

Datasheet: MCA1738B

Description:	MOUSE ANTI HUMAN CD31:Biotin
Specificity:	CD31
Other names:	PECAM-1
Format:	Biotin
Product Type:	Monoclonal Antibody
Clone:	WM59
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 - 1/10

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
Species Cross Reactivity	Reacts with: Cynomolgus monkey, Rhesus Monkey N.B. Antibody reactivity and working conditions may vary between species.
Product Form	Purified IgG conjugated to Biotin - liquid
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 Concentrations	IgG concentration 0.1mg/ml

External Database Links

UniProt:

[P16284](#) [Related reagents](#)

Entrez Gene:

[5175](#) PECAM1 [Related reagents](#)

Specificity	Mouse anti Human CD31 monoclonal antibody, clone WM59 recognizes the human CD31 antigen, a ~130 kDa single pass type I transmembrane glycoprotein bearing six C2 immunoglobulin domains. CD31 is expressed by all continuous endothelia including arteries, veins and non-sinusoidal capillaries, platelets, granulocytes and some lymphocytes. CD31 is not expressed by discontinuous endothelia such as hepatic sinusoids and splenic red pulp (Muller et al. 1989). CD31 is also known as PECAM-1. The binding epitope for mouse anti human CD31, clone WM59 has been mapped to the Ig-like domain 2 (Fawcett et al. 1995).
Flow Cytometry	Use 10ul of the suggested working dilution to label 10 ⁶ cells or 100ul whole blood
References	1. Cabañas, C. <i>et al.</i> (1989) Characterization of a novel myeloid antigen regulated during differentiation of monocytic cells. Eur J Immunol. 19 (8): 1373-8. 2. Paul, G. <i>et al.</i> (2012) The adult human brain harbors multipotent perivascular mesenchymal stem cells. PLoS One. 7: e35577. 3. Stockinger, H. <i>et al.</i> (1990) Molecular characterization and functional analysis of the leukocyte surface protein CD31. J Immunol. 145 (11): 3889-97. 4. DeLisser, H.M. <i>et al.</i> (1994) Molecular and functional aspects of PECAM-1/CD31. Immunol Today. 15 (10): 490-5. 5. Urquhart, P. <i>et al.</i> (2007) Carbon monoxide-releasing molecules modulate leukocyte-endothelial interactions under flow. J Pharmacol Exp Ther. 321 (2): 656-62. 6. Fawcett, J. <i>et al.</i> (1995) Mapping the homotypic binding sites in CD31 and the role of CD31 adhesion in the formation of interendothelial cell contacts. J Cell Biol. 128:1229-41. 7. Vernon-Wilson, E.F. <i>et al.</i> (2007) CD31 delays phagocyte membrane repolarization to promote efficient binding of apoptotic cells. J Leukoc Biol. 82: 1278-88. 8. Johnston, A. <i>et al.</i> (2005) The anti-inflammatory action of methotrexate is not mediated by lymphocyte apoptosis, but by the suppression of activation and adhesion molecules. Clin Immunol. 114: 154-63. 9. Reedquist, K.A. <i>et al.</i> (2000) The small GTPase, Rap1, mediates CD31-induced integrin adhesion. J Cell Biol. 148: 1151-8. 10. Stein, A. <i>et al.</i> (2010) Local erythropoietin and endothelial progenitor cells improve regional cardiac function in acute myocardial infarction. BMC Cardiovasc Disord. Sep; 10:43. 11. Woollard, K.J. <i>et al.</i> (2002) Direct modulatory effect of C-reactive protein on primary human monocyte adhesion to human endothelial cells. Clin Exp Immunol. 130: 256-62. 12. Theberge, A.B. <i>et al.</i> (2015) Microfluidic multiculture assay to analyze biomolecular signaling in angiogenesis. Anal Chem. 87 (6): 3239-46. 13. Hilbe W <i>et al.</i> (2004) CD133 positive endothelial progenitor cells contribute to the tumour vasculature in non-small cell lung cancer. J Clin Pathol. 57 (9): 965-9. 14. Hilbe W <i>et al.</i> (2003) Immunohistochemical typing of non-small cell lung cancer on cryostat sections: correlation with clinical parameters and prognosis. J Clin Pathol. 56 (10): 736-41. 15. Palakkan, A.A. <i>et al.</i> (2015) Polarisation and functional characterisation of hepatocytes derived from human embryonic and mesenchymal stem cells. Biomed Rep. 3 (5): 626-636. 16. Newey SE <i>et al.</i> (2014) The hematopoietic chemokine CXCL12 promotes integration of human endothelial colony forming cell-derived cells into immature vessel networks. Stem Cells Dev. 23 (22): 2730-43. 17. Fabre-Mersseman V <i>et al.</i> (2011) CD4⁺ recent thymic emigrants are infected by HIV in vivo, implication for pathogenesis. AIDS. 25 (9): 1153-62. 18. Patten PE <i>et al.</i> (2008) CD38 expression in chronic lymphocytic leukemia is regulated by the tumor microenvironment. Blood. 111 (10): 5173-81. 19. Katz SC <i>et al.</i> (2004) Liver sinusoidal endothelial cells are insufficient to activate T cells. J Immunol. 173 (1): 230-5.

20. Pfisterer K *et al.* (2015) CD90(+) human dermal stromal cells are potent inducers of FoxP3(+) regulatory T cells. [J Invest Dermatol. 135 \(1\): 130-41.](#)
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27. GarikipatiV, N.S. *et al.* (2018) Isolation and characterization of mesenchymal stem cells from human fetus heart. [PLoS One. 13 \(2\): e0192244.](#)

Storage	Store at +4°C or at -20°C if preferred. This product should be stored undiluted. 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 #10041 available at: 10041: https://www.bio-rad-antibodies.com/uploads/MSDS/10041.pdf
Regulatory	For research purposes only

Related Products

Recommended Useful Reagents

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

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

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