

Datasheet: MCA2392BT

Description:	RAT ANTI MOUSE CD301:Biotin
Specificity:	CD301
Other names:	MACROPHAGE GALACTOSE SPECIFIC LECTIN
Format:	Biotin
Product Type:	Monoclonal Antibody
Clone:	ER-MP23
Isotype:	IgG2a
Quantity:	25 µg

Product Details

RRID AB_1101879

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 - 1/10

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 Biotin - liquid

Preparation Purified IgG prepared by affinity chromatography on Protein G from tissue culture supernatant

Buffer Solution Phosphate buffered saline

Preservative 0.09% Sodium Azide (NaN₃)
Stabilisers 1% Bovine Serum Albumin

Approx. Protein Concentrations IgG concentration 0.1 mg/ml

Immunogen Balb/c macrophage precursor cell hybrids.

Fusion Partners Cells from immunised rats were fused with cells of the rat Y3-Ag1.2.3 myeloma cell line.

Specificity **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).

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.

Rat anti Mouse CD301 antibody, clone ER-MP23 is reported to block the function of mouse CD301 ([Dupasquier et al. 2006](#)). Rat anti Mouse CD301 antibody, clone ER-MP23 binds both MGL1 and MGL2 homologues.

Flow Cytometry Use 10ul of the suggested working dilution to label 10^6 cells in 100ul.

References

1. Leenen, P.J *et al.* (1994) Markers of mouse macrophage development detected by monoclonal antibodies. [J Immunol Methods. 174 \(1-2\): 5-19.](#)
2. Geutskens, S.B. *et al.* (2005) Macrophages in the murine pancreas and their involvement in fetal endocrine development *in vitro*. [J Leukoc Biol. 78 \(4\): 845-52.](#)
3. Abadie, V. *et al.* (2005) Neutrophils rapidly migrate via lymphatics after *Mycobacterium bovis* BCG intradermal vaccination and shuttle live bacilli to the draining lymph nodes. [Blood. 106: 1843-50.](#)
4. Dupasquier, M. *et al.* (2004) Macrophages and dendritic cells constitute a major subpopulation of cells in the mouse dermis. [J Invest Dermatol. 123: 876-9.](#)
5. 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.](#)
6. 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.](#)
7. Fischer-Posovszky, P. *et al.* (2011) Targeted deletion of adipocytes by apoptosis leads to adipose tissue recruitment of alternatively activated m2 macrophages. [Endocrinology. 152: 3074-81.](#)
8. Spite, M. *et al.* (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. *et al.* (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. *et al.* (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 \[Epub ahead of print\].](#)

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.

Guarantee

18 months from date of despatch.

Health And Safety Information

Material Safety Datasheet documentation #10040 available at: 10040: <https://www.bio-rad-antibodies.com/uploads/MSDS/10040.pdf>

Regulatory

For research purposes only

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