMGB1) protein causes implantation defects and adverse pregnancy outcomes. [Cell Death Differ. 27 \(5\): 1489-504.](#)

82. Rouanet, M. *et al.* (2022) The antitumoral activity of TLR7 ligands is corrupted by the microenvironment of pancreatic tumors. [Mol Ther. 30 \(4\): 1553-63.](#)

83. Klawonn, A.M. *et al.* (2021) Microglial activation elicits a negative affective state through prostaglandin-mediated modulation of striatal neurons. [Immunity. 54 \(2\): 225-234.e6.](#)

84. Ni, Y. *et al.* (2022) CX3CL1/CX3CR1 interaction protects against lipotoxicity-induced nonalcoholic steatohepatitis by regulating macrophage migration and M1/M2 status. [Metabolism. 136: 155272.](#)

85. Colón, D.F. *et al.* (2024) Paediatric sepsis survivors are resistant to sepsis-induced long-term immune dysfunction. [Br J Pharmacol. 181 \(8\): 1308-23.](#)

86. De Vito, A. *et al.* (2020) Overexpression of Murine Rnaset2 in a Colon Syngeneic Mouse Carcinoma Model Leads to Rebalance of Intra-Tumor M1/M2 Macrophage Ratio, Activation of T Cells, Delayed Tumor Growth, and Rejection. [Cancers \(Basel\). 12 \(3\): 717.](#)

87. Ba, H. *et al.* (2021) Suppression of Transmembrane Tumor Necrosis Factor Alpha Processing by a Specific Antibody Protects Against Colitis-Associated Cancer. [Front Immunol. 12: 687874.](#)

88. Meng, X. *et al.* (2024) Inhibition of ANGPTL8 protects against diabetes-associated cognitive dysfunction by reducing synaptic loss via the PirB signaling pathway. [J Neuroinflammation. 21 \(1\): 192.](#)

89. Uekawa, K. *et al.* (2023) Border-associated macrophages promote cerebral amyloid angiopathy and cognitive impairment through vascular oxidative stress. [Mol Neurodegener. 18 \(1\): 73.](#)

90. Saraswati, S. *et al.* (2024) Renal fibroblasts are involved in fibrogenic changes in kidney fibrosis associated with dysfunctional telomeres. [Exp Mol Med. Oct 01 \[Epub ahead of print\].](#)

91. Weinstock, A. *et al.* (2021) Wnt signaling enhances macrophage responses to IL-4 and promotes resolution of atherosclerosis. [Elife. 10:e67932.](#)

Storage	This product is shipped at ambient temperature. It is recommended to aliquot and store at -20°C on receipt. When thawed, aliquot the sample as needed. Keep aliquots at 2-8°C for short term use (up to 4 weeks) and store the remaining aliquots at -20°C. Avoid repeated freezing and thawing as this may denature the antibody. Storage in frost-free freezers is not recommended. This product is photosensitive and should be protected from light.
Guarantee	12 months from date of despatch
Acknowledgements	This product is provided under an intellectual property licence from Life Technologies

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Regulatory	For research purposes only
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Printed on 28 May 2025