

Datasheet: MCA923F

BATCH NUMBER 154122

Description:	MOUSE ANTI HUMAN CD49d:FITC
Specificity:	CD49d
Other names:	INTEGRIN ALPHA 4 CHAIN, VLA-4
Format:	FITC
Product Type:	Monoclonal Antibody
Clone:	44H6
Isotype:	IgG1
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	▪			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 Fluorescein Isothiocyanate Isomer 1 (FITC) - liquid		
Max Ex/Em	Fluorophore	Excitation Max (nm)	Emission Max (nm)
	FITC	490	525
Preparation	Purified IgG prepared by affinity chromatography on Protein A from tissue culture supernatant		
Buffer Solution	Phosphate buffered saline		
Preservative	0.09% Sodium Azide		
Stabilisers	1% Bovine Serum Albumin		
Approx. Protein	IgG concentration 0.1 mg/ml		

Concentrations

Immunogen HOON pre-B leukaemia cell line.

External Database Links

UniProt:

[P13612](#) [Related reagents](#)

Entrez Gene:

[3676](#) ITGA4 [Related reagents](#)

Synonyms CD49D

RRID AB_321452

Fusion Partners Spleen cells from immunised BALB/c mice were fused with cells of the SP2.0-Ag14 mouse myeloma cell line.

Specificity

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](#))

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](#)).

Flow Cytometry Use 10ul of the antibody to label 100ul whole blood or 10⁶ cells in 100ul.

References

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

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

This product should be stored undiluted.

Storage in frost-free freezers is not recommended. This product is photosensitive and should be protected from light.

Avoid repeated freezing and thawing as this may denature the antibody. 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 #10041 available at: https://www.bio-rad-antibodies.com/SDS/MCA923F 10041
--------------------------------------	--

Regulatory	For research purposes only
-------------------	----------------------------

Related Products

Recommended Negative Controls

[MOUSE IgG1 NEGATIVE CONTROL:FITC \(MCA928F\)](#)

Recommended Useful Reagents

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

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

North & South America	Tel: +1 800 265 7376 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
'M369158:200529'

Printed on 19 Jan 2024