Datasheet: MCA1738SBB615

Description:	MOUSE ANTI HUMAN CD31:StarBright Blue 615
Specificity:	CD31
Other names:	PECAM-1
Format:	StarBright Blue 615
Product Type:	Monoclonal Antibody
Clone:	WM59
Isotype:	IgG1
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 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

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 Blue 615 - liquid

Max Ex/Em

Fluorophore	Excitation Max (nm)	Emission Max (nm)
StarBright Blue 615	475	612

Preparation

Purified IgG prepared by affinity chromatography on Protein A from tissue culture supernatant

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:** 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 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	1. Paul, G. *et al.* (2012) The adult human brain harbors multipotent perivascular mesenchymal stem cells. PLoS One. 7: e35577. 2. Urquhart, P. *et al.* (2007) Carbon monoxide-releasing molecules modulate leukocyte-endothelial interactions under flow. J Pharmacol Exp Ther. 321 (2): 656-62. 3. Reedquist, K.A. *et al.* (2000) The small GTPase, Rap1, mediates CD31-induced integrin adhesion. J Cell Biol. 148: 1151-8. 4. Vernon-Wilson, E.F. *et al.* (2007) CD31 delays phagocyte membrane repolarization to promote efficient binding of apoptotic cells. J Leukoc Biol. 82: 1278-88. 5. Hilbe W *et al.* (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. 6. Stein, A. *et al.* (2010) Local erythropoietin and endothelial progenitor cells improve regional cardiac function in acute myocardial infarction. BMC Cardiovasc Disord. Sep; 10:43. 7. Woollard, K.J. *et al.* (2002) Direct modulatory effect of C-reactive protein on primary human monocyte adhesion to human endothelial cells. Clin Exp Immunol. 130: 256-62. 8. Theberge, A.B. *et al.* (2015) Microfluidic multiculture assay to analyze biomolecular signaling in angiogenesis. Anal Chem. 87 (6): 3239-46. 9. Hilbe W *et al.* (2004) CD133 positive endothelial progenitor cells contribute to the tumour vasculature in non-small cell lung cancer. J Clin Pathol. 57 (9): 965-9. 10. Palakkan, A.A. *et al.* (2015) Polarisation and functional characterisation of hepatocytes derived from human embryonic and mesenchymal stem cells. Biomed Rep. 3 (5):

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. Stem Cells Dev. 23 (22): 2730-43.
12. Fabre-Mersseman V *et al.* (2011) $CD4^+$ recent thymic emigrants are infected by HIV in vivo, implication for pathogenesis. AIDS. 25 (9): 1153-62.
13. Patten PE *et al.* (2008) CD38 expression in chronic lymphocytic leukemia is regulated by the tumor microenvironment. Blood. 111 (10): 5173-81.
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. Nat Commun. 6: 8009.
18. Schuster, C. *et al.* (2015) Development of Blood and Lymphatic Endothelial Cells in Embryonic and Fetal Human Skin. Am J Pathol. 185 (9): 2563-74.
19. Somers, E. *et al.* (2016) Vascular Defects and Spinal Cord Hypoxia in Spinal Muscular Atrophy. Ann Neurol. 79 (2): 217-30.
20. Soh, B.S. *et al.* (2016) Endothelin-1 supports clonal derivation and expansion of cardiovascular progenitors derived from human embryonic stem cells. Nat Commun. 7: 10774.
21. GarikipatiV, N.S. *et al.* (2018) Isolation and characterization of mesenchymal stem cells from human fetus heart. PLoS One. 13 (2): e0192244.
22. Duque, J.C. *et al.* (2019) Vascularization of the arteriovenous fistula wall and association with maturation outcomes. J Vasc Access. : 1129729819863584. [Epub ahead of print]
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. Chronic Obstr Pulm Dis. 8(1): 41-53.
24. Bye, A.P. *et al.* (2018) Immobilization of Nonactivated Unfixed Platelets for Real-Time Single-Cell Analysis. Methods Mol Biol. 1812: 1-11.
25. Chai, S. *et al.* (2022) Identification of epithelial and mesenchymal circulating tumor cells in clonal lineage of an aggressive prostate cancer case. NPJ Precis Oncol. 6 (1): 41.
26. Bettin, L. *et al.* (2023) Co-stimulation by TLR7/8 ligand R848 modulates IFN-γ production of porcine γδ T cells in a microenvironment-dependent manner. Dev Comp Immunol. 138: 104543.
27. Seo, J. *et al.* (2023) Plasticity of circulating tumor cells in small cell lung cancer. Sci Rep. 13 (1): 11775.
28. Shishido, S.N. *et al.* (2024) Cancer-related cells and oncosomes in the liquid biopsy of pancreatic cancer patients undergoing surgery. NPJ Precis Oncol. 8 (1): 36.
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. Discov Oncol. 15 (1): 142.

Further Reading

1. DeLisser, H.M. *et al.* (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/MCA1738SBB615 20471
Regulatory	For research purposes only

Related Products

Recommended Useful Reagents

HUMAN SEROBLOCK (BUF070A)
HUMAN SEROBLOCK (BUF070B)

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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