Datasheet: MCA884F

BATCH NUMBER 150153

Description:	RAT ANTI MOUSE CD169:FITC
Specificity:	CD169
Other names:	SIALOADHESIN
Format:	FITC
Product Type:	Monoclonal Antibody
Clone:	3D6.112
Isotype:	IgG2a
Quantity:	0.1 mg

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
Immunohistology - Frozen			▪	
Immunohistology - Paraffin			▪	

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 Fluorescein Isothiocyanate Isomer 1 (FITC) - liquid

Max Ex/Em

Fluorophore	Excitation Max (nm)	Emission Max (nm)
FITC	490	525

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	Purified murine sialoadhesin.
External Database Links	**UniProt:** Q62230 Related reagents **Entrez Gene:** 20612 Siglec1 Related reagents
Synonyms	Sa, Sn
RRID	AB_324246
Fusion Partners	Spleen cells from an immunised AO rat were fused with the cells of the Y3 rat myeloma cell line.
Specificity	**Rat anti Mouse CD169 antibody, clone 3D6.112** recognizes mouse CD169 also known as sialoadhesin, Sheep erythrocyte receptor or Siglec-1. CD169 is a 1695 amino acid, ~180 kDa single pass, type 1 transmembrane glycoprotein containing a single Ig-like V-type domain and sixteen Ig-like C2-type domains. CD169 is a macrophage restricted receptor, preferentially binding to alpha 2,3 linked sialic acid residues (Crocker *et al.* 1991) and is expressed on stromal macrophages in many tissues, particularly in lymph nodes, bone marrow and on marginal metallophilic macrophages in the spleen (Morris *et al.* 1991). CD169 has been implicated in a number of roles including cell-cell interactions with lymphocytes (van den Berg *et al.* 1992) and granulocytes (Crocker *et al.* 1995). CD169 expressing macrophages have also been suggested to play a role in host resistance to lymphoma metastasis (Umansky *et al.* 1996). In pigs CD169 has also been identified as a macrophage restricted receptor for porcine reproductive and respiratory syndrome virus (Delputte *et al.* 2007). CD169 expressing macrophages have also been implicated in the regulation of autoimmune disease progression through their interaction with regulatory T cells via CD169 (Wu *et al.* 2009). CD169 has also been shown to play a critical role in the recognition and elimination of invasive sialylated microorganisms including *Campylobacter jejuni* (Klass *et al.* 2012) and group B Streptococcus (Chang *et al.* 2014). The functional activity of rat anti mouse CD169 antibody, clone 3D6.112, its ability to inhibit binding of red blood cells to CD169 can be considerably enhanced by derivitization of the antibody with polyethylene glycol (Ducreux *et al.* 2008).
Flow Cytometry	The Fc region of monoclonal antibodies may bind non-specifically to cells expressing low affinity Fc receptors. This may be reduced by using SeroBlock FcR (BUF041A/B).
References	1. Crocker, P.R. *et al.* (1991) Purification and properties of sialoadhesin, a sialic acid-binding receptor of murine tissue macrophages. EMBO J. 10 (7): 1661-9.

2. Sancho-Pelluz, J. *et al.* (2008) Sialoadhesin expression in intact degenerating retinas and following transplantation. Invest Ophthalmol Vis Sci. 49: 5602-10.
3. Barral, P. *et al.* (2010) CD169(+) macrophages present lipid antigens to mediate early activation of iNKT cells in lymph nodes. Nat Immunol. 11: 303-12.
4. Chtanova, T. *et al.* (2008) Dynamics of neutrophil migration in lymph nodes during infection. Immunity. 29: 487-96.
5. Hsu, K.M. *et al.* (2009) Murine cytomegalovirus displays selective infection of cells within hours after systemic administration. J Gen Virol. 90:33-43.
6. Iannacone M (2010) Subcapsular sinus macrophages prevent CNS invasion on peripheral infection with a neurotropic virus. Nature. 465: 1079-83.
7. Idoyaga, J. *et al.* (2009) Antibody to Langerin/CD207 localizes large numbers of CD8alpha+ dendritic cells to the marginal zone of mouse spleen. Proc Natl Acad Sci U S A. 106: 1524-9.
8. Taylor, P.R. *et al.* (2008) Development of a specific system for targeting protein to metallophilic macrophages. Proc Natl Acad Sci U S A. 101: 1963-8.
9. Chang, Y.C. *et al.* (2014) Role of macrophage sialoadhesin in host defense against the sialylated pathogen group B Streptococcus. J Mol Med (Berl). 92(9):951-9.
10. Lin, H.H. *et al.* (2005) The macrophage F4/80 receptor is required for the induction of antigen-specific efferent regulatory T cells in peripheral tolerance. J Exp Med. 201: 1615-25.
11. Phillips, R. *et al.* (2010) Innate killing of *Leishmania donovani* by macrophages of the splenic marginal zone requires IRF-7. PLoS Pathog. 6(3):e1000813.
12. Hashimoto, D. *et al.* (2011) Pretransplant CSF-1 therapy expands recipient macrophages and ameliorates GVHD after allogeneic hematopoietic cell transplantation. J Exp Med. 208: 1069-82.
13. Anderson, K.L. *et al.* (1999) PU.1 and the granulocyte- and macrophage colony-stimulating factor receptors play distinct roles in late-stage myeloid cell differentiation. Blood. 94: 2310-8.
14. Albacker, L.A. *et al.* (2010) TIM-4, a receptor for phosphatidylserine, controls adaptive immunity by regulating the removal of antigen-specific T cells. J Immunol. 185: 6839-49.
15. Anthony, R.M. *et al.* (2008) Identification of a receptor required for the anti-inflammatory activity of IVIG. Proc Natl Acad Sci U S A. 105: 19571-8.
16. Chow, A. *et al.* (2011) Bone marrow CD169+ macrophages promote the retention of hematopoietic stem and progenitor cells in the mesenchymal stem cell niche. J Exp Med. 208: 261-71.
17. Hemmi, H. *et al.* (2009) A new triggering receptor expressed on myeloid cells (Trem) family member, Trem-like 4, binds to dead cells and is a DNAX activation protein 12-linked marker for subsets of mouse macrophages and dendritic cells. J Immunol. 182: 1278-86.
18. Hemmi, H. *et al.* (2012) Treml4, an Ig superfamily member, mediates presentation of several antigens to T cells in vivo, including protective immunity to HER2 protein. J Immunol. 188: 1147-55.
19. Huang, Q.Q. *et al.* (2010) FLIP: a novel regulator of macrophage differentiation and granulocyte homeostasis. Blood. 116: 4968-77.
20. Lu, M. and Munford, R.S. (2011) The transport and inactivation kinetics of bacterial lipopolysaccharide influence its immunological potency*in vivo.* J Immunol. 187: 3314-20.
21. Krücken, J. *et al.* (2005) Massive destruction of malaria-parasitized red blood cells despite spleen closure. Infect Immun. 73: 6390-8.

22. Vagaja, N.N. *et al.* (2012) Changes in murine hyalocytes are valuable early indicators of ocular disease. Invest Ophthalmol Vis Sci. 53: 1445-51.
23. Barnes, Y.C. *et al.* (1999) Sialylation of the sialic acid binding lectin sialoadhesin regulates its ability to mediate cell adhesion. Blood. 93: 1245-52.
24. Chen, W.C. *et al.* (2012) Antigen delivery to macrophages using liposomal nanoparticles targeting sialoadhesin/CD169. PLoS One. 7e39039.
25. Mansour, A. *et al.* (2012) Osteoclasts promote the formation of hematopoietic stem cell niches in the bone marrow. J Exp Med. 209: 537-49.
26. Park, M.H. *et al.* (2015) Neuropeptide Y regulates the hematopoietic stem cell microenvironment and prevents nerve injury in the bone marrow. EMBO J. 34 (12): 1648-60.
27. Asai, H. *et al.* (2015) Depletion of microglia and inhibition of exosome synthesis halt tau propagation. Nat Neurosci. 18 (11): 1584-93.
28. Farrell, H.E. *et al.* (2015) Lymph Node Macrophages Restrict Murine Cytomegalovirus Dissemination. J Virol. 89 (14): 7147-58.
29. Xu, H.C. *et al.* (2015) Deficiency of the B cell-activating factor receptor results in limited CD169+ macrophage function during viral infection. J Virol. 89 (9): 4748-59.
30. Gao, L. *et al.* (2015) Infiltration of circulating myeloid cells through CD95L contributes to neurodegeneration in mice. J Exp Med. 212 (4): 469-80.
31. McCabe, A. *et al.* (2015) Macrophage-Lineage Cells Negatively Regulate the Hematopoietic Stem Cell Pool in Response to Interferon Gamma at Steady State and During Infection. Stem Cells. 33 (7): 2294-305.
32. Cantisani, R. *et al.* (2015) Vaccine adjuvant MF59 promotes retention of unprocessed antigen in lymph node macrophage compartments and follicular dendritic cells. J Immunol. 194 (4): 1717-25.
33. Prokopec, K.E. *et al.* (2016) Marginal Zone Macrophages Regulate Antigen Transport by B Cells to the Follicle in the Spleen via CD21. J Immunol. 197 (6): 2063-8.
34. Li, Z. *et al.* (2016) The Macrophage-depleting Agent Clodronate Promotes Durable Hematopoietic Chimerism and Donor-specific Skin Allograft Tolerance in Mice. Sci Rep. 6: 22143.
35. Farrell, H.E. *et al.* (2016) Type 1 Interferons and NK Cells Limit Murine Cytomegalovirus Escape from the Lymph Node Subcapsular Sinus. PLoS Pathog. 12 (12): e1006069.
36. Perrotta, M. *et al.* (2018) Deoxycorticosterone acetate-salt hypertension activates placental growth factor in the spleen to couple sympathetic drive and immune system activation. Cardiovasc Res. 114 (3): 456-67.
37. Urata, S. *et al.* (2018) BST-2 controls T cell proliferation and exhaustion by shaping the early distribution of a persistent viral infection. PLoS Pathog. 14 (7): e1007172.
38. Peng, Y. (2018) B cell responses to apoptotic cells in MFG-E8-/- mice. PLoS One. 13 (10): e0205172.
39. Tay, M.H.D. *et al.* (2019) Halted Lymphocyte Egress via Efferent Lymph Contributes to Lymph Node Hypertrophy During Hypercholesterolemia. Front Immunol. 10: 575.
40. Ding, X. *et al.* (2019) Panicle-Shaped Sympathetic Architecture in the Spleen Parenchyma Modulates Antibacterial Innate Immunity. Cell Rep. 27 (13): 3799-3807.e3.

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
Health And Safety Information	Material Safety Datasheet documentation #10041 available at: https://www.bio-rad-antibodies.com/SDS/MCA884F 10041
Regulatory	For research purposes only

Related Products

Recommended Negative Controls

RAT IgG2a NEGATIVE CONTROL:FITC (MCA1212F)

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

'M369093:200529'

Printed on 04 Apr 2024

© 2024 Bio-Rad Laboratories Inc | Legal | Imprint