

Datasheet: MCA547PE

BATCH NUMBER 1604

Description:	MOUSE ANTI HUMAN CD34:RPE
Specificity:	CD34 CLASS II
Format:	RPE
Product Type:	Monoclonal Antibody
Clone:	QBEND/10
Isotype:	IgG1
Quantity:	100 TESTS

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 - 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 his/her own system using appropriate negative/positive controls.

Target Species

Human

Species Cross Reactivity

Reacts with: Cynomolgus monkey, Rhesus Monkey

Does not react with: Bovine, Sheep, Rat, Dog

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 R. Phycoerythrin (RPE) - lyophilized

Reconstitution

Reconstitute with 1 ml distilled water

Max Ex/Em

Fluorophore	Excitation Max (nm)	Emission Max (nm)
RPE 488nm laser	496	578

Preparation

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

supernatant

Buffer Solution Phosphate buffered saline

Preservative 0.09% Sodium Azide (NaN₃)
Stabilisers 1% Bovine Serum Albumin
5% Sucrose

Immunogen Human endothelial cell membrane vesicles.

External Database Links

UniProt:

[P28906](#)

[Related reagents](#)

Entrez Gene:

[947](#)

CD34

[Related reagents](#)

RRID AB_1125257

Fusion Partners Spleen cells from immunized NZB mice were fused with cells of the mouse NSO myeloma cell line.

Specificity

Mouse anti Human CD34 antibody, clone QBEND/10 recognizes the human CD34 antigen, also known as Hematopoietic progenitor cell antigen CD34. Human CD34 is 385 amino acid polypeptide containing a 31 residue signal peptide, cleaved to yield the ~110kDa mature form of CD34, a sialomucin single pass transmembrane glycoprotein. CD34 is expressed by stem cells ([Kaufman *et al.* 2001](#)) and small vessel endothelium ([Ramani *et al.* 1990](#))

Human CD34 exists as two isoforms, the full length form described here and a truncated isoform lacking the carboxy-terminal of the intracellular domain and containing some alternative sequence in the remaining intracellular region. Antibody binding epitopes on human CD34 have been classified according to their resistance to enzymatic degradation and grouped together using this and competitive binding assays ([Lanza *et al.* 1999](#)). Mouse anti Human CD34 antibody, clone QBEND/10 has been classified as binding to the class II epitope, resistant to neuraminidase treatment but sensitive to both glycoprotease and chymopapain digestion. Mouse anti Human CD34 antibody, clone QBEND/10 binds to a different epitope to Mouse anti Human CD34, clone 581 which binds to the class III epitope resistant to all three enzymatic treatments (Nishio *et al.* 1996 In Leukocyte Typing VI). Clone QBEND 10 is expected to bind to both isoforms of human CD34 as its binding epitope has been mapped to the extracellular domain between amino acids 43 and 49 by peptide microarray analysis (Jones *et al.* 1996, in Leukocyte Typing VI).

Mouse anti Human CD34 antibody, clone QBEND/10 has been successfully exploited for the detection of CD34 in brain capillaries of Alzheimer's patients ([Kalaria *et al.* 1992](#)) and in acute lymphoblastic leukemia cells ([Sutherland *et al.* 1992](#)) by western blotting.

Flow Cytometry Use 10ul of the suggested working dilution to label 1 x 10⁶ cells in 100ul.

References

1. Fina, L. *et al.* (1990) Expression of the CD34 gene in vascular endothelial cells. [Blood. 75 \(12\): 2417-26.](#)
2. Sauer, G. *et al.* (2003) Progression of cervical carcinomas is associated with down-regulation of CD9 but strong local re-expression at sites of transendothelial invasion. [Clin Cancer Res. 9: 6426-31.](#)
3. Rutella, S. *et al.* (2003) Identification of a novel subpopulation of human cord blood CD34-CD133-CD7-CD45+lineage- cells capable of lymphoid/NK cell differentiation after *in vitro* exposure to IL-15. [J Immunol. 171: 2977-88.](#)
4. Chan-Ling, T. *et al.* (2004) Astrocyte-endothelial cell relationships during human retinal vascular development. [Invest Ophthalmol Vis Sci. 45: 2020-32.](#)
5. Zhao, M. *et al.* (2007) Evidence for the presence of stem cell-like progenitor cells in human adult pancreas. [J Endocrinol. 195: 407-14.](#)
6. Jokubaitis, V.J. *et al.* (2008) Angiotensin-converting enzyme (CD143) marks hematopoietic stem cells in human embryonic, fetal, and adult hematopoietic tissues. [Blood. 111: 4055-63.](#)
7. Lee, M.Y. *et al.* (2009) Angiogenesis in differentiated placental multipotent mesenchymal stromal cells is dependent on integrin alpha5beta1. [PLoS One. 4: e6913.](#)
8. Chan-Ling T *et al.* (2011) Evidence of hematopoietic differentiation, vasculogenesis and angiogenesis in the formation of human choroidal blood vessels. [Exp Eye Res. 92 \(5\): 361-76.](#)
9. Shetty, S. *et al.* (2011) Common lymphatic endothelial and vascular endothelial receptor-1 mediates the transmigration of regulatory T cells across human hepatic sinusoidal endothelium. [J Immunol. 186: 4147-55.](#)
10. Chan-Ling T (2011) Role of CD44+ Stem Cells in Mural Cell Formation in the Human Choroid: Evidence of Vascular Instability Due to Limited Pericyte Ensheathment. [Invest Ophthalmol Vis Sci. 52: 399-410.](#)
11. Belet M *et al.* (2012) Integrative genome-wide expression profiling identifies three distinct molecular subgroups of renal cell carcinoma with different patient outcome. [BMC Cancer. 12: 310.](#)
12. Suzuki, M. *et al.* (2012) Induction of human humoral immune responses in a novel HLA-DR-expressing transgenic NOD/Shi-scid/ycnull mouse. [Int Immunol. 24 \(4\): 243-52.](#)
13. Hsieh, J.Y. *et al.* (2013) miR-146a-5p circuitry uncouples cell proliferation and migration, but not differentiation, in human mesenchymal stem cells. [Nucleic Acids Res. 41 \(21\): 9753-63.](#)
14. Chen, S.P. *et al.* (2014) Reduced circulating endothelial progenitor cells in reversible cerebral vasoconstriction syndrome. [J Headache Pain. 15: 82.](#)
15. Junaid TO *et al.* (2014) Fetoplacental vascular alterations associated with fetal growth restriction. [Placenta. 35 \(10\): 808-15.](#)
16. Grognez, A. *et al.* (2016) Human Fetal Progenitor Tenocytes for Regenerative Medicine. [Cell Transplant. 25 \(3\): 463-79.](#)
17. Fan, C.Y. *et al.* (2017) *De novo* protein sequencing, humanization and *in vitro* effects of an antihuman CD34 mouse monoclonal antibody. [Biochem Biophys Rep. 9: 51-60.](#)
18. Wang, D.Y. *et al.* (2017) Histological component quantification for the evaluation of endometrial receptivity in women with natural cycles undergoing *in vitro* fertilization/intracytoplasmic sperm injection. [Taiwan J Obstet Gynecol. 56 \(3\): 368-70.](#)
19. GarikipatiV, N.S. *et al.* (2018) Isolation and characterization of mesenchymal stem cells from human fetus heart. [PLoS One. 13 \(2\): e0192244.](#)

20. Rodewald, A.K. *et al.* (2019) Eight autopsy cases of melanoma brain metastases showing angiotropism and pericytic mimicry. Implications for extravascular migratory metastasis. [J Cutan Pathol. 46 \(8\): 570-8.](#)

21. Maccio, U. *et al.* (2022) Hypoxia and Ezrin Expression in Primary Melanoma Have High Prognostic Relevance. [Int J Mol Sci. 23 \(18\): 10745.](#)

Further Reading 1. Gorr, T.A. *et al.* (2011) Old proteins - new locations: myoglobin, haemoglobin, neuroglobin and cytoglobin in solid tumours and cancer cells. [Acta Physiol \(Oxf\). 202: 563-581.](#)

Storage Prior to reconstitution store at +4°C. Following reconstitution store at +4°C.

DO NOT FREEZE.

This product should be stored undiluted. This product is photosensitive and should be protected from light. Should this product contain a precipitate we recommend microcentrifugation before use.

Guarantee 12 months from date of despatch

Health And Safety Information Material Safety Datasheet documentation #20487 available at: <https://www.bio-rad-antibodies.com/SDS/MCA547PE>
20487

Regulatory For research purposes only

Related Products

Recommended Negative Controls

[MOUSE IgG1 NEGATIVE CONTROL:RPE \(MCA928PE\)](#)

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

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

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)

'M375583:210104'

Printed on 21 Feb 2024

© 2024 Bio-Rad Laboratories Inc | [Legal](#) | [Imprint](#)