

Datasheet: MCA2872F

Description:	MOUSE ANTI RAT CD49d:FITC
Specificity:	CD49d
Other names:	INTEGRIN ALPHA 4 CHAIN, VLA-4
Format:	FITC
Product Type:	Monoclonal Antibody
Clone:	MRalpha4-1
Isotype:	IgG2a
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 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	Rat		
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 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 0.1mg/ml		
Immunogen	RBL-2H3 rat basophilic leukaemia cell line.		
Fusion Partners	Spleen cells from immunised Balb/c mice were fused with cells of the P3U1 myeloma cell line.		
Specificity	Mouse anti Rat CD49d monoclonal antibody, clone MRalpha4-1 recognizes rat CD49d, otherwise known as integrin alpha 4 chain/VLA-4, a ~150 kDa single pass type-1 transmembrane		

glycoprotein and member of the integrin alpha chain family, which acts as a receptor for fibronectin and CD106 (VCAM-1).

CD49d is expressed broadly on T and B lymphocytes, monocytes, thymocytes, mast cells and dendritic cells and is involved in cell-cell interactions, mononuclear cell trafficking to sites of endothelial inflammation, and the adhesion of cells to the extracellular matrix.

Clone MRalpha4-1 inhibits the *in vitro* and *in vivo* functions of CD49d ([Yasuda *et al.* 1995](#)). Studies have shown that in rat Peyer's patches, clone MRalpha4-1 inhibits the rolling and adherence of lymphocytes to postcapillary venules (PCV), and significantly inhibits the transendothelial migration of T lymphocytes ([Tsuzuki *et al.* 1996](#)).

Flow Cytometry	Use 10ul of the suggested working dilution to label 1x10 ⁶ cells in 100ul.
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References	1. Yasuda, M. <i>et al.</i> (1995) Expression and function of fibronectin binding integrins on rat mast cells. Int Immunol. 7 (2): 251-8. 2. Tsuzuki Y <i>et al.</i> (1996) alpha 4 integrin plays a critical role in early stages of T lymphocyte migration in Peyer's patches of rats. Int Immunol. 8 (3): 287-95. 3. Summers, L. <i>et al.</i> (2013) Activation of brain endothelial cells by interleukin-1 is regulated by the extracellular matrix after acute brain injury. Mol Cell Neurosci. 57: 93-103.
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Storage	Store at +4°C or at -20°C if preferred. Storage in frost-free freezers is not recommended. This product should be stored undiluted. 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.
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Shelf Life	18 months from date of despatch.
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Health And Safety Information	Material Safety Datasheet documentation #10041 available at: 10041: https://www.bio-rad-antibodies.com/uploads/MSDS/10041.pdf
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Regulatory	For research purposes only
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Related Products

Recommended Negative Controls

[MOUSE IgG2a NEGATIVE CONTROL:FITC \(MCA1210F\)](#)

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
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