

## Datasheet: MCA1738SBV440

**BATCH NUMBER 100004782**

<b>Description:</b>	MOUSE ANTI HUMAN CD31:StarBright Violet 440
<b>Specificity:</b>	CD31
<b>Other names:</b>	PECAM-1
<b>Format:</b>	StarBright Violet 440
<b>Product Type:</b>	Monoclonal Antibody
<b>Clone:</b>	WM59
<b>Isotype:</b>	IgG1
<b>Quantity:</b>	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](http://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 Violet 440 - liquid

Max Ex/Em	Fluorophore	Excitation Max (nm)	Emission Max (nm)
	StarBright Violet 440	385	438

#### Preparation

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 (NaN <sub>3</sub> )
<b>Stabilisers</b>	1% Bovine Serum Albumin 0.1% Pluronic F68 0.1% PEG 3350
<b>External Database Links</b>	<p><b>UniProt:</b>  <a href="#">P16284</a>    <a href="#">Related reagents</a></p> <p><b>Entrez Gene:</b>  <a href="#">5175</a>    PECAM1    <a href="#">Related reagents</a></p>
<b>Specificity</b>	<p><b>Mouse anti Human CD31 monoclonal antibody, clone WM59</b> recognizes the human CD31 antigen, a ~130 kDa single pass type I transmembrane glycoprotein bearing six <a href="#">C2 immunoglobulin domains</a>. 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 (<a href="#">Muller et al. 1989</a>). CD31 is also known as PECAM-1.</p> <p>The binding epitope for mouse anti human CD31, clone WM59 has been mapped to the Ig-like domain 2 (<a href="#">Fawcett et al. 1995</a>).</p>
<b>Flow Cytometry</b>	Use 5ul of the suggested working dilution to label 10 <sup>6</sup> cells in 100ul. Best practices suggest a 5 minutes centrifugation at 6,000g prior to sample application.
<b>References</b>	<ol style="list-style-type: none"> <li>Paul, G. <i>et al.</i> (2012) The adult human brain harbors multipotent perivascular mesenchymal stem cells. <a href="#">PLoS One. 7: e35577.</a></li> <li>Stockinger, H. <i>et al.</i> (1990) Molecular characterization and functional analysis of the leukocyte surface protein CD31. <a href="#">J Immunol. 145 (11): 3889-97.</a></li> <li>DeLisser, H.M. <i>et al.</i> (1994) Molecular and functional aspects of PECAM-1/CD31. <a href="#">Immunol Today. 15 (10): 490-5.</a></li> <li>Urquhart, P. <i>et al.</i> (2007) Carbon monoxide-releasing molecules modulate leukocyte-endothelial interactions under flow. <a href="#">J Pharmacol Exp Ther. 321 (2): 656-62.</a></li> <li>Reedquist, K.A. <i>et al.</i> (2000) The small GTPase, Rap1, mediates CD31-induced integrin adhesion. <a href="#">J Cell Biol. 148: 1151-8.</a></li> <li>Vernon-Wilson, E.F. <i>et al.</i> (2007) CD31 delays phagocyte membrane repolarization to promote efficient binding of apoptotic cells. <a href="#">J Leukoc Biol. 82: 1278-88.</a></li> <li>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. <a href="#">Clin Immunol. 114: 154-63.</a></li> <li>Hilbe W <i>et al.</i> (2003) Immunohistochemical typing of non-small cell lung cancer on cryostat sections: correlation with clinical parameters and prognosis. <a href="#">J Clin Pathol. 56 (10): 736-41.</a></li> <li>Stein, A. <i>et al.</i> (2010) Local erythropoietin and endothelial progenitor cells improve regional cardiac function in acute myocardial infarction. <a href="#">BMC Cardiovasc Disord. Sep; 10:43.</a></li> </ol>

10. 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.](#)
11. Theberge, A.B. *et al.* (2015) Microfluidic multiculture assay to analyze biomolecular signaling in angiogenesis. [Anal Chem. 87 \(6\): 3239-46.](#)
12. 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.](#)
13. 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.](#)
14. 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.](#)
15. 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.](#)
16. 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.](#)
17. Patten PE *et al.* (2008) CD38 expression in chronic lymphocytic leukemia is regulated by the tumor microenvironment. [Blood. 111 \(10\): 5173-81.](#)
18. Katz SC *et al.* (2004) Liver sinusoidal endothelial cells are insufficient to activate T cells. [J Immunol. 173 \(1\): 230-5.](#)
19. 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.](#)
20. Hale, S.J. *et al.* (2015) CXCR2 modulates bone marrow vascular repair and haematopoietic recovery post-transplant. [Br J Haematol. 169 \(4\): 552-64.](#)
21. Muthana, M. *et al.* (2015) Directing cell therapy to anatomic target sites in vivo with magnetic resonance targeting. [Nat Commun. 6: 8009.](#)
22. 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.](#)
23. Somers, E. *et al.* (2016) Vascular Defects and Spinal Cord Hypoxia in Spinal Muscular Atrophy. [Ann Neurol. 79 \(2\): 217-30.](#)
24. 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.](#)
25. GarikipatiV, N.S. *et al.* (2018) Isolation and characterization of mesenchymal stem cells from human fetus heart. [PLoS One. 13 \(2\): e0192244.](#)
26. Duque, J.C. *et al.* (2019) Vascularization of the arteriovenous fistula wall and association with maturation outcomes. [J Vasc Access. : 1129729819863584. \[Epub ahead of print\]](#)

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**Storage**

Store at +4°C. DO NOT FREEZE.  
This product should be stored undiluted.

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**Guarantee**

12 months from date of despatch

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**Acknowledgements**

This product is covered by U.S. Patent No. 10,150,841 and related U.S. and foreign counterparts

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**Health And Safety Information**      Material Safety Datasheet documentation #20438 available at:  
<https://www.bio-rad-antibodies.com/SDS/MCA1738SBV440>  
20438

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**Regulatory**                      For research purposes only

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## Related Products

### 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

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

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