

Datasheet: MCA2392A488

Description:	RAT ANTI MOUSE CD301:Alexa Fluor® 488
Specificity:	CD301
Other names:	MACROPHAGE GALACTOSE SPECIFIC LECTIN
Format:	ALEXA FLUOR® 488
Product Type:	Monoclonal Antibody
Clone:	ER-MP23
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	▪			Neat - 1/5

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		
Product Form	Purified IgG conjugated to Alexa Fluor®488- liquid		
Max Ex/Em	Fluorophore	Excitation Max (nm)	Emission Max (nm)
	Alexa Fluor®488	495	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		
Stabilisers	1% Bovine Serum Albumin		
Approx. Protein Concentrations	IgG concentration 0.05 mg/ml		

Immunogen	Balb/c macrophage precursor cell hybrids.
RRID	AB_872011
Fusion Partners	Cells from immunised rats were fused with cells of the rat Y3-Ag1.2.3 myeloma cell line.
Specificity	<p>Rat anti Mouse CD301 antibody, clone ER-MP23 recognizes murine CD301, a ~38 kDa cell surface protein, otherwise known as macrophage galactose N-acetylgalactosamine lectin (MGL) or dendritic cell asialoglycoprotein (DC-ASGPR).</p> <p>In mice, CD301 is predominantly expressed on mature macrophages found associated with a wide range of connective tissues including macrophages in the dermis and the pancreas. Clone ER-MP23 also detects a population of dendritic cells in lymphoid tissue, which are probably recent immigrants from peripheral connective tissue sites. Expression of CD301 is induced by alternative (i.e. IL-4/IL-13 mediated) activation of macrophages and dendritic cells, but not all CD301 positive cells are necessarily IL-4/IL-13 stimulated.</p> <p>Rat anti Mouse CD301 antibody, clone ER-MP23 is reported to block the function of mouse CD301 (Dupasquier <i>et al.</i> 2006). Rat anti Mouse CD301 antibody, clone ER-MP23 binds both MGL1 and MGL2 homologues.</p>
Flow Cytometry	Use 10ul of the suggested working dilution to label 10 ⁶ cells in 100ul.
References	<ol style="list-style-type: none"> 1. Leenen, P.J <i>et al.</i> (1994) Markers of mouse macrophage development detected by monoclonal antibodies. J Immunol Methods. 174 (1-2): 5-19. 2. Geutskens, S.B. <i>et al.</i> (2005) Macrophages in the murine pancreas and their involvement in fetal endocrine development <i>in vitro</i>. J Leukoc Biol. 78 (4): 845-52. 3. Abadie, V. <i>et al.</i> (2005) Neutrophils rapidly migrate via lymphatics after <i>Mycobacterium bovis</i> BCG intradermal vaccination and shuttle live bacilli to the draining lymph nodes. Blood. 106: 1843-50. 4. Dupasquier, M. <i>et al.</i> (2004) Macrophages and dendritic cells constitute a major subpopulation of cells in the mouse dermis. J Invest Dermatol. 123: 876-9. 5. Sindrilaru, A. <i>et al.</i> (2011) An unrestrained proinflammatory M1 macrophage population induced by iron impairs wound healing in humans and mice. J Clin Invest. 121: 985-97. 6. Westcott, D.J. <i>et al.</i> (2009) MGL1 promotes adipose tissue inflammation and insulin resistance by regulating 7/4hi monocytes in obesity. J Exp Med. 206: 3143-56. 7. Fischer-Posovszky, P. <i>et al.</i> (2011) Targeted deletion of adipocytes by apoptosis leads to adipose tissue recruitment of alternatively activated m2 macrophages. Endocrinology. 152: 3074-81. 8. Spite, M. <i>et al.</i> (2011) Deficiency of the Leukotriene B4 Receptor, BLT-1, Protects against Systemic Insulin Resistance in Diet-Induced Obesity. J Immunol. 187: 1942-9. 9. Raes, G. <i>et al.</i> (2005) Macrophage galactose-type C-type lectins as novel markers for alternatively activated macrophages elicited by parasitic infections and allergic airway inflammation. J Leukoc Biol. 77: 321-7. 10. Freire, T. <i>et al.</i> (2010) Glycosidic Tn-based vaccines targeting dermal dendritic cells favor germinal center B-cell development and potent antibody response in the absence of adjuvant. Blood. 116: 3526-36.

11. Lumeng, C.N. *et al.* (2008) Phenotypic switching of adipose tissue macrophages with obesity is generated by spatiotemporal differences in macrophage subtypes. [Diabetes. 57: 3239-46.](#)
12. Blyszczuk, P. *et al.* (2013) Nitric oxide synthase 2 is required for conversion of pro-fibrogenic inflammatory CD133(+) progenitors into F4/80(+) macrophages in experimental autoimmune myocarditis. [Cardiovasc Res. 97 \(2\): 219-29.](#)
13. Dib, L.H. *et al.* (2014) Bone marrow leptin signaling mediates obesity-associated adipose tissue inflammation in male mice. [Endocrinology. 155: 40-6.](#)
14. Ferret-Bernard, S. *et al.* (2012) Plasma membrane proteomes of differentially matured dendritic cells identified by LC-MS/MS combined with iTRAQ labelling. [J. Proteomics. 75: 938-48.](#)
15. Orr, J.S. *et al.* (2012) Toll-like Receptor 4 Deficiency Promotes the Alternative Activation of Adipose Tissue Macrophages. [Diabetes. 61: 2718-27.](#)
16. Wagner, M. *et al.* (2012) Inflamed tumor-associated adipose tissue is a depot for macrophages that stimulate tumor growth and angiogenesis. [Angiogenesis. 15: 481-95](#)
17. Shah, R. *et al.* (2015) Metabolic Effects of CX3CR1 Deficiency in Diet-Induced Obese Mice. [PLoS One. 10 \(9\): e0138317.](#)
18. Morris, M.E. *et al.* (2015) Systemically Delivered Adipose Stromal Vascular Fraction Cells Disseminate to Peripheral Artery Walls and Reduce Vasomotor Tone Through a CD11b+ Cell-Dependent Mechanism. [Stem Cells Transl Med. pii: sctm.2014-0252.](#)
19. Vukman KV *et al.* (2013) Mannose receptor and macrophage galactose-type lectin are involved in *Bordetella pertussis* mast cell interaction. [J Leukoc Biol. 94 \(3\): 439-48.](#)
20. Hartwig, H. *et al.* (2015) Atherosclerotic Plaque Destabilization in Mice: A Comparative Study. [PLoS One. 10 \(10\): e0141019.](#)
21. Dupasquier, M. *et al.* (2006) The dermal microenvironment induces the expression of the alternative activation marker CD301/mMGL in mononuclear phagocytes, independent of IL-4/IL-13 signaling. [J Leukoc Biol. 80 \(4\): 838-49.](#)
22. Hanot Mambres, D. *et al.* (2015) *In Situ* Characterization of Splenic *Brucella melitensis* Reservoir Cells during the Chronic Phase of Infection in Susceptible Mice. [PLoS One. 10 \(9\): e0137835.](#)
23. Everts B *et al.* (2016) Migratory CD103+ dendritic cells suppress helminth-driven type 2 immunity through constitutive expression of IL-12. [J Exp Med. 213 \(1\): 35-51.](#)
24. Bartneck, M. *et al.* (2016) Histidine-rich glycoprotein promotes macrophage activation and inflammation in chronic liver disease. [Hepatology. 63 \(4\): 1310-24.](#)
25. Jha, A.K. *et al.* (2015) Network integration of parallel metabolic and transcriptional data reveals metabolic modules that regulate macrophage polarization. [Immunity. 42 \(3\): 419-30.](#)
26. Hellmann, J. *et al.* (2016) CCR7 Maintains Nonresolving Lymph Node and Adipose Inflammation in Obesity. [Diabetes. 65 \(8\): 2268-81.](#)
27. 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.](#)
28. 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.](#)
29. Zhang, H. *et al.* (2017) Synergistic Modulation of Inflammatory but not Metabolic Effects of High-Fat Feeding by CCR2 and CX3CR1. [Obesity \(Silver Spring\). 25 \(8\): 1410-20.](#)

30. Wagner, M. *et al.* (2019) Blockade of Lymphangiogenesis Shapes Tumor-Promoting Adipose Tissue Inflammation. [Am J Pathol. Jul 29 \[Epub ahead of print\]](#).
31. Shimobayashi, M. *et al.* (2018) Insulin resistance causes inflammation in adipose tissue. [J Clin Invest. 128 \(4\): 1538-50.](#)
32. Baardman, J. *et al.* (2020) Macrophage ATP citrate lyase deficiency stabilizes atherosclerotic plaques. [Nat Commun. 11 \(1\): 6296.](#)

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.

Guarantee 12 months from date of despatch

Acknowledgements This product is provided under an intellectual property licence from Life Technologies Corporation. The transfer of this product is contingent on the buyer using the purchase product solely in research, excluding contract research or any fee for service research, and the buyer must not sell or otherwise transfer this product or its components for (a) diagnostic, therapeutic or prophylactic purposes; (b) testing, analysis or screening services, or information in return for compensation on a per-test basis; (c) manufacturing or quality assurance or quality control, or (d) resale, whether or not resold for use in research. For information on purchasing a license to this product for purposes other than as described above, contact Life Technologies Corporation, 5791 Van Allen Way, Carlsbad CA 92008 USA or outlicensing@thermofisher.com

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

Related Products

Recommended Negative Controls

[RAT IgG2a NEGATIVE CONTROL:Alexa Fluor® 488 \(MCA1212A488\)](#)

North & South America Tel: +1 800 265 7376
Fax: +1 919 878 3751

Email: 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

Europe Tel: +49 (0) 89 8090 95 21
Fax: +49 (0) 89 8090 95 50

Email: 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)

'M366799:200529'

Printed on 18 Apr 2021