Datasheet: MCA1615

BATCH NUMBER 169012

Description:	MOUSE ANTI HUMAN CD54
Specificity:	CD54
Other names:	ICAM-1
Format:	Purified
Product Type:	Monoclonal Antibody
Clone:	15.2
Isotype:	IgG1
Quantity:	0.2 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	▪			1/50 - 1/100
Immunohistology - Frozen	▪			1/50 - 1/100
Immunohistology - Paraffin	▪			
ELISA			▪	
Immunoprecipitation	▪			
Western Blotting			▪	

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

Human

Species Cross Reactivity

Reacts with: Pig

N.B. Antibody reactivity and working conditions may vary between species. Cross reactivity is derived from testing within our laboratories, peer-reviewed publications or personal communications from the originators. Please refer to references indicated for further information.

Product Form

Purified IgG - liquid

Preparation

Purified IgG prepared by affinity chromatography on Protein A from tissue culture

	supernatant
Buffer Solution	Phosphate buffered saline
Preservative Stabilisers	0.09% sodium azide (NaN_3)
Carrier Free	Yes
Approx. Protein Concentrations	IgG concentration 1.0 mg/ml
Immunogen	Human monocytes
External Database Links	**UniProt:** P05362 Related reagents **Entrez Gene:** 3383 ICAM1 Related reagents
RRID	AB_321783
Fusion Partners	Spleen cells from immunised BALB/c mice were fused with cells of the mouse Sp2/0-Ag14 myeloma cell line
Specificity	**Mouse anti Human CD54 antibody, clone 15.2** recognizes the human CD54 cell surface antigen also known as intracellular Adhesion Molecule -1 (ICAM-1) or Major group rhinovirus receptor. CD54 is expressed by many cells following activation by inflammatory mediators. It is a 505 amino acid with an additional 27 amino acid signal peptide ~90 kDa single pass type I transmembrane glycoprotein bearing 5 Ig-like C2-type domains. Mouse anti Human CD54 antibody, clone 15.2 blocks CD54 function (Berendt *et al.* 1992). Mouse anti Human CD54 antibody, clone 15.2 binds to an epitope on the N-terminal Ig-like domain within a region designated the L43 loop (Chakravorty and Craig 2005).
Flow Cytometry	Use 10µl of the suggested working dilution to label 10^6 cells in 100µl
Histology Positive Control Tissue	Human tonsil
References	1. Dransfield, I. *et al*. (1992) Interaction of leukocyte integrins with ligand is necessary but not sufficient for function. J Cell Biol. 116:1527-35. 2. Berendt, A. *et al*. (1992) The binding site on ICAM-1 for plasmodium falciparum-infected erythrocytes overlaps, but is distinct from, the LFA-1- binding site. Cell. 68: 71-81. 3. Urquhart, P. *et al.* (2007) Carbon monoxide-releasing molecules modulate leukocyte-endothelial interactions under flow. J Pharmacol Exp Ther. 321 (2): 656-62.

4. Baratin, M. *et al.* (2007) Dissection of the role of PfEMP1 and ICAM-1 in the sensing of *Plasmodium-falciparum*-infected erythrocytes by natural killer cells. PLos One 2: e228.
5. van Buul, J.D. *et al.* (2010) Inside-out regulation of ICAM-1 dynamics in TNF-alpha-activated endothelium. PLoS One 5: e11336.
6. Diaz-Romero, J. *et al.* (2008) Immunophenotypic changes of human articular chondrocytes during monolayer culture reflect bona fide dedifferentiation rather than amplification of progenitor cells. J Cell Physiol. 214: 75-83.
7. Di Lorenzo, A. *et al.* (2011) Endothelial reticulon-4B (Nogo-B) regulates ICAM-1-mediated leukocyte transmigration and acute inflammation. Blood. 117: 2284-95.
8. Porter, J.C. and Hall, A. (2009) Epithelial ICAM-1 and ICAM-2 regulate the egression of human T cells across the bronchial epithelium. FASEB J. 23: 492-502.
9. Corvaisier, M. *et al.* (2005) V gamma 9V delta 2 T cell response to colon carcinoma cells. J Immunol. 175: 5481-8.
10. Horrocks, P. *et al.* (2005) PfEMP1 expression is reduced on the surface of knobless Plasmodium falciparum infected erythrocytes. J Cell Sci. 118: 2507-18.
11. Lozanoska-Ochser, B. *et al.* (2008) Expression of CD86 on human islet endothelial cells facilitates T cell adhesion and migration. J Immunol. 181: 6109-16.
12. Norling, L.V. *et al.* (2008) Inhibitory control of endothelial galectin-1 on *in vitro* and *in vivo* lymphocyte trafficking. FASEB J. 22 (3): 682-90.
13. Baumer, Y. *et al.* (2011) Telomerase-based immortalization modifies the angiogenic/inflammatory responses of human coronary artery endothelial cells. Exp Biol Med (Maywood). 236: 692-700.
14. Lask, A. *et al.* (2011) TCR-independent killing of B cell malignancies by anti-third-party CTLs: the critical role of MHC-CD8 engagement. J Immunol. 187 (4): 2006-14.
15. Sommaggio, R. *et al.* (2012) Multiple Receptors Trigger Human NK Cell-Mediated Cytotoxicity against Porcine Chondrocytes. J Immunol. 188: 2075-83.
16. Murphy, A.J. *et al.* (2013) Anti-inflammatory functions of apolipoprotein a-I and high-density lipoprotein are preserved in trimeric apolipoprotein a-I. J Pharmacol Exp Ther. 344: 41-9.
17. Sumagin R *et al.* (2014) Transmigrated neutrophils in the intestinal lumen engage ICAM-1 to regulate the epithelial barrier and neutrophil recruitment. Mucosal Immunol. 7 (4): 905-15.
18. Sugden SM *et al.* (2017) HIV-1 Vpu Downmodulates ICAM-1 Expression, Resulting in Decreased Killing of Infected $CD4^+$ T Cells by NK Cells. J Virol. 91 (8): pii: e02442-16.
19. Lennartz, F. *et al.* (2015) Mapping the Binding Site of a Cross-Reactive *Plasmodium falciparum* PfEMP1 Monoclonal Antibody Inhibitory of ICAM-1 Binding. J Immunol. 195 (7): 3273-83.
20. Schoppmeyer, R. *et al.* (2022) The endothelial diapedesis synapse regulates transcellular migration of human T lymphocytes in a CX3CL1- and SNAP23-dependent manner. Cell Rep. 38 (3): 110243.
21. Grönloh, M.L.B. *et al.* (2023) Endothelial transmigration hotspots limit vascular leakage through heterogeneous expression of ICAM-1. EMBO Rep. 24 (1): e55483.
22. Grönloh, M.L.B. *et al.* (2023) Intercellular adhesion molecule 2 regulates diapedesis hotspots by allowing neutrophil crawling against the direction of flow. Vasc Biol. 5 (1): e230005.
23. Wiesolek, H.L. *et al.* (2020) Intercellular Adhesion Molecule 1 Functions as an Efferocytosis Receptor in Inflammatory Macrophages. Am J Pathol. 190 (4): 874-85.

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.
Guarantee	12 months from date of despatch
Health And Safety Information	Material Safety Datasheet documentation #10040 available at: https://www.bio-rad-antibodies.com/SDS/MCA1615
Regulatory	For research purposes only

Related Products

Recommended Secondary Antibodies

Goat Anti Mouse IgG IgA IgM (STAR87...)	HRP
Goat Anti Mouse IgG (STAR70...)	FITC
Goat Anti Mouse IgG (STAR77...)	HRP
Goat Anti Mouse IgG (STAR76...)	RPE
Rabbit Anti Mouse IgG (STAR12...)	RPE
Rabbit Anti Mouse IgG (STAR13...)	HRP
Rabbit Anti Mouse IgG (STAR9...)	FITC
Goat Anti Mouse IgG (Fc) (STAR120...)	FITC, HRP
Goat Anti Mouse IgG (H/L) (STAR117...)	Alk. Phos., DyLight®488, DyLight®550, DyLight®650, DyLight®680, DyLight®800, FITC, HRP

Recommended Negative Controls

MOUSE IgG1 NEGATIVE CONTROL (MCA928)

Product inquiries: www.bio-rad-antibodies.com/technical-support

To find a batch/lot specific datasheet for this product, please use our online search tool at: bio-rad-antibodies.com/datasheets

'M429265:240405'

Printed on 19 May 2026