

Datasheet: MCA1738SBUV795

Description:	MOUSE ANTI HUMAN CD31:StarBright UltraViolet 795			
Specificity:	CD31			
Other names:	PECAM-1			
Format:	StarBright UltraViolet 795			
Product Type:	Monoclonal Antibody			
Clone:	WM59			
lsotype:	lgG1			
Quantity:	100 TESTS/0.5ml			

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 <u>www.bio-rad-antibodies.com/protocols</u> .					
		Yes No	Not Determined	Suggested Dilution		
	Flow Cytometry	-		Neat		
	necessarily exclude it	s use in such proc mmended that the	user titrates the product	ng dilutions are given as		
Target Species	Human					
Species Cross Reactivity	Reacts with: Cynomolgus monkey, Rhesus Monkey N.B. Antibody reactivity and working conditions may vary between species. Cross reactivity is derived from testing within our laboratories, peer-reviewed publications or personal communications from the originators. Please refer to references indicated for further information.					
Product Form	Purified IgG conjugated to StarBright UltraViolet 795 - liquid					
Max Ex/Em	Fluorophore	Excitation Max (r	m) Emission Max (nm)			
	StarBright UltraViolet 795	340	792			
Preparation	Purified IgG prepared supernatant	by affinity chroma	tography on Protein A fro	om tissue culture		

Buffer Solution	Phosphate buffered saline
Preservative Stabilisers	0.09% sodium azide (NaN ₃) 1% bovine serum albumin 0.1% Pluronic F68 0.1% PEG 3350 0.05% Tween 20
External Database Links	UniProt: <u>P16284</u> <u>Related reagents</u> Entrez Gene: <u>5175</u> PECAM1 <u>Related reagents</u>
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 <u>C2</u> 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 (<u>Muller <i>et al.</i> 1989</u>).CD31 is also known as PECAM-1. The binding epitope for mouse anti human CD31, clone WM59 has been mapped to the lg-like domain 2 (<u>Fawcett <i>et al.</i> 1995</u>).
Flow Cytometry	Use 5µl of the suggested working dilution to label 10 ⁶ cells in 100µl. Best practices suggest a 5 minutes centrifugation at 6,000g prior to sample application.
References	 Paul, G. <i>et al.</i> (2012) The adult human brain harbors multipotent perivascular mesenchymal stem cells. <u>PLoS One. 7: e35577.</u> Urquhart, P. <i>et al.</i> (2007) Carbon monoxide-releasing molecules modulate leukocyte-endothelial interactions under flow. <u>J Pharmacol Exp Ther. 321 (2): 656-62.</u> Reedquist, K.A. <i>et al.</i> (2000) The small GTPase, Rap1, mediates CD31-induced integrin adhesion. <u>J Cell Biol. 148: 1151-8.</u> Vernon-Wilson, E.F. <i>et al.</i> (2007) CD31 delays phagocyte membrane repolarization to promote efficient binding of apoptotic cells. <u>J Leukoc Biol. 82: 1278-88.</u> Hilbe W <i>et al.</i> (2003) Immunohistochemical typing of non-small cell lung cancer on cryostat sections: correlation with clinical parameters and prognosis. <u>J Clin Pathol. 56 (10): 736-41.</u> Stein, A. <i>et al.</i> (2010) Local erythropoietin and endothelial progenitor cells improve regional cardiac function in acute myocardial infarction. <u>BMC Cardiovasc Disord. Sep; 10:43.</u> Woollard, K.J. <i>et al.</i> (2002) Direct modulatory effect of C-reactive protein on primary human monocyte adhesion to human endothelial cells. <u>Clin Exp Immunol. 130: 256-62.</u> Theberge, A.B. <i>et al.</i> (2015) Microfluidic multiculture assay to analyze biomolecular signaling in angiogenesis. <u>Anal Chem. 87 (6): 3239-46.</u> Hilbe W <i>et al.</i> (2004) CD133 positive endothelial progenitor cells contribute to the tumour vasculature in non-small cell lung cancer. <u>J Clin Pathol. 57 (9): 965-9.</u>

10. Palakkan, A.A. *et al.* (2015) Polarisation and functional characterisation of hepatocytes derived from human embryonic and mesenchymal stem cells. <u>Biomed Rep. 3 (5):</u> 626-636.

11. Newey SE *et al.* (2014) The hematopoietic chemokine CXCL12 promotes integration of human endothelial colony forming cell-derived cells into immature vessel networks. <u>Stem Cells Dev. 23 (22): 2730-43.</u>

12. Fabre-Mersseman V *et al.* (2011) CD4⁺ recent thymic emigrants are infected by HIV in vivo, implication for pathogenesis. <u>AIDS. 25 (9): 1153-62.</u>

13. Patten PE *et al.* (2008) CD38 expression in chronic lymphocytic leukemia is regulated by the tumor microenvironment. <u>Blood. 111 (10): 5173-81.</u>

14. Katz SC *et al.* (2004) Liver sinusoidal endothelial cells are insufficient to activate T cells. J Immunol. 173 (1): 230-5.

15. 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.

16. Hale, S.J. *et al.* (2015) CXCR2 modulates bone marrow vascular repair and haematopoietic recovery post-transplant. Br J Haematol. 169 (4): 552-64.

17. Muthana, M. *et al.* (2015) Directing cell therapy to anatomic target sites in vivo with magnetic resonance targeting. <u>Nat Commun. 6: 8009.</u>

18. Schuster, C. *et al.* (2015) Development of Blood and Lymphatic Endothelial Cells in Embryonic and Fetal Human Skin. <u>Am J Pathol. 185 (9): 2563-74.</u>

19. Somers, E. *et al.* (2016) Vascular Defects and Spinal Cord Hypoxia in Spinal Muscular Atrophy. <u>Ann Neurol. 79 (2): 217-30.</u>

20. Soh, B.S. *et al.* (2016) Endothelin-1 supports clonal derivation and expansion of cardiovascular progenitors derived from human embryonic stem cells. <u>Nat Commun. 7:</u> 10774.

21. GarikipatiV, N.S. *et al.* (2018) Isolation and characterization of mesenchymal stem cells from human fetus heart. <u>PLoS One. 13 (2): e0192244</u>.

22. Duque, J.C. *et al.* (2019) Vascularization of the arteriovenous fistula wall and association with maturation outcomes. <u>J Vasc Access. : 1129729819863584. [Epub ahead of print]</u>

23. Kim, J.S. *et al.* (2021) Randomization to Omega-3 Fatty Acid Supplementation and Endothelial Function in COPD: The COD-Fish Randomized Controlled Trial. <u>Chronic Obstr</u> Pulm Dis. 8(1): 41-53.

24. Bye, A.P. *et al.* (2018) Immobilization of Nonactivated Unfixed Platelets for Real-Time Single-Cell Analysis. <u>Methods Mol Biol. 1812: 1-11.</u>

25. Chai, S. *et al.* (2022) Identification of epithelial and mesenchymal circulating tumor cells in clonal lineage of an aggressive prostate cancer case. <u>NPJ Precis Oncol. 6 (1): 41.</u> 26. Bettin, L. *et al.* (2023) Co-stimulation by TLR7/8 ligand R848 modulates IFN- γ production of porcine $\gamma\delta$ T cells in a microenvironment-dependent manner. <u>Dev Comp</u> Immunol. 138: 104543.

27. Seo, J. *et al.* (2023) Plasticity of circulating tumor cells in small cell lung cancer. <u>Sci</u> <u>Rep. 13 (1): 11775.</u>

28. Shishido, S.N. *et al.* (2024) Cancer-related cells and oncosomes in the liquid biopsy of pancreatic cancer patients undergoing surgery. <u>NPJ Precis Oncol. 8 (1): 36.</u>

29. Bai, L. *et al.* (2024) Longitudinal tracking of circulating rare events in the liquid biopsy of stage III-IV non-small cell lung cancer patients. <u>Discov Oncol. 15 (1): 142.</u>

Further Reading	1. DeLisser, H.M. <i>et al.</i> (1994) Molecular and functional aspects of PECAM-1/CD31. Immunol Today. 15 (10): 490-5.
Storage	Store at +4°C. DO NOT FREEZE. This product should be stored undiluted.
Guarantee	12 months from date of despatch
Acknowledgements	This product is covered by U.S. Patent No. 10,150,841 and related U.S. and foreign counterparts
Health And Safety Information	Material Safety Datasheet documentation #20471 available at: https://www.bio-rad-antibodies.com/SDS/MCA1738SBUV795 20471
Regulatory	For research purposes only

Related Products

Recommended Useful Reagents

HUMAN SEROBLOCK (BUF070A) HUMAN SEROBLOCK (BUF070B)

North & South	Tel: +1 800 265 7376	Worldwide	Tel: +44 (0)1865 852 700	Europe	Tel: +49 (0) 89 8090 95 21
America	Fax: +1 919 878 3751		Fax: +44 (0)1865 852 739		Fax: +49 (0) 89 8090 95 50
	Email: antibody_sales_us@bio	o-rad.com	Email: antibody_sales_uk@bio-	rad.com	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 'M411271:221102'

Printed on 07 May 2024

© 2024 Bio-Rad Laboratories Inc | Legal | Imprint