

Datasheet: MCA884PE

BATCH NUMBER INN1701

Description:	RAT ANTI MOUSE CD169:RPE
Specificity:	CD169
Other names:	SIALOADHESIN
Format:	RPE
Product Type:	Monoclonal Antibody
Clone:	3D6.112
Isotype:	IgG2a
Quantity:	100 TESTS

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

Where this product 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 product for use in their own system using appropriate negative/positive controls.

Target Species	Mouse
Product Form	Purified IgG conjugated to R. Phycoerythrin (RPE) - lyophilized
Reconstitution	Reconstitute with 1.0 ml distilled water Care should be taken during reconstitution as the protein may appear as a film at the bottom of the vial. Bio-Rad recommend that the vial is gently mixed after reconstitution.
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 5% Sucrose

Immunogen	Purified murine sialoadhesin.
External Database Links	<p>UniProt: Q62230 Related reagents</p> <p>Entrez Gene: 20612 Siglec1 Related reagents</p>
Synonyms	Sa, Sn
Fusion Partners	Spleen cells from an immunised AO rat were fused with the cells of the Y3 rat myeloma cell line.
Specificity	<p>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).</p> <p>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 <i>Campylobacter jejuni</i> (Klass et al. 2012) and group B Streptococcus (Chang et al. 2014).</p> <p>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).</p>
Flow Cytometry	Use 10ul of the suggested working dilution to label 1x10 ⁶ cells in 100ul. 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	<ol style="list-style-type: none"> 1. Crocker, P.R. <i>et al.</i> (1991) Purification and properties of sialoadhesin, a sialic acid-binding receptor of murine tissue macrophages. EMBO J. 10 (7): 1661-9. 2. Barnes, Y.C. <i>et al.</i> (1999) Sialylation of the sialic acid binding lectin sialoadhesin regulates its ability to mediate cell adhesion. Blood. 93: 1245-52. 3. Kaisho, T. <i>et al.</i> (2001) I kappa B kinase alpha is essential for mature B cell development and function. J Exp Med. 193: 417-26.

4. Hughes, E.H. *et al.* (2003) Generation of Activated Sialoadhesin-Positive Microglia during Retinal Degeneration. [Invest Ophthalmol Vis Sci. 44: 2229-34.](#)
5. Reid, D.M. *et al.* (2004) Expression of the beta-glucan receptor, Dectin-1, on murine leukocytes in situ correlates with its function in pathogen recognition and reveals potential roles in leukocyte interactions. [J Leukoc Biol. 76: 86-94.](#)
6. 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.](#)
7. Krücken, J. *et al.* (2005) Massive destruction of malaria-parasitized red blood cells despite spleen closure. [Infect Immun. 73: 6390-8.](#)
8. Vora, K.A. *et al.* (2005) Sphingosine 1-phosphate receptor agonist FTY720-phosphate causes marginal zone B cell displacement. [J Leukoc Biol. 78: 471-80.](#)
9. Cunningham, C. *et al.* (2005) Comparison of inflammatory and acute-phase responses in the brain and peripheral organs of the ME7 model of prion disease. [J Virol. 79: 5174-84.](#)
10. Miyake, Y. *et al.* (2007) Protective role of macrophages in noninflammatory lung injury caused by selective ablation of alveolar epithelial type II Cells. [J Immunol. 178: 5001-9.](#)
11. Sancho-Pelluz, J. *et al.* (2008) Sialoadhesin expression in intact degenerating retinas and following transplantation. [Invest Ophthalmol Vis Sci. 49: 5602-10.](#)
12. Chtanova, T. *et al.* (2008) Dynamics of neutrophil migration in lymph nodes during infection. [Immunity. 29: 487-96.](#)
13. 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.](#)
14. 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.](#)
15. Peng, Y. *et al.* (2009) Ly6C(low) monocytes differentiate into dendritic cells and cross-tolerize T cells through PDL-1. [J Immunol. 182: 2777-85.](#)
16. Toda, M. *et al.* (2009) Ligation of tumour-produced mucins to CD22 dramatically impairs splenic marginal zone B-cells. [Biochem J. 417: 673-83.](#)
17. Qiu, C.H. *et al.* (2009) Novel subset of CD8{alpha}+ dendritic cells localized in the marginal zone is responsible for tolerance to cell-associated antigens. [J Immunol. 182: 4127-36.](#)
18. Malkiel, S. *et al.* (2009) The loss and gain of marginal zone and peritoneal B cells is different in response to relapsing fever and Lyme disease *Borrelia*. [J Immunol. 182: 498-506.](#)
19. 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.](#)
20. Hsu, K.M. *et al.* (2009) Murine cytomegalovirus displays selective infection of cells within hours after systemic administration. [J Gen Virol. 90:33-43.](#)
21. 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.](#)
22. Huang, Q.Q. *et al.* (2010) FLIP: a novel regulator of macrophage differentiation and granulocyte homeostasis. [Blood. 116: 4968-77.](#)
23. 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.](#)
24. 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.](#)
25. Iannacone M (2010) Subcapsular sinus macrophages prevent CNS invasion on peripheral infection with a neurotropic virus. [Nature. 465: 1079-83.](#)
26. 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.](#)
27. 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.](#)
28. Notley, C.A. *et al.* (2011) Natural IgM is required for suppression of inflammatory arthritis by apoptotic cells. [J Immunol. 186: 4967-72.](#)
29. 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.](#)
30. 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.](#)
31. Mansour, A. *et al.* (2012) Osteoclasts promote the formation of hematopoietic stem cell niches in the bone marrow. [J Exp Med. 209: 537-49.](#)
32. Vagaja, N.N. *et al.* (2012) Changes in murine hyalocytes are valuable early indicators of ocular disease. [Invest Ophthalmol Vis Sci. 53: 1445-51.](#)
33. Hemmi, H. *et al.* (2012) Trem14, 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.](#)
34. Chen, W.C. *et al.* (2012) Antigen delivery to macrophages using liposomal nanoparticles targeting sialoadhesin/CD169. [PLoS One. 7:e39039.](#)
35. 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.](#)
36. 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.](#)
37. 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.](#)
38. Gao, L. *et al.* (2015) Infiltration of circulating myeloid cells through CD95L contributes to neurodegeneration in mice. [J Exp Med. 212 \(4\): 469-80.](#)
39. 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.](#)
40. Farrell, H.E. *et al.* (2015) Lymph Node Macrophages Restrict Murine Cytomegalovirus Dissemination. [J Virol. 89 \(14\): 7147-58.](#)
41. Asai, H. *et al.* (2015) Depletion of microglia and inhibition of exosome synthesis halt tau propagation. [Nat Neurosci. 18 \(11\): 1584-93.](#)
42. 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.](#)
43. 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.](#)
44. 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.](#)

45. 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.](#)
46. 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.](#)
47. 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.](#)
48. Peng, Y. (2018) B cell responses to apoptotic cells in MFG-E8^{-/-} mice. [PLoS One. 13 \(10\): e0205172.](#)
49. Groh, J. *et al.* (2018) Teriflunomide attenuates neuroinflammation-related neural damage in mice carrying human PLP1 mutations. [J Neuroinflammation. 15 \(1\): 194.](#)
50. Tay, M.H.D. *et al.* (2019) Halted Lymphocyte Egress via Efferent Lymph Contributes to Lymph Node Hypertrophy During Hypercholesterolemia. [Front Immunol. 10: 575.](#)
51. Ding, X. *et al.* (2019) Panicle-Shaped Sympathetic Architecture in the Spleen Parenchyma Modulates Antibacterial Innate Immunity. [Cell Rep. 27 \(13\): 3799-3807.e3.](#)
52. Singh, R. & Choi, B.K. (2019) Siglec1-expressing subcapsular sinus macrophages provide soil for melanoma lymph node metastasis. [Elife. 8: e48916.](#)
53. Liu, X. *et al.* (2022) The Delta SARS-CoV-2 Variant of Concern Induces Distinct Pathogenic Patterns of Respiratory Disease in K18-hACE2 Transgenic Mice Compared to the Ancestral Strain from Wuhan. [mBio. : e0068322.](#)

Storage	Prior to reconstitution store at +4°C. After reconstitution store at +4°C. DO NOT FREEZE. This product should be stored undiluted. This product is photosensitive and should be protected from light.
Guarantee	12 months from date of despatch
Health And Safety Information	Material Safety Datasheet documentation #20487 available at: https://www.bio-rad-antibodies.com/SDS/MCA884PE 20487
Regulatory	For research purposes only

Related Products

Recommended Negative Controls

[RAT IgG2a NEGATIVE CONTROL:RPE \(MCA1212PE\)](#)

Recommended Useful Reagents

[MOUSE SEROBLOCK FcR \(BUF041A\)](#)

[MOUSE SEROBLOCK FcR \(BUF041B\)](#)

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