

## Datasheet: MCA1738A647

<b>Description:</b>	MOUSE ANTI HUMAN CD31:Alexa Fluor® 647
<b>Specificity:</b>	CD31
<b>Other names:</b>	PECAM-1
<b>Format:</b>	ALEXA FLUOR® 647
<b>Product Type:</b>	Monoclonal Antibody
<b>Clone:</b>	WM59
<b>Isotype:</b>	IgG1
<b>Quantity:</b>	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](http://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.

<b>Target Species</b>	Human		
<b>Species Cross Reactivity</b>	Reacts with: Cynomolgus monkey, Rhesus Monkey <b>N.B.</b> Antibody reactivity and working conditions may vary between species.		
<b>Product Form</b>	Purified IgG conjugated to Alexa Fluor®647- liquid		
<b>Max Ex/Em</b>	<b>Fluorophore</b>	<b>Excitation Max (nm)</b>	<b>Emission Max (nm)</b>
	Alexa Fluor®647	650	665
<b>Preparation</b>	Purified IgG prepared by affinity chromatography on Protein A from tissue culture supernatant		
<b>Buffer Solution</b>	Phosphate buffered saline		
<b>Preservative</b>	0.09% Sodium Azide		
<b>Stabilisers</b>	1% Bovine Serum Albumin		
<b>Approx. Protein Concentrations</b>	IgG concentration 0.05 mg/ml		
<b>External Database Links</b>	<b>UniProt:</b>		
	<a href="#">P16284</a>	<a href="#">Related reagents</a>	

**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<sup>6</sup> cells or 100ul whole blood

---

**References**

1. Cabañas, C. *et al.* (1989) Characterization of a novel myeloid antigen regulated during differentiation of monocytic cells. [Eur J Immunol. 19 \(8\): 1373-8.](#)
2. Paul, G. *et al.* (2012) The adult human brain harbors multipotent perivascular mesenchymal stem cells. [PLoS One. 7: e35577.](#)
3. Stockinger, H. *et al.* (1990) Molecular characterization and functional analysis of the leukocyte surface protein CD31. [J Immunol. 145 \(11\): 3889-97.](#)
4. DeLisser, H.M. *et al.* (1994) Molecular and functional aspects of PECAM-1/CD31. [Immunol Today. 15 \(10\): 490-5.](#)
5. Urquhart, P. *et al.* (2007) Carbon monoxide-releasing molecules modulate leukocyte-endothelial interactions under flow. [J Pharmacol Exp Ther. 321 \(2\): 656-62.](#)
6. Fawcett, J. *et al.* (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. *et al.* (2007) CD31 delays phagocyte membrane repolarization to promote efficient binding of apoptotic cells. [J Leukoc Biol. 82: 1278-88.](#)
8. Johnston, A. *et al.* (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. *et al.* (2000) The small GTPase, Rap1, mediates CD31-induced integrin adhesion. [J Cell Biol. 148: 1151-8.](#)
10. 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.](#)
11. 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.](#)
12. Theberge, A.B. *et al.* (2015) Microfluidic multiculture assay to analyze biomolecular signaling in angiogenesis. [Anal Chem. 87 \(6\): 3239-46.](#)
13. 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.](#)
14. 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.](#)
15. 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.](#)
16. 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.](#)
17. Fabre-Mersseman V *et al.* (2011) CD4<sup>+</sup> recent thymic emigrants are infected by HIV in vivo, implication for pathogenesis. [AIDS. 25 \(9\): 1153-62.](#)
18. Patten PE *et al.* (2008) CD38 expression in chronic lymphocytic leukemia is regulated by the

- tumor microenvironment. [Blood. 111 \(10\): 5173-81.](#)
19. Katz SC *et al.* (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.](#)
21. Hale, S.J. *et al.* (2015) CXCR2 modulates bone marrow vascular repair and haematopoietic recovery post-transplant. [Br J Haematol. 169 \(4\): 552-64.](#)
22. Muthana, M. *et al.* (2015) Directing cell therapy to anatomic target sites in vivo with magnetic resonance targeting. [Nat Commun. 6: 8009.](#)
23. 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.](#)
24. Somers, E. *et al.* (2016) Vascular Defects and Spinal Cord Hypoxia in Spinal Muscular Atrophy. [Ann Neurol. 79 \(2\): 217-30.](#)
25. 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.](#)
26. Yi, T. *et al.* (2015) Manufacture of Clinical-Grade Human Clonal Mesenchymal Stem Cell Products from Single Colony Forming Unit-Derived Colonies Based on the Subfractionation Culturing Method. [Tissue Eng Part C Methods. 21 \(12\): 1251-62.](#)
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.

Storage in frost free freezers is not recommended. 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.

---

**Shelf Life**

18 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](mailto:outlicensing@thermofisher.com)

---

**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 Negative Controls**

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

## Recommended Useful Reagents

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

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

**North & South** Tel: +1 800 265 7376

**America** Fax: +1 919 878 3751

Email: [antibody\\_sales\\_us@bio-rad.com](mailto: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](mailto: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](mailto:antibody_sales_de@bio-rad.com)

'M310671:171019'

**Printed on 21 Jun 2018**

---

© 2018 Bio-Rad Laboratories Inc | [Legal](#) | [Imprint](#)