

## Datasheet: MCA1738SBB615

<b>Description:</b>	MOUSE ANTI HUMAN CD31:StarBright Blue 615
<b>Specificity:</b>	CD31
<b>Other names:</b>	PECAM-1
<b>Format:</b>	StarBright Blue 615
<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 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

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<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
	0.05% Tween 20

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**External Database Links**

**UniProt:**

[P16284](#)    [Related reagents](#)

**Entrez Gene:**

[5175](#)    PECAM1    [Related reagents](#)

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**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](#)).

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**Flow Cytometry**

Use 5µl of the suggested working dilution to label 10<sup>6</sup> cells in 100µl. Best practices suggest a 5 minutes centrifugation at 6,000g prior to sample application.

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**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<sup>+</sup> 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- $\gamma$  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.](#)

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**Further Reading**

1. DeLisser, H.M. *et al.* (1994) Molecular and functional aspects of PECAM-1/CD31. [Immunol Today. 15 \(10\): 490-5.](#)

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**Storage**

Store at +4°C.

DO NOT FREEZE.  
This product should be stored undiluted.

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<b>Guarantee</b>	12 months from date of despatch
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<b>Acknowledgements</b>	This product is covered by U.S. Patent No. 10,150,841 and related U.S. and foreign counterparts
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<b>Health And Safety Information</b>	Material Safety Datasheet documentation #20471 available at: <a href="https://www.bio-rad-antibodies.com/SDS/MCA1738SBB615">https://www.bio-rad-antibodies.com/SDS/MCA1738SBB615</a> 20471
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<b>Regulatory</b>	For research purposes only
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## Related Products

### Recommended Useful Reagents

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

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

<b>North &amp; South America</b>	Tel: +1 800 265 7376 Fax: +1 919 878 3751 Email: <a href="mailto:antibody_sales_us@bio-rad.com">antibody_sales_us@bio-rad.com</a>	<b>Worldwide</b>	Tel: +44 (0)1865 852 700 Fax: +44 (0)1865 852 739 Email: <a href="mailto:antibody_sales_uk@bio-rad.com">antibody_sales_uk@bio-rad.com</a>	<b>Europe</b>	Tel: +49 (0) 89 8090 95 21 Fax: +49 (0) 89 8090 95 50 Email: <a href="mailto:antibody_sales_de@bio-rad.com">antibody_sales_de@bio-rad.com</a>
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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://bio-rad-antibodies.com/datasheets)  
'M411280:221102'

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