

Datasheet: MCA1738A647

BATCH NUMBER 170952

Description:	MOUSE ANTI HUMAN CD31:Alexa Fluor® 647
Specificity:	CD31
Other names:	PECAM-1
Format:	ALEXA FLUOR® 647
Product Type:	Monoclonal Antibody
Clone:	WM59
Isotype:	IgG1
Quantity:	100 TESTS/1ml

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 Alexa Fluor® 647- liquid

Max Ex/Em	Fluorophore	Excitation Max (nm)	Emission Max (nm)
	Alexa Fluor®647	650	665

Preparation

Purified IgG prepared by affinity chromatography on Protein A 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 0.05 mg/ml
External Database Links	<p>UniProt: P16284 Related reagents</p> <p>Entrez Gene: 5175 PECAM1 Related reagents</p>
RRID	AB_322463
Specificity	<p>Mouse anti Human CD31 antibody, clone WM59, recognizes CD31, also known as platelet endothelial cell adhesion molecule 1 (PECAM-1), endoCAM and GPIIA'.</p> <p>CD31 is a single-pass type I transmembrane glycoprotein belonging to the immunoglobulin superfamily, bearing six Ig-like domains. It is expressed on the surface of endothelial cells, platelets, monocytes, neutrophils, and some types of T-cells. CD31 forms homotypic and heterotypic interactions, including with CD38 and CD117. It is involved in various cellular processes, including the mediation of adhesion and transmigration of leukocytes across the endothelium, angiogenesis, wound healing, inflammation, and thrombosis.</p> <p>CD31 is used to identify vascular tumors, such as angiosarcoma and hemangioma, and endothelial cells in normal and pathological tissues. CD31 expression is also a marker of endothelial dysfunction and atherosclerosis, and can be modulated by various factors, such as cytokines, shear stress, and hypoxia. Mutations in the PECAM1 gene encoding CD31 can cause platelet-type bleeding disorder 11, a rare condition characterized by mild to moderate bleeding tendency.</p> <p>The binding epitope for mouse anti human CD31 antibody, clone WM59, has been mapped to the Ig-like domain 2 (Fawcett et al. 1995). Mouse anti human CD31 antibody, clone WM59, is also available as a recombinant antibody (TZA1738).</p>
Flow Cytometry	Use 10µl of the suggested working dilution to label 10 ⁶ cells or 100µl whole blood
References	<ol style="list-style-type: none"> Paul, G. <i>et al.</i> (2012) The adult human brain harbors multipotent perivascular mesenchymal stem cells. PLoS One. 7: e35577. 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. Reedquist, K.A. <i>et al.</i> (2000) The small GTPase, Rap1, mediates CD31-induced integrin adhesion. J Cell Biol. 148: 1151-8. 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.](#)
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 $\gamma\delta$ 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

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. This product is photosensitive and should be protected from light.

Guarantee

12 months from date of despatch

Acknowledgements

This product is provided under an intellectual property licence from Life Technologies Corporation. The transfer of this product is contingent on the buyer using the purchase product solely in research, excluding contract research or any fee for service research, and the buyer must not sell or otherwise transfer this product or its components for (a) diagnostic, therapeutic or prophylactic purposes; (b) testing, analysis or screening services, or information in return for compensation on a per-test basis; (c) manufacturing or quality assurance or quality control, or (d) resale, whether or not resold for use in research. For information on purchasing a license to this product for purposes other than as described above, contact Life Technologies Corporation, 5791 Van Allen Way, Carlsbad CA 92008 USA or outlicensing@thermofisher.com

Health And Safety Information

Material Safety Datasheet documentation #10041 available at: <https://www.bio-rad-antibodies.com/SDS/MCA1738A647>

Regulatory

For research purposes only

Related Products

Recommended Negative Controls

[MOUSE IgG1 NEGATIVE CONTROL:Alexa Fluor® 647 \(MCA928A647\)](#)

Recommended Useful Reagents

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

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

Product inquiries: www.bio-rad-antibodies.com/technical-support

To find a batch/lot specific datasheet for this product, please use our online search tool at: bio-rad-antibodies.com/datasheets

'M411270:221102'

Printed on 02 Apr 2026

© 2026 Bio-Rad Laboratories Inc | [Legal](#) | [Imprint](#)