

Datasheet: MCA1230A647

Description:	RAT ANTI MOUSE CD49d:Alexa Fluor® 647
Specificity:	CD49d
Other names:	INTEGRIN ALPHA 4 CHAIN, VLA-4
Format:	ALEXA FLUOR® 647
Product Type:	Monoclonal Antibody
Clone:	PS/2
Isotype:	IgG2b
Quantity:	100 TESTS/1ml

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

Species Cross Reactivity

Reacts with: Human

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 conjugated to Alexa Fluor® 647 - liquid

Max Ex/Em

Fluorophore	Excitation Max (nm)	Emission Max (nm)
Alexa Fluor®647	650	665

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
Approx. Protein Concentrations	IgG concentration 0.05 mg/ml
Immunogen	P815 DBA/2 murine mastocytoma cells.
External Database Links	<p>UniProt: Q00651 Related reagents</p> <p>Entrez Gene: 16401 Itga4 Related reagents</p>
RRID	AB_566807
Fusion Partners	Spleen cells from immunized Fisher rats were fused with SP2/0 mouse myeloma cells
Specificity	<p>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).</p> <p>Clone PS/2 has also been reported to block the binding of CD49d to its ligands (Andrew et al. 1994).</p>
Flow Cytometry	Use 10µl of the suggested working dilution to label 10 ⁶ cells in 100µl. 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/BUF041B).
References	<ol style="list-style-type: none"> Miyake, K. <i>et al.</i> (1991) Evidence for a role of the integrin VLA-4 in lympho-hemopoiesis. J Exp Med. 173 (3): 599-607. Miyake, K. <i>et al.</i> (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. Andrew, D.P. <i>et al.</i> (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. Tchilian, E.Z. <i>et al.</i> (1997) Anti-alpha 4 integrin antibody induces apoptosis in murine thymocytes and staphylococcal enterotoxin B-activated lymph node T cells. Immunology. 92: 321-7. Enghofer, M. <i>et al.</i> (1998) Lymphocyte transfer in streptozotocin-induced diabetes: adhesion of donor cells to islet endothelium. Am J Physiol. 274: E928-35. Liu, Z.J. <i>et al.</i> (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.](#)
7. 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.](#)
 8. 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.](#)
 9. 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.](#)
 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. Maus, U.A. *et al.* (2004) Pneumolysin-induced lung injury is independent of leukocyte trafficking into the alveolar space. [J Immunol. 173: 1307-12.](#)
 13. Ferrer, P. *et al.* (2005) Association between pterostilbene and quercetin inhibits metastatic activity of B16 melanoma. [Neoplasia. 7: 37-47.](#)
 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. Vaz, R. *et al.* (2012) Fibronectin promotes migration, alignment and fusion in an *in vitro* myoblast cell model. [Cell Tissue Res. 348: 569-78.](#)
 16. Zhang, Y. *et al.* (2012) Autotaxin through lysophosphatidic acid stimulates polarization, motility, and transendothelial migration of naive T cells. [J Immunol. 189: 3914-24.](#)
 17. 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.](#)
 18. 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.](#)
 19. Chung, K.J. *et al.* (2017) A self-sustained loop of inflammation-driven inhibition of beige adipogenesis in obesity. [Nat Immunol. 18 \(6\): 654-64.](#)

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. This product is photosensitive and should be protected from light.

Guarantee 12 months from date of despatch

Acknowledgements The Alexa Fluor dye antibody conjugates in this product are sold under license from Molecular Probes, Inc. for research use only, except for use in combination with microarrays, and are covered by pending and issued patents.

Health And Safety Material Safety Datasheet documentation #10041 available at:

Information <https://www.bio-rad-antibodies.com/SDS/MCA1230A647>
10041

Regulatory For research purposes only

Related Products

Recommended Useful Reagents

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

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

North & South Tel: +1 800 265 7376

America 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](https://www.bio-rad-antibodies.com/datasheets)
'M408686:221013'

Printed on 12 Aug 2023

© 2023 Bio-Rad Laboratories Inc | [Legal](#) | [Imprint](#)