

Datasheet: MCA923EL

Description:	MOUSE ANTI HUMAN CD49d:Low Endotoxin
Specificity:	CD49d
Other names:	INTEGRIN ALPHA 4 CHAIN, VLA-4
Format:	Low Endotoxin
Product Type:	Monoclonal Antibody
Clone:	44H6
Isotype:	IgG1
Quantity:	0.5 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			■	
Functional Assays	■			

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 - liquid
Preparation	Purified IgG prepared by ion exchange chromatography from tissue culture supernatant
Buffer Solution	Phosphate buffered saline
Preservative Stabilisers	None present
Carrier Free	Yes
Endotoxin Level	<0.01 EU/ug
Approx. Protein Concentrations	IgG concentration 1 mg/ml

Immunogen HOON pre-B leukaemia cell line.

External Database Links

UniProt:

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

Entrez Gene:

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

Synonyms

CD49D

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 70kDa ([Hemler et al. 1987](#)). CD49d associates with either [CD29](#) to form VLA-4 or with Integrin beta-7 to form The Peyer 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](#)).

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 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.](#)

Storage

Store at -20°C only.

This product should be stored undiluted.

Storage in frost-free freezers is not recommended. 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 #10162 available at: 10162: <https://www.bio-rad-antibodies.com/uploads/MSDS/10162.pdf>

Regulatory

For research purposes only

Related Products

Recommended Secondary Antibodies

- | | |
|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Goat Anti Mouse IgG (STAR76...) | RPE |
| Goat Anti Mouse IgG IgA IgM (STAR87...) | Alk. Phos. , HRP |
| Rabbit Anti Mouse IgG (STAR9...) | FITC |
| Goat Anti Mouse IgG (STAR77...) | HRP |
| Rabbit Anti Mouse IgG (STAR12...) | RPE |
| Goat Anti Mouse IgG (Fc) (STAR120...) | FITC , HRP |
| Rabbit Anti Mouse IgG (STAR8...) | DyLight@800 |
| Goat Anti Mouse IgG (STAR70...) | FITC |
| Rabbit Anti Mouse IgG (STAR13...) | HRP |
| Human Anti Mouse IgG1 (HCA036...) | HRP |
| Goat Anti Mouse IgG (H/L) (STAR117...) | Alk. Phos. , DyLight@488 , DyLight@549 ,
DyLight@649 , DyLight@680 , DyLight@800 ,
FITC , HRP |

Recommended Negative Controls

MOUSE IgG1 NEGATIVE CONTROL:Low Endotoxin (MCA928EL)

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

'M318180:180718'

Printed on 27 Jul 2018

© 2018 Bio-Rad Laboratories Inc | [Legal](#) | [Imprint](#)