

## Datasheet: MCA923GA

<b>Description:</b>	MOUSE ANTI HUMAN CD49d
<b>Specificity:</b>	CD49d
<b>Other names:</b>	INTEGRIN ALPHA 4 CHAIN, VLA-4
<b>Format:</b>	Purified
<b>Product Type:</b>	Monoclonal Antibody
<b>Clone:</b>	44H6
<b>Isotype:</b>	IgG1
<b>Quantity:</b>	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](http://www.bio-rad-antibodies.com/protocols).

	Yes	No	Not Determined	Suggested Dilution
Flow Cytometry	▪			1/40
Immunohistology - Frozen (1)	▪			1/50 - 1/100
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.

**(1)Overnight incubation with clone 44H6 is recommended for optimal results. The epitope recognised by this antibody is reported to be sensitive to formaldehyde fixation and tissue processing. Bio-Rad recommends the use of acetone fixation for frozen sections.**

<b>Target Species</b>	Human
<b>Product Form</b>	Purified IgG - liquid
<b>Preparation</b>	Purified IgG prepared by ion exchange chromatography from tissue culture supernatant
<b>Buffer Solution</b>	Phosphate buffered saline

<b>Preservative Stabilisers</b>	0.09% Sodium Azide
<b>Carrier Free</b>	Yes
<b>Approx. Protein Concentrations</b>	IgG concentration 1.0 mg/ml
<b>Immunogen</b>	HOON pre-B leukaemia cell line.
<b>External Database Links</b>	<p><b>UniProt:</b>  <a href="#">P13612</a>    <a href="#">Related reagents</a></p> <p><b>Entrez Gene:</b>  <a href="#">3676</a>    ITGA4    <a href="#">Related reagents</a></p>
<b>Synonyms</b>	CD49D
<b>RRID</b>	AB_324612
<b>Fusion Partners</b>	Spleen cells from immunised BALB/c mice were fused with cells of the SP2.0-Ag14 mouse myeloma cell line.
<b>Specificity</b>	<p><b>Mouse anti Human CD49d monoclonal antibody, clone 44H6</b> 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 <a href="#">FG-GAP</a> repeats, characteristic of alpha integrins, in its extracellular domain. CD49d can be proteolytically cleaved to yield fragments of 80 and 70 kDa (<a href="#">Hemler et al. 1987</a>). CD49d associates with either <a href="#">CD29</a> 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 (<a href="#">Sackstein 2006</a>) through its interaction with MadCam-1, preferentially expressed on Peyer's patch high endothelial venules and postcapillary venules in lamina propria (<a href="#">Briskin et al. 1997</a>)</p> <p>Mouse anti human CD49d, clone 44H6 is reported to induce homotypic aggregation of pre-B cell lines including <a href="#">HOON</a> and <a href="#">NALM-6</a> (<a href="#">Letarte et al. 1993</a>).</p>
<b>Flow Cytometry</b>	Use 10ul of the suggested working dilution to label 100ul of human whole peripheral blood.
<b>Histology Positive Control Tissue</b>	Human Tonsil
<b>References</b>	<ol style="list-style-type: none"> <li>1. Quackenbush, E.J. &amp; Letarte, M. (1985) Identification of several cell surface proteins of non-T, non-B acute lymphoblastic leukemia by using monoclonal antibodies. <a href="#">J Immunol. 134 (2): 1276-85.</a></li> <li>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. <a href="#">Leukemia 7(1):</a></li> </ol>

[93-103.](#)

3. Hartz B *et al.* (2011)  $\alpha$  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.](#)

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**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.

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**Guarantee** 12 months from date of despatch

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**Health And Safety Information** Material Safety Datasheet documentation #10040 available at: 10040: <https://www.bio-rad-antibodies.com/uploads/MSDS/10040.pdf>

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**Regulatory** For research purposes only

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## Related Products

### Recommended Secondary Antibodies

Goat Anti Mouse IgG (STAR77...) [HRP](#)  
Rabbit Anti Mouse IgG (STAR12...) [RPE](#)  
Rabbit Anti Mouse IgG (STAR8...) [DyLight®800](#)  
Goat Anti Mouse IgG (STAR76...) [RPE](#)  
Goat Anti Mouse IgG (Fc) (STAR120...) [FITC](#), [HRP](#)  
Goat Anti Mouse IgG IgA IgM (STAR87...) [Alk. Phos.](#), [HRP](#)  
Rabbit Anti Mouse IgG (STAR13...) [HRP](#)  
Goat Anti Mouse IgG (STAR70...) [FITC](#)  
Rabbit Anti Mouse IgG (STAR9...) [FITC](#)  
Goat Anti Mouse IgG (H/L) (STAR117...) [Alk. Phos.](#), [DyLight®488](#), [DyLight®550](#),  
[DyLight®650](#), [DyLight®680](#), [DyLight®800](#),  
[FITC](#), [HRP](#)

### Recommended Negative Controls

[MOUSE IgG1 NEGATIVE CONTROL \(MCA928\)](#)

<b>North &amp; South America</b>	Tel: +1 800 265 7376 Fax: +1 919 878 3751 Email: <a href="mailto:antibody_sales_us@bio-rad.com">antibody_sales_us@bio-rad.com</a>	<b>Worldwide</b>	Tel: +44 (0)1865 852 700 Fax: +44 (0)1865 852 739 Email: <a href="mailto:antibody_sales_uk@bio-rad.com">antibody_sales_uk@bio-rad.com</a>	<b>Europe</b>	Tel: +49 (0) 89 8090 95 21 Fax: +49 (0) 89 8090 95 50 Email: <a href="mailto:antibody_sales_de@bio-rad.com">antibody_sales_de@bio-rad.com</a>
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'M381518:210512'

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