

Datasheet: MCA1230GA

Description:	RAT ANTI MOUSE CD49d
Specificity:	CD49d
Other names:	INTEGRIN ALPHA 4 CHAIN, VLA-4
Format:	Purified
Product Type:	Monoclonal Antibody
Clone:	PS/2
Isotype:	IgG2b
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	▪			1/50 - 1/100
Immunohistology - Frozen	▪			
Immunohistology - Paraffin			▪	
ELISA			▪	
Immunoprecipitation	▪			
Western Blotting			▪	

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
Species Cross Reactivity	Reacts with: Human N.B. Antibody reactivity and working conditions may vary between species.
Product Form	Purified IgG - liquid
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
Carrier Free	Yes
Approx. Protein Concentrations	IgG concentration 1.0 mg/ml

Immunogen P815 DBA/2 murine mastocytoma cells.

External Database Links

UniProt:
[Q00651](#) [Related reagents](#)

Entrez Gene:
[16401](#) Itga4 [Related reagents](#)

Fusion Partners Spleen cells from immunized Fisher rats were fused with SP2/0 mouse myeloma cells

Specificity **Rat anti Mouse CD49d monoclonal antibody, clone PS/2** recognizes murine alpha 4 integrin (CD49d), a ~150 kDa single pass type I membrane glycoprotein that can associate with either beta 1 integrin (CD29) or beta 7 integrin to form heterodimers CD49d/CD29 (VLA-4) and alpha4/beta7 (LPAM-1) respectively ([Holzmann *et al.* 1989](#)). CD49d is expressed on most lymphocytes, granulocytes, monocytes and thymocytes. The primary ligands for CD49d are CD106 (VCAM-1), fibronectin and MAdCAM-1 ([Sheppard *et al.* 1994](#)).

Clone PS/2 has also been reported to block the binding of CD49d to its ligands ([Andrew *et al.* 1994](#)).

Flow Cytometry Use 10ul of the suggested working dilution to label 10⁶ cells in 100ul.

References

1. Miyake, K. *et al.* (1991) Evidence for a role of the integrin VLA-4 in lympho-hemopoiesis. [J Exp Med. 173 \(3\): 599-607.](#)
2. Miyake, K. *et al.* (1991) A VCAM-like adhesion molecule on murine bone marrow stromal cells mediates binding of lymphocyte precursors in culture. [J Cell Biol. 114 \(3\): 557-65.](#)
3. Andrew, D.P. *et al.* (1994) Distinct but overlapping epitopes are involved in alpha 4 beta 7-mediated adhesion to vascular cell adhesion molecule-1, mucosal addressin-1, fibronectin, and lymphocyte aggregation. [J Immunol. 153 \(9\): 3847-61.](#)
4. Bellingan, G.J. *et al.* (2002) Adhesion molecule-dependent mechanisms regulate the rate of macrophage clearance during the resolution of peritoneal inflammation. [J Exp Med. 196: 1515-21.](#)
5. Fukuoka, M. *et al.* (2000) Antiadhesive function of 130-kd glycoform of CD43 expressed in CD4 T-lymphocyte clones and transfectant cell lines. [Blood. 96: 4267-75.](#)
6. Hokibara, S. *et al.* (2000) Effects of monoclonal antibodies to adhesion molecules on eosinophilic myocarditis in *Toxocara canis*-infected CBA/J mice. [Clin Exp Immunol. 114: 236-44.](#)
7. Li, W. *et al.* (2008) Reduced alpha4beta1 integrin/VCAM-1 interactions lead to impaired pre-B cell repopulation in alpha 1,6-fucosyltransferase deficient mice. [Glycobiology. 18: 114-24.](#)
8. Liu, Z.J. *et al.* (1999) A novel role for H-Ras in the regulation of very late antigen-4 integrin and VCAM-1 via c-Myc-dependent and -independent mechanisms. [J Immunol. 163: 4901-8.](#)
9. Tchilian, E.Z. *et al.* (1997) Anti-alpha 4 integrin antibody induces apoptosis in murine thymocytes and staphylococcal enterotoxin B-activated lymph node T cells. [Immunology. 92: 321-7.](#)
10. Bowden, R.A. *et al.* (2002) Role of alpha4 integrin and VCAM-1 in CD18-independent neutrophil migration across mouse cardiac endothelium. [Circ Res. 90: 562-9.](#)
11. Hirata, T. *et al.* (2002) P-, E-, and L-selectin mediate migration of activated CD8+ T lymphocytes into inflamed skin. [J Immunol. 169: 4307-13.](#)
12. Vaz, R. *et al.* (2012) Fibronectin promotes migration, alignment and fusion in an in vitro myoblast cell model. [Cell Tissue Res. 348: 569-78.](#)
13. Gillberg, L. *et al.* (2013) Effective treatment of mouse experimental colitis by alpha 2 integrin antibody: comparison with alpha 4 antibody and conventional therapy. [Acta Physiol \(Oxf\). 207: 326-36.](#)
14. Eshghi, S. *et al.* (2007) Alpha4beta1 integrin and erythropoietin mediate temporally distinct steps in erythropoiesis: integrins in red cell development. [J Cell Biol. 177: 871-80.](#)

15. Maus, U.A. *et al.* (2004) Pneumolysin-induced lung injury is independent of leukocyte trafficking into the alveolar space. [J Immunol. 173: 1307-12.](#)
16. Enghofer, M. *et al.* (1998) Lymphocyte transfer in streptozotocin-induced diabetes: adhesion of donor cells to islet endothelium. [Am J Physiol. 274: E928-35.](#)
17. Zhang, Y. *et al.* (2012) Autotaxin through lysophosphatidic acid stimulates polarization, motility, and transendothelial migration of naive T cells. [J Immunol. 189: 3914-24.](#)
18. Ferrer, P. *et al.* (2005) Association between pterostilbene and quercetin inhibits metastatic activity of B16 melanoma. [Neoplasia. 7: 37-47.](#)
19. Tanneau, G.M. *et al.* (1999) Differential recruitment of T- and IgA B-lymphocytes in the developing mammary gland in relation to homing receptors and vascular addressins. [J Histochem Cytochem. 47: 1581-92.](#)
20. Omenetti, S. *et al.* (2015) Dysregulated intrahepatic CD4⁺ T-cell activation drives liver inflammation in ileitis-prone SAMP1/YitFc mice. [Cell Mol Gastroenterol Hepatol. 1 \(4\): 406-19.](#)
21. Chung, K.J. *et al.* (2017) A self-sustained loop of inflammation-driven inhibition of beige adipogenesis in obesity. [Nat Immunol. 18 \(6\): 654-664.](#)

Storage Store at +4°C or at -20°C if preferred.

This product should be stored undiluted. Avoid repeated freezing and thawing as this may denature the antibody. Should this product contain a precipitate we recommend microcentrifugation before use.

Shelf Life 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

Related Products

Recommended Secondary Antibodies

Rabbit Anti Rat IgG (STAR16...)	DyLight®800
Goat Anti Rat IgG (STAR73...)	RPE
Rabbit Anti Rat IgG (STAR21...)	HRP
Rabbit Anti Rat IgG (STAR17...)	FITC
Goat Anti Rat IgG (MOUSE ADSORBED) (STAR71...)	DyLight®649 , DyLight®800
Goat Anti Rat IgG (STAR131...)	Alk. Phos. , Biotin
Goat Anti Rat IgG (STAR69...)	FITC
Goat Anti Rat IgG (STAR72...)	HRP

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