

CD34 Monoclonal Antibody (QBEND/10)

Catalog NumberMA5-18091

Product data sheet

Details		Species Reactivity	
Size	100 µL	Species reactivity	Human, Non-human primate
Host/Isotope	Mouse / IgG1	Published species	Rabbit, Rat, Human, Not Applicable
Class	Monoclonal	Tested Applications	
Type	Antibody	Flow Cytometry (Flow)	1:50
Clone	QBEND/10	Immunohistochemistry (Frozen) (IHC (F))	Assay-dependent
Immunogen	Human endothelial vesicles	Immunohistochemistry (Paraffin) (IHC (P))	1:50-1:100
Conjugate	Unconjugated	Immunoprecipitation (IP)	Assay-dependent
Form	Liquid	Western Blot (WB)	1:1,000
Concentration	1 mg/mL	Published Applications	
Purification	Protein A	Immunohistochemistry (Paraffin) (IHC (P))	See 3 publications below
Storage buffer	PBS	Immunohistochemistry (IHC)	See 21 publications below
Contains	0.02% sodium azide	Immunocytochemistry (ICC/IF)	See 1 publications below
Storage Conditions	Store at 4°C short term. For long term storage, store at -20°C, avoiding freeze/thaw cycles.	Miscellaneous PubMed (Misc)	See 1 publications below

* Suggested working dilutions are given as a guide only. It is recommended that the user titrate the product for use in their own experiment using appropriate negative and positive controls.

Product specific information

This antibody detects CD34 in human, Cynomolgus monkey and Rhesus monkey samples. IHC was performed using methanol-fixed cells. Do not perform antigen retrieval prior to IHC staining. This target has a predicted molecular weight of 40 kDa.

Background/Target Information

CD34 is a highly glycosylated monomeric with a molecular weight range of 111-115 kDa surface protein that is present on many stem cell populations. CD34 is a stem cell marker although its expression on human hematopoietic stem cells is reversible. CD34 may serve as a surface receptor that undergoes receptor-mediated endocytosis and regulates adhesion, differentiation and proliferation of hematopoietic stem cells and other progenitors. CD34 expression is likely to represent a specific state of hematopoietic development that may have altered adhering properties with expanding and differentiating capabilities in both in vitro and in vivo conditions. CD34 is possibly an adhesion molecule with a putative role for mediating the attachment of stem cells to the bone marrow extracellular matrix or directly to stromal cells. Further, CD34 could act as a scaffold for the attachment of lineage specific glycans, allowing stem cells to bind to lectins expressed by stromal cells or other marrow components. CD34 is thought to have a role in presenting carbohydrate ligands to selectins. The intracellular chain of the CD34 antigen is a site of phosphorylation by activated protein kinase C suggesting a putative role in signal transduction. Diseases associated with CD34 dysfunction include dermatofibrosarcoma and neurofibroma.

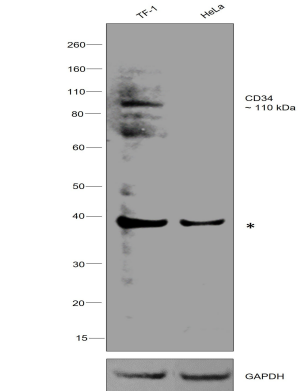
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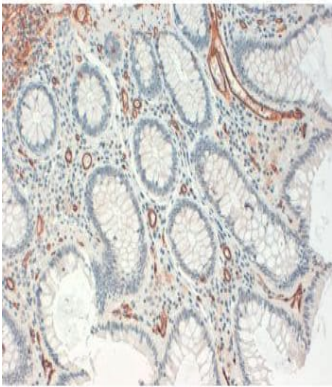
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Product Images For CD34 Monoclonal Antibody (QBEND/10)



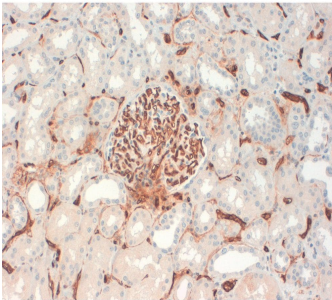
CD34 Antibody (MA5-18091) in WB

Western blot was performed using Anti-CD34 Monoclonal Antibody (QBEND/10) (Product # MA5-18091) and a 110 kDa band corresponding to Hematopoietic progenitor cell antigen CD34 was observed across in TF-1, which is reported to be a positive cell line for the antigen and no expression was observed in HeLa, negative cell line. Whole cell extracts (60 µg lysate) of TF-1 and HeLa prepared using NP40 Lysis Buffer (FNN0021-TFS) were electrophoresed using NuPAGE™ 4-12% Bis-Tris Protein Gel (Product # NP0322BOX). Resolved proteins were then transferred onto a nitrocellulose membrane (Product # IB23001) by iBlot® 2 Dry Blotting System (Product # IB21001). The blot was probed with the primary antibody (1:1000 dilution) and detected by chemiluminescence with Goat anti-Mouse IgG (H+L) Superclonal™ Recombinant Secondary Antibody, HRP (Product # A28177, 1:20000 dilution) using the iBright™ FL1500 Imaging System (Product # A44115). Chemiluminescent detection was performed using SuperSignal™ West Atto Ultimate Sensitivity Substrate (Product # A38556). An uncharacterized band (*) was observed at ~38 kDa in both the cell lines.



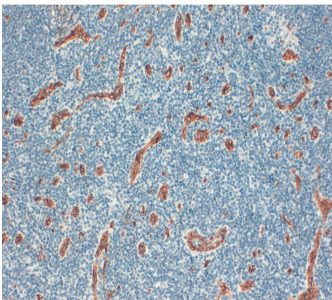
CD34 Antibody (MA5-18091) in IHC (P)

Immunohistochemical analysis of CD34 in formalin-fixed paraffin-embedded human colon tissue using a CD34 monoclonal antibody (Product # MA5-18091) at a dilution of 1 µg/mL.



CD34 Antibody (MA5-18091) in IHC (P)

Immunohistochemistry analysis of CD34 in FFPE Human kidney glomerulus. Samples were incubated with CD34 monoclonal antibody (Product # MA5-18091).



CD34 Antibody (MA5-18091) in IHC (P)

Immunohistochemistry analysis of CD34 in FFPE Human Lymph node. Samples were incubated with CD34 monoclonal antibody (Product # MA5-18091).

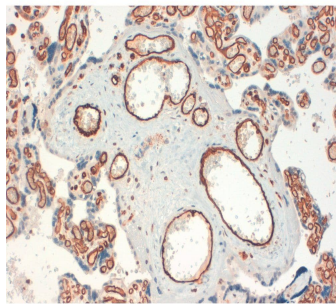
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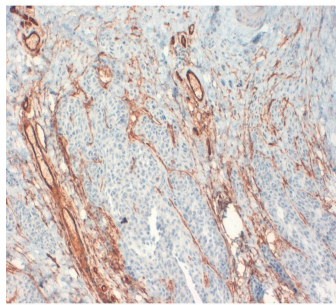
CD34 Antibody (MA5-18091) in IHC (P)

Immunohistochemistry analysis of CD34 in FFPE Human Placenta. Samples were incubated with CD34 monoclonal antibody (Product # MA5-18091).



CD34 Antibody (MA5-18091) in IHC (P)

Immunohistochemistry analysis of CD34 in FFPE Human Skin. Samples were incubated with CD34 monoclonal antibody (Product # MA5-18091).



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PubMed References For CD34 Monoclonal Antibody (QBEND/10)

3 Immunohistochemistry (Paraffin) References

Species / Dilution	Summary
Rat / Not Cited	MA5-18091 was used immunohistochemistry (paraffin) investigate dose-responsive histologic, ultrastructural, and functional changes within 1 month after irradiation in rat heart.
	Journal of the American Heart Association (2021; 10:) "Early Changes in Rat Heart After High-Dose Irradiation: Implications for Antiarrhythmic Effects of Cardiac Radioablation." Author(s):Cha MJ,Seo JW,Kim HJ,Kim MK,Yoon HS,Jo SW,Oh S,Chang JH PubMed Article URL: http://dx.doi.org/10.1161/JAHA.120.019072
Not Applicable / 1:100	MA5-18091 was used in immunohistochemistry - paraffin section to determine the desmoplastic interface in xenograft tumor in mice comprised of stromal and endothelial cells
	Pathology, research and practice (2015; 211: 925) "Investigation of the origin of stromal and endothelial cells at the desmoplastic interface in xenograft tumor in mice." Author(s):Jung M,Ryu YJ,Kang G PubMed Article URL: http://dx.doi.org/10.1016/j.prp.2015.09.005
Human / Not Cited	MA518091 was used in immunohistochemistry - paraffin section to investigate the clinical and pathological features in a girl with common variable immunodeficiency
	International journal of surgical pathology (2014; 22: 712) "Epstein-Barr virus-associated adrenal smooth muscle tumors and disseminated diffuse large B-cell lymphoma in a child with common variable immunodeficiency: a case report and review of the literature." Author(s):Petrilli G,Lorenzi L,Paracchini R,Ubiali A,Schumacher RF,Cabassa P,Facchetti F PubMed Article URL: http://dx.doi.org/10.1177/1066896911399901

21 Immunohistochemistry References

Species / Dilution	Summary
Human / 1:400	MA5-18091 was used in immunohistochemistry to study the association of mutations in PDGF-Ralpha with gastrointestinal stromal tumors of rhabdoid morphology
	Histopathology (2014; 64: 421) "Rhabdoid morphology in gastrointestinal stromal tumours (GISTs) is associated with PDGFRA mutations but does not imply aggressive behaviour." Author(s):Schaefer IM,Ströbel P,Cameron S,Beham A,Otto C,Schildhaus HU,Agaimy A PubMed Article URL: http://dx.doi.org/10.1111/his.12265
Human / Not Cited	MA5-18091 was used in immunohistochemistry to investigate the functions of prolactin in endothelial cells and its involvement in pathological angiogenesis.
	Journal of cellular and molecular medicine (2012; 16: 2035) "Functional consequences of prolactin signalling in endothelial cells: a potential link with angiogenesis in pathophysiology?" Author(s):Reuwer AQ,Nowak-Sliwinska P,Mans LA,van der Loos CM,von der Thüsen JH,Twickler MT,Spek CA,Goffin V,Griffioen AW,Borensztajn KS PubMed Article URL: http://dx.doi.org/10.1111/j.1582-4934.2011.01499.x
Human / 1:200	MA5-18091 was used in immunohistochemistry to study the clinicopathology of gastrointestinal stromal tumors with novel KIT mutations
	Applied immunohistochemistry & molecular morphology : AIMM (2014; 22: 37) "Molecular analysis of the KIT gene in gastrointestinal stromal tumors with novel mutations." Author(s):Calibasi G,Baskin Y,Alyuruk H,Cavas L,Oztop I,Sagol O,Atila K,Ellidokuz H,Yilmaz U PubMed Article URL: http://dx.doi.org/10.1097/PAI.0b013e318284a074
Human / 1:100	MA5-18091 was used in immunohistochemistry to report on a case of left atrial cardiac myxoma with incidental atypical B-cell lymphoid proliferation
	Cardiovascular pathology : the official journal of the Society for Cardiovascular Pathology (2013; 22: e5) "Incidental Epstein-Barr virus associated atypical lymphoid proliferation arising in a left atrial myxoma: a case of long survival without any postsurgical treatment and review of the literature." Author(s):Bartoloni G,Pucci A,Giorlandino A,Berretta M,Mignosa C,Italia F,Carbone A,Canzonieri V PubMed Article URL: http://dx.doi.org/10.1016/j.carpath.2012.08.002

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	MA5-18091 was used in immunohistochemistry to study the diagnostic value of the immunohistochemical expression of DOG1 in gastrointestinal stromal tumors
Human / 1:50	Pathology, research and practice (2013; 209: 413) "Contribution of DOG1 expression to the diagnosis of gastrointestinal stromal tumors." Author(s):Kara T,Serinsoz E,Arpaci RB,Gubur O,Orekici G,Ata A,Colak T,Arican A PubMed Article URL: http://dx.doi.org/10.1016/j.prp.2013.04.005
	MA5-18091 was used in immunohistochemistry to study the prognostic value of the immunohistochemical expression of MGMT in low-grade ganglioglioma
Human / 1:400	Folia neuropathologica (2014; 51: 275) "The prognostic impact of MGMT expression on low-grade gangliogliomas: a clinicopathological and immunohistochemical study." Author(s):Chang IW,Hsu CT,Lin JW,Hung CH PubMed Article URL: http://dx.doi.org/10.5114/fn.2013.39716
	MA5-18091 was used in immunohistochemistry to report on a case of hepatosplenic T-cell lymphoma with leukemic transformation
Human / 1:200	Romanian journal of morphology and embryology = Revue roumaine de morphologie et embryologie (2014; 54: 1135) "Histopathological, immunophenotypic and clinical particularities and evolution of a case of hepatosplenic T-cell lymphoma in transformation to leukemia." Author(s):Benedek Lázár E,Köpeczi JB,Tunyogi AB,Kakucs E,Horváth E,Turcu M,Benedek I PubMed Article URL: http://www.ncbi.nlm.nih.gov/pubmed/24399013
	MA5-18091 was used in immunohistochemistry to study the recruitment to tumor-associated reactive stroma of a novel CD34(+)/vimentin(+) dual-positive fibroblast
Human / 1:100	The American journal of pathology (2014; 184: 1860) "Recruitment of CD34(+) fibroblasts in tumor-associated reactive stroma: the reactive microvasculature hypothesis." Author(s):San Martin R,Barron DA,Tuxhorn JA,Ressler SJ,Hayward SW,Shen X,Laucirica R,Wheeler TM,Gutierrez C,Ayala GE,Iltmann M,Rowley DR PubMed Article URL: http://dx.doi.org/10.1016/j.ajpath.2014.02.021
	MA5-18091 was used in immunohistochemistry to find a prognostic indicator for patients with HCC after surgical resection by profiling CK19 and glypican 3 expression
Not Applicable / 1:100	PloS one (2016; 11:) "CK19 and Glypican 3 Expression Profiling in the Prognostic Indication for Patients with HCC after Surgical Resection." Author(s):Feng J,Zhu R,Chang C,Yu L,Cao F,Zhu G,Chen F,Xia H,Lv F,Zhang S,Sun L PubMed Article URL: http://dx.doi.org/10.1371/journal.pone.0151501
	MA5-18091 was used in immunohistochemistry to study the prognostic value of CD133 and vasculogenic mimicry in patients with non-small cell lung cancer
Human / Not Cited	BMC cancer (2012; 12:) "Aberrant expression of CD133 in non-small cell lung cancer and its relationship to vasculogenic mimicry." Author(s):Wu S,Yu L,Wang D,Zhou L,Cheng Z,Chai D,Ma L,Tao Y PubMed Article URL: http://dx.doi.org/10.1186/1471-2407-12-535
	MA5-18091 was used in immunohistochemistry to report on a case of primitive myxoid mesenchymal tumor of infancy
Human / Not Cited	Medical molecular morphology (2013; 46: 109) "A rare malignant tumor of scalp in a 3-month-old Taiwanese infancy: case report of primitive myxoid mesenchymal tumor of infancy with molecular study." Author(s):Su TC,Hwang MJ,Li CF,Wang SC,Lee CH,Chen CJ PubMed Article URL: http://dx.doi.org/10.1007/s00795-013-0032-1
	MA5-18091 was used in immunohistochemistry to study the significance of maspin expression in non-small cell lung cancer
Human / Not Cited	Journal of Huazhong University of Science and Technology. Medical sciences = Hua zhong ke ji da xue xue bao. Yi xue Ying De wen ban = Huazhong keji daxue xuebao. Yixue Yingdewen ban (2012; 32: 346) "Expression of maspin in non-small cell lung cancer and its relationship to vasculogenic mimicry." Author(s):Wu S,Yu L,Cheng Z,Song W,Zhou L,Tao Y PubMed Article URL: http://dx.doi.org/10.1007/s11596-012-0060-4
	MA5-18091 was used in immunohistochemistry to characterize transgenic mice with bilateral adrenal tumors
Not Applicable / 1:200	Cancer medicine (2013; 2: 286) "Combination therapy with gefitinib and doxorubicin inhibits tumor growth in transgenic mice with adrenal neuroblastoma." Author(s):Kawano K,Hattori Y,Iwakura H,Akamizu T,Maitani Y PubMed Article URL: http://dx.doi.org/10.1002/cam4.76

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	MA5-18091 was used in immunohistochemistry to study the developmental time course of Ki67, CD34 and p53 expression in human tooth buds
Human / 1:200	Romanian journal of morphology and embryology = Revue roumaine de morphologie et embryologie (2015; 55: 43) "Immunohistochemical study of Ki67, CD34 and p53 expression in human tooth buds." Author(s):Muica Nagy-Bota MC,Pap Z,Denes L,Ghizdav A,Brînzaniuc K,Lup Coarc AS,Chibeleian Cire-Mrginean M,Pcurar M,Pávai Z PubMed Article URL: http://www.ncbi.nlm.nih.gov/pubmed/24715164
Human / 2 µg/mL	MA5-18091 was used in immunohistochemistry to study blood vessel stabilization and the expression of pro-angiogenic VEGF and Ang-2 in castration-resistant prostate cancer The Prostate (2012; 72: 705) "Castration resistant prostate cancer is associated with increased blood vessel stabilization and elevated levels of VEGF and Ang-2." Author(s):Tomi TT,Gustavsson H,Wang W,Jennbacken K,Welén K,Damber JE PubMed Article URL: http://dx.doi.org/10.1002/pros.21472
Human / Not Cited	MA5-18091 was used in immunohistochemistry to report on a case of vaginal superficial myofibroblastoma Medical molecular morphology (2012; 45: 110) "Vaginal superficial myofibroblastoma: a rare mesenchymal tumor of the lower female genital tract and a study of its association with viral infection." Author(s):Liu JL,Su TC,Shen KH,Lin SH,Wang HK,Hsu JC,Chen CJ PubMed Article URL: http://dx.doi.org/10.1007/s00795-011-0566-z
Rabbit / Not Cited	MA5-18091 was used in immunohistochemistry to study the mechanisms underlying the beneficial effects of using platelet-rich plasma in composite chondrocutaneous graft procedures Journal of oral and maxillofacial surgery : official journal of the American Association of Oral and Maxillofacial Surgeons (2014; 72: 1407) "Use of platelet-rich plasma solution applied with composite chondrocutaneous graft technique: an experimental study in rabbit model." Author(s):Sevim KZ,Yazar M,Irmak F,Tekkein MS,Yildiz K,Sirvan SS PubMed Article URL: http://dx.doi.org/10.1016/j.joms.2014.01.001
Human / Not Cited	MA5-18091 was used in immunohistochemistry to study the bone metastasis of primary breast cancer stem-like cells and the bone-tropism signature displayed by cells isolated from bone British journal of cancer (2013; 108: 2525) "Primary breast cancer stem-like cells metastasise to bone, switch phenotype and acquire a bone tropism signature." Author(s):D'Amico L,Patanè S,Grange C,Bussolati B,Isella C,Fontani L,Godio L,Cilli M,D'Amelio P,Isaia G,Medico E,Ferracini R,Roato I PubMed Article URL: http://dx.doi.org/10.1038/bjc.2013.271
Human / 1:4000	MA5-18091 was used in immunohistochemistry to screen a panel of 33 proteins to establish a set of biomarkers that predict the aggressiveness of prostate cancer BMC cancer (2014; 14:) "Evaluation of protein biomarkers of prostate cancer aggressiveness." Author(s):Rizzardi AE,Rosener NK,Koopmeiners JS,Isaksson Vogel R,Metzger GJ,Forster CL,Marston LO,Tiffany JR,McCarthy JB,Turley EA,Warlick CA,Henriksen JC,Schmechel SC PubMed Article URL: http://dx.doi.org/10.1186/1471-2407-14-244
Human / 1:30	MA5-18091 was used in immunohistochemistry to study the regulation of angiogenesis in colorectal cancer by the mineralocorticoid receptor PloS one (2013; 8:) "The decrease of mineralocorticoid receptor drives angiogenic pathways in colorectal cancer." Author(s):Tiberio L,Nascimbeni R,Villanacci V,Casella C,Fra A,Vezzoli V,Furlan L,Meyer G,Parrinello G,Baroni MD,Salerni B,Schiaffonati L PubMed Article URL: http://dx.doi.org/10.1371/journal.pone.0059410
Human / 1:800	MA5-18091 was used in immunohistochemistry to report on two cases of superficial soft tissue biphasic synovial sarcoma presenting with apocrine differentiation The American Journal of dermatopathology (2014; 36: 847) "Superficial soft tissue biphasic synovial sarcoma with apocrine differentiation in the glandular component: a report of two cases." Author(s):Shelekhova KV,Calonje E,Grossmann P,Kacerovska D,Koudela K,Mirka H,Michal M,Kazakov DV PubMed Article URL: http://dx.doi.org/10.1097/DAD.0b013e318287d49f

1 Immunocytochemistry References

Species / Dilution	Summary
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	MA5-18091 was used in immunocytochemistry to test if MSCs in hemangioma also reside in the perivascular region
Human / Not Cited	<p>Pediatric and developmental pathology : the official journal of the Society for Pediatric Pathology and the Paediatric Pathology Society (2012; 15: 5)</p> <p>"Mesenchymal stem cells in infantile hemangioma reside in the perivascular region."</p> <p>Author(s):Yuan SM,Chen RL,Shen WM,Chen HN,Zhou XJ</p> <p>PubMed Article URL:http://dx.doi.org/10.2350/11-01-0959-OA.1</p>
1 Miscellaneous PubMed References	
Species / Dilution	Summary
Human / Not Cited	<p>MA5-18091 was used in flow cytometry to identify adhesion molecules and study mechanisms that regulate hematopoietic stem and progenitor cell homing to the bone marrow.</p> <p>Blood (2000; 95: 478)</p> <p>"Relationship between selectin-mediated rolling of hematopoietic stem and progenitor cells and progression in hematopoietic development."</p> <p>Author(s):Greenberg AW,Kerr WG,Hammer DA</p> <p>PubMed Article URL:http://www.ncbi.nlm.nih.gov/pubmed/10627452</p>

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