

Datasheet: MCA923PE

Description:	MOUSE ANTI HUMAN CD49d:RPE
Specificity:	CD49d
Other names:	INTEGRIN ALPHA 4 CHAIN, VLA-4
Format:	RPE
Product Type:	Monoclonal Antibody
Clone:	44H6
Isotype:	IgG1
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 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	Human		
Product Form	Purified IgG conjugated to R. Phycoerythrin (RPE) - lyophilized		
Reconstitution	Reconstitute with 1.0 ml distilled water		
Max Ex/Em	Fluorophore	Excitation Max (nm)	Emission Max (nm)
	RPE 488nm laser	496	578

Preparation	Purified IgG prepared by ion exchange chromatography from tissue culture supernatant
Buffer Solution	Phosphate buffered saline
Preservative	0.09% Sodium Azide (NaN ₃)
Stabilisers	1% Bovine Serum Albumin Inert Bulking Reagent 5% Sucrose

Immunogen	HOON pre-B leukaemia cell line.
External Database Links	<p>UniProt: P13612 Related reagents</p> <p>Entrez Gene: 3676 ITGA4 Related reagents</p>
Synonyms	CD49D
RRID	AB_321453
Fusion Partners	Spleen cells from immunised BALB/c mice were fused with cells of the SP2.0-Ag14 mouse myeloma cell line.
Specificity	<p>Mouse anti Human CD49d monoclonal antibody, clone 44H6 recognizes human CD49d also known as integrin alpha-4 or VLA-4 subunit alpha. CD49d is a ~150kDa single pass type 1 transmembrane glycoprotein with seven FG-GAP repeats, characteristic of alpha integrins, in its extracellular domain. CD49d can be proteolytically cleaved to yield fragments of 80 and 70 kDa (Hemler et al. 1987). CD49d associates with either CD29 to form VLA-4 or with Integrin beta-7 to form The Peyer's patches-specific homing receptor LPAM-1, involved in the lymphocyte migration and homing to gut-associated lymphoid tissue (Sackstein 2006) through its interaction with MadCam-1, preferentially expressed on Peyer's patch high endothelial venules and postcapillary venules in lamina propria (Briskin et al. 1997)</p> <p>Mouse anti human CD49d, clone 44H6 is reported to induce homotypic aggregation of pre-B cell lines including HOON and NALM-6 (Letarte et al. 1993).</p>
Flow Cytometry	Use 10ul of the suggested working dilution to label 10 ⁶ cells or 100ul whole blood
References	<ol style="list-style-type: none"> 1. Quackenbush, E.J. & Letarte, M. (1985) Identification of several cell surface proteins of non-T, non-B acute lymphoblastic leukemia by using monoclonal antibodies. J Immunol. 134 (2): 1276-85. 2. Letarte, M. et al. (1993) Homotypic aggregation of pre-B leukemic cell lines by antibodies to VLA integrins correlates with their expression of CD9. Leukemia 7(1): 93-103. 3. Hartz B et al. (2011) α 4 integrin levels on mobilized peripheral blood stem cells predict rapidity of engraftment in patients receiving autologous stem cell transplantation. Blood. 118 (8): 2362-5. 4. Ling, K.L. et al. (2007) Modulation of CD103 expression on human colon carcinoma-specific CTL. J Immunol. 178: 2908-15. 5. Eigenmann, P.A. et al. (1999) The mucosal adhesion receptor alpha4beta7 integrin is selectively increased in lymphocytes stimulated with beta-lactoglobulin in children allergic to cow's milk. J Allergy Clin Immunol. 103: 931-6. 6. Rabe, H. et al. (2011) Higher proportions of circulating FOXP3+ and CTLA-4+ regulatory T cells are associated with lower fractions of memory CD4+ T cells in infants. J

[Leukoc Biol. 90: 1133-40.](#)

7. Seoh, J.Y. *et al.* (2001) Cell cycling status of human cord blood CD34+ cells during ex vivo expansion is related to the level of very late antigen expression. [J Korean Med Sci. 16: 20-4.](#)

8. Seoh, J.Y. (2001) VLA-4 expression and cell cycling status during ex vivo expansion of human cord blood CD34+ cells. [Acta Haematol. 105: 111-5.](#)

9. Dogan, A. *et al.* (1997) Expression of lymphocyte homing receptors and vascular addressins in low-grade gastric B-cell lymphomas of mucosa-associated lymphoid tissue. [Am J Pathol. 151: 1361-9.](#)

10. La Heij, E. *et al.* (1998) Adhesion molecules in iris biopsy specimens from patients with uveitis. [Br J Ophthalmol. 82: 432-7.](#)

11. Humphries, J.D. and Humphries, M.J. (2007) CD14 is a ligand for the integrin alpha4beta1. [FEBS Lett. 581: 757-63.](#)

12. Grindebacke, H. *et al.* (2009) Dynamic development of homing receptor expression and memory cell differentiation of infant CD4+CD25high regulatory T cells. [J Immunol. 183: 4360-70.](#)

13. Kim, T.J. *et al.* (2010) Suppression of human anti-porcine natural killer cell xenogeneic responses by combinations of monoclonal antibodies specific to CD2 and NKG2D and extracellular signal-regulated kinase inhibitor. [Immunology. 130: 545-55.](#)

14. Stadlmann, S. *et al.* (2003) Disruption of the integrity of human peritoneal mesothelium by interleukin-1beta and tumor necrosis factor-alpha. [Virchows Arch. 443: 678-85.](#)

15. Paul, G. *et al.* (2012) The adult human brain harbors multipotent perivascular mesenchymal stem cells. [PLoS One. 7: e35577.](#)

16. Spring, F.A. *et al.* (2001) Intercellular adhesion molecule-4 binds alpha(4)beta(1) and alpha(V)-family integrins through novel integrin-binding mechanisms. [Blood. 98: 458-66.](#)

17. Woolhouse, I.S. *et al.* (2005) Endothelial interactions of neutrophils under flow in chronic obstructive pulmonary disease. [Eur Respir J. 25: 612-7.](#)

18. McGilvray, I.D. *et al.* (1997) VLA-4 integrin cross-linking on human monocytic THP-1 cells induces tissue factor expression by a mechanism involving mitogen-activated protein kinase. [J Biol Chem. 272: 10287-94.](#)

19. Sakamoto, T.M. *et al.* (2013) Altered red cell and platelet adhesion in hemolytic diseases: Hereditary spherocytosis, paroxysmal nocturnal hemoglobinuria and sickle cell disease. [Clin Biochem. pii: S0009-9120\(13\)00442-6.](#)

20. Zucchetto, A. *et al.* (2012) The CD49d/CD29 complex is physically and functionally associated with CD38 in B-cell chronic lymphocytic leukemia cells. [Leukemia. 26 \(6\): 1301-12.](#)

Storage

Prior to reconstitution store at +4°C. Following reconstitution store at +4°C.

DO NOT FREEZE.

This product should be stored undiluted. This product is photosensitive and should be protected from light. 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 #20487 available at:
20487: <https://www.bio-rad-antibodies.com/uploads/MSDS/20487.pdf>

Regulatory For research purposes only

Related Products

Recommended Negative Controls

[MOUSE IgG1 NEGATIVE CONTROL:RPE \(MCA928PE\)](#)

Recommended Useful Reagents

[HUMAN SEROBLOCK \(BUF070A\)](#)

[HUMAN SEROBLOCK \(BUF070B\)](#)

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

'M375695:210104'

Printed on 04 Jan 2021

© 2021 Bio-Rad Laboratories Inc | [Legal](#) | [Imprint](#)