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Anti-CD34 Antibody Picoband®

Catalog Number: PA1334

About CD34

CD34 is a monomeric cell surface antigen with a molecular mass of approximately 110 KD.CD34 is expressed in humans in hematopoietic stem cells, vascular endothelium, and blasts from 30% of patients with acute myeloid and lymphocytic leukemia. The human CD34 gene spans 26 kb and has 8 exons, a structure quite similar to that of the murine gene. By Southern blot analysis of DNA from a panel of human x mouse somatic cell hybrids using a CD34 cDNA probe demonstrate that the gene for CD34 is located on human chromosome 1 in the 1q12----qter region. CD34 plays an important role in the formation of progenitor cells during both embryonic and adult hematopoiesis.

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Overview

Product Name	Anti-CD34 Antibody Picoband®
Reactive Species	Human, Mouse, Rat
Description	Boster Bio Anti-CD34 Antibody catalog # PA1334. Tested in Flow Cytometry, IHC, IHC-F, WB applications. This antibody reacts with Human, Mouse, Rat. The brand Picoband indicates this is a premium antibody that guarantees superior quality, high affinity, and strong signals with minimal background in Western blot applications. Only our best-performing antibodies are designated as Picoband, ensuring unmatched performance.
Application	Flow Cytometry, IHC, IHC-F, WB
Clonality	Polyclonal
Formulation	Each vial contains antibody formulated with stabilizing components, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg Thimerosal, 0.01mg NaN3. *This antibody is supplied in a stabilized formulation. Compatibility with conjugation reactions depends on the chemistry of the conjugation method used. For conjugation methods that are not compatible with the stabilizing components present in this formulation, a carrier-free antibody format is required.
Storage Instructions	Store at -20˚C for one year from date of receipt. After reconstitution, at 4˚C for one month. It can also be aliquotted and stored frozen at -20˚C for six months. Avoid repeated freeze-thaw cycles.
Host	Rabbit
Uniprot ID	P28906

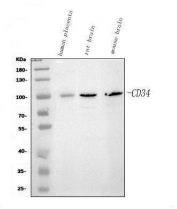
Technical Details

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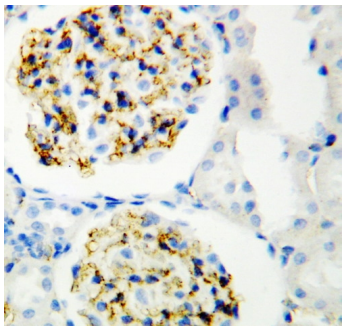
Immunogen	A synthetic peptide corresponding to a sequence at the C-terminus of human CD34, identical to the related mouse and rat sequences.
Recommended Detection Systems	Boster recommends Enhanced Chemiluminescent Kit with anti-Rabbit IgG (EK1002) for Western blot, and HRP Conjugated anti- Rabbit IgG Super Vision Assay Kit (SV0002-1) for IHC(P) and IHC(F).
Cross Reactivity	No cross-reactivity with other proteins
Isotype	Rabbit IgG
Form	Lyophilized
Concentration	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml.
Purification	Immunogen affinity purified.
Suggested Dilutions	Western blot, 0.1-0.5ug/ml, Human, Mouse, Rat Immunohistochemistry (Paraffin-embedded Section), 2-5ug/ml, Human, Mouse, Rat Immunohistochemistry (Frozen Section), 0.5-1ug/ml, Mouse, Rat, Human Flow Cytometry (Fixed), 1-3ug/1x10^6 cells, Human Note: For flow cytometry (FCM), suitable for fixed cells only. Not suitable for FACS or surface flow cytometry using live cells.

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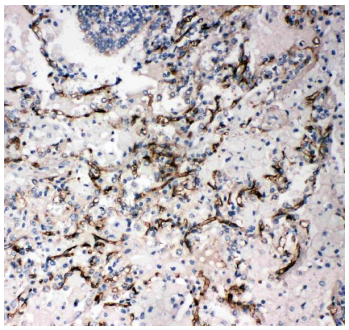
Anti-CD34 Antibody Picoband® (PA1334) Images



Western blot analysis of CD34 using anti-CD34 antibody (PA1334). Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 30 ug of sample under reducing conditions. Lane 1: human placenta tissue lysates, Lane 2: rat brain tissue lysates, Lane 3: mouse brain tissue lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-CD34 antigen affinity purified polyclonal antibody (Catalog # PA1334) at 0.5 ug/mL overnight at 4°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1002) with Tanon 5200 system. A specific band was detected for CD34 at approximately 105 kDa. The expected band size for CD34 is at 41 kDa.



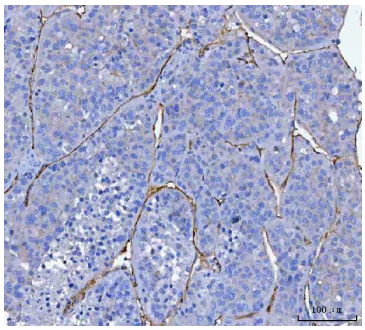
IHC analysis of CD34 using anti-CD34 antibody (PA1334). CD34 was detected in a paraffin-embedded section of Rat Kidney tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-CD34 Antibody (PA1334) overnight at 4°C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit (Catalog # SV0002) with DAB as the chromogen.



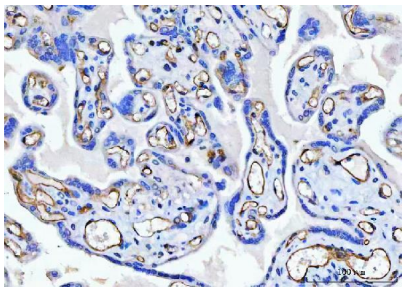
IHC analysis of CD34 using anti-CD34 antibody (PA1334). CD34 was detected in a paraffin-embedded section of Human Lung Cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-CD34 Antibody (PA1334) overnight at 4°C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit (Catalog # SV0002) with DAB as the chromogen.

IHC analysis of CD34 using anti-CD34 antibody (PA1334). CD34 was detected in a paraffin-embedded section of human liver cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval

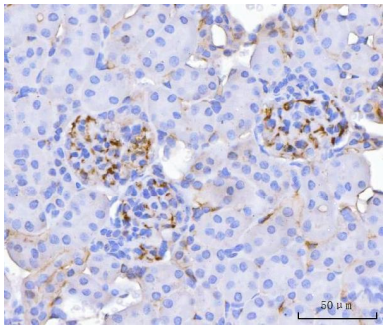
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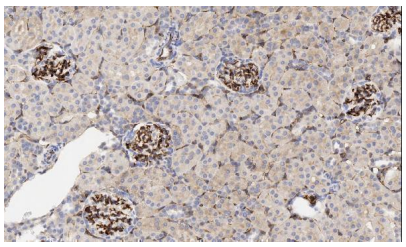
solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-CD34 Antibody (PA1334) overnight at 4°C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit (Catalog # SV0002) with DAB as the chromogen.



IHC analysis of CD34 using anti-CD34 antibody (PA1334). CD34 was detected in a paraffin-embedded section of human placenta tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-CD34 Antibody (PA1334) overnight at 4°C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit (Catalog # SV0002) with DAB as the chromogen.



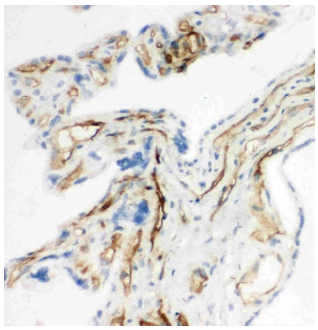
IHC analysis of CD34 using anti-CD34 antibody (PA1334). CD34 was detected in a paraffin-embedded section of mouse kidney tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-CD34 Antibody (PA1334) overnight at 4°C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit (Catalog # SV0002) with DAB as the chromogen.



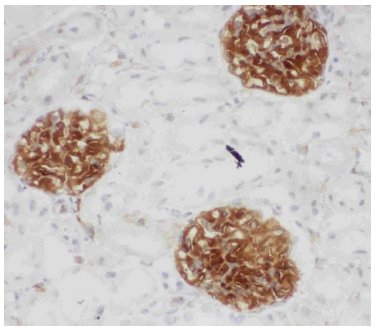
IHC analysis of CD34 using anti-CD34 antibody (PA1334). CD34 was detected in paraffin-embedded section of rat kidney tissues. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1ug/ml rabbit anti-CD34 Antibody (PA1334) overnight at 4°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC)(Catalog # SA1022) with DAB as the chromogen.

IHC analysis of CD34 using anti-CD34 antibody (PA1334). CD34 was detected in a frozen section of Rat Placenta tissue. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 ug/ml rabbit anti-CD34 Antibody (PA1334) overnight at 4°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and

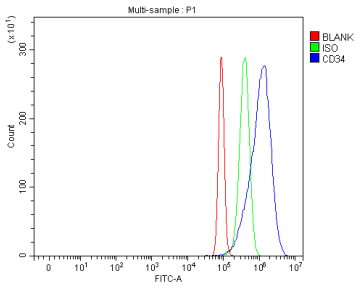
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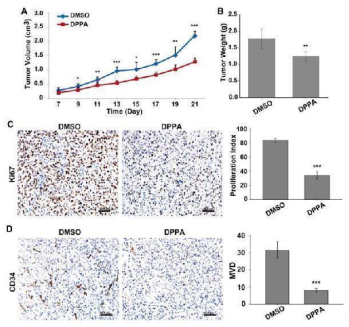
incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit (Catalog # SV0002) with DAB as the chromogen.



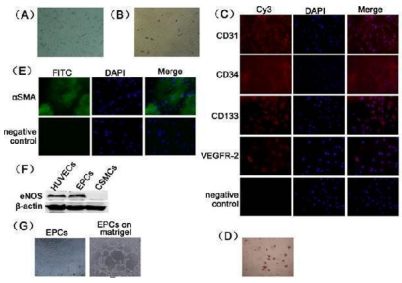
IHC analysis of CD34 using anti-CD34 antibody (PA1334). CD34 was detected in a frozen section of Rat Kidney tissue. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 ug/ml rabbit anti-CD34 Antibody (PA1334) overnight at 4°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit (Catalog # SV0002) with DAB as the chromogen.



Flow Cytometry analysis of HEL cells using anti-CD34 antibody (PA1334). Overlay histogram showing HEL cells stained with PA1334 (Blue line). The cells were fixed with 4% paraformaldehyde and blocked with 10% normal goat serum. And then incubated with rabbit anti-CD34 Antibody (PA1334, 1 ug/1x106 cells) for 30 min at 20°C. DyLight®488 conjugated goat anti-rabbit IgG (BA1127, 5-10 ug/1x106 cells) was used as secondary antibody for 30 minutes at 20°C. Isotype control antibody (Green line) was rabbit IgG (1 ug/1x106) used under the same conditions. Unlabelled sample without incubation with primary antibody and secondary antibody (Red line) was used as a blank control.



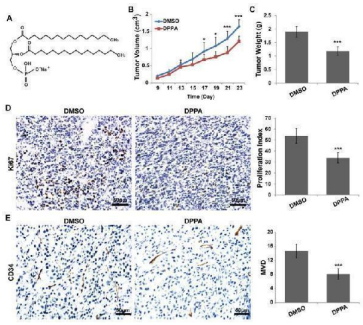
DPPA inhibits MDA-MB-231 subcutaneous tumor growth in vivo . MDA-MB-231 cells were injected into the mammary fat pads of athymic nude mice, and 7 days later, DPPA (3 mg/kg body weight) or DMSO was injected once every two days for two weeks. DPPA significantly suppressed tumor volume (A) and tumor weight (B). DPPA inhibited tumor cell proliferation and angiogenesis, which were measured using Ki67 (C) and CD34 (D) staining, respectively, in an IHC assay. N = 8, * P < 0.05, ** P < 0.01 and *** P < 0.001. Scale bars: 50 um.Index in PubMed under a CC BY license. PMID: 28529455



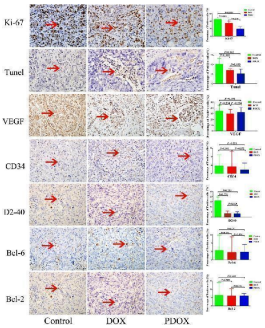
Primary culture and characterization of rat EPCs. (A) Rat BM-MNCs from bone marrow after 7 days in culture (100×). (B) Rat BM-MNCs after 14 days of culture (100×). (C) CD31, CD34, CD133 and VEGFR-2 expression was detected using immunofluorescence (200×). (D) EPCs differentiation potential into adipocytes was demonstrated using oil red-O staining (100×). (E) EPCs differentiation potential into smooth muscle cells was demonstrated using immunofluorescence staining (200×). (F) The expression of

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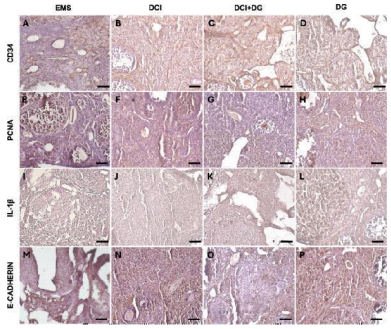
eNOS in EPCs was identified using Western blotting analyses. Human umbilical vein endothelial cells was used as positive control. Cavernous smooth muscle cells was used as negative control. (G) Tube formation assay was examined microscopically (100×).Index in PubMed under a CC BY license. PMID: 27283992



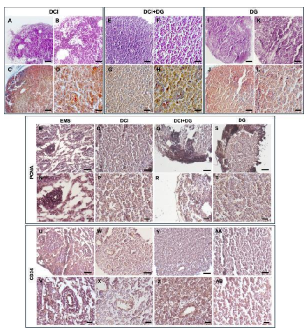
DPPA inhibits 4T1 subcutaneous tumor growth in vivo . (A) The structure of DPPA. 4T1 cells were injected into the mammary fat pads of BALB/c mice, and 9 days later, DPPA (3 mg/kg body weight) or DMSO was injected once every two days for two weeks. DPPA significantly suppressed tumor volume (B) and tumor weight (C) in a mouse 4T1 subcutaneous tumor model. DPPA inhibited tumor cell proliferation and angiogenesis, which were measured by Ki67 (D) and CD34 (E) staining, respectively, using an IHC assay. N = 8, * P < 0.05, *** P < 0.001. Scale bars: 50 um.Index in PubMed under a CC BY license. PMID: 28529455



Effects of three therapies on angiogenesis, cell proliferation, and apoptosis of SOI tumor. Representative pictures of blood vessels and lymphatic stained with CD34, D2-40, proliferative cells stained with Ki-67, Bcl-2, Bcl-6, and apoptotic cells stained with Tunel antibodies in Control, DOX, PDOX group. Original magnification 40×, treatment with PDOX resulted in decreased Ki-67-positive cells.Index in PubMed under a CC BY license. PMID: 29416744



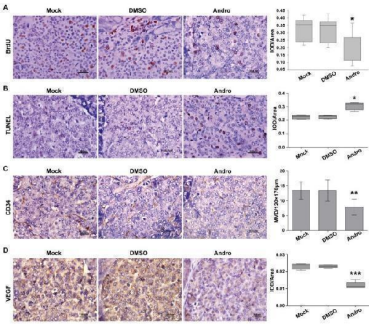
A – D CD34 immunoreactivity in endometriotic ovary 28 days p.t. of control EMS (A), DCI (B), DG + DCI (C) and DG (D)-treated mice by LM. mag. 20X; bar: 50 µm; E – H) PCNA immunoreactivity in endometriotic ovary 28 days p.t. of control EMS (E), DCI (F), DG + DCI (G) and DG (H)-treated mice by LM. mag. 20X; bar: 50 µm. I – L IL-1beta immunoreactivity in endometriotic ovary 28 days p.t. of control EMS (I), DCI (J), DG + DCI (K) and DG-treated (L)-treated mice by LM. mag. 20X; bar: 50 µm. M – P E-Cadherin immunoreactivity in endometriotic ovary 28 days p.t. of control EMS (M), DCI (N), DG + DCI (O) and DG (P)-treated mice by LM. mag. 20X; bar: 50 µm Index in PubMed under a CC BY license. PMID: 40211112



H&E (A – B) and Trichrome AZAN (C – D) stainings of representative endometriotic lesions in DCI-treated mice 28 days p.t. by LM. A , D mag. 10X; bar: 100 µm. B , E mag. 20X; bar: 50 µm. C , F mag. 40X; bar: 20 µm (E – F) and Trichrome AZAN (G , H) stainings of representative endometriotic lesions in DG + DCI-treated mice 28 days p.t. by LM. E , G mag. 20X; bar: 50 µm. F , H mag. 40X; bar: 20 µm. H&E (I – K) and Trichrome AZAN (J – L) stainings of representative endometriotic lesions in DG-treated mice 28 days p.t. by LM. I , J mag. 20X; bar: 50 µm. K , L mag. 40X; bar: 20 µm. M – T PCNA immunoreactivity in endometriotic lesions 28 days p.t. of control EMS (M , N),

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DCI-treated (O , P), DG + DCI (Q , R) and DG-treated (S , T)-treated mice by LM. M , O , Q , S LM, mag. 20X; bar: 50 µm. N , P , R , T mag. 40X; bar: 20 µm. U – AB CD34 immunoreactivity in endometriotic lesions 28 days p.t. of control EMS (U , V), DCI-treated (W , X), DG + DCI (Y , Z) and DG-treated (AA , AB)-treated mice by LM. U , W , Y , AA mag. 20X; bar: 50 µm. V , X , Z , AB mag. 40X; bar: 20 µm Index in PubMed under a CC BY license. PMID: 40211112



Andro inhibits cell proliferation and angiogenesis and induces cell apoptosis in insulinoma. (A) Andro inhibited the tumor cell proliferation, which was measured using the BrdU cell proliferation assay, in RIP1-Tag2 mice. (B) Cell apoptosis was increased, which was examined through TUNEL staining, in Andro treated tumor tissue compared with control groups. (C) and (D) Andro suppressed the tumor angiogenesis, which was measured using the immunohistochemical staining of CD34 and VEGF, in RIP1-Tag2 mice. n=6, * P < 0.05, ** P < 0.01. Bar, 20 um.Index in PubMed under a CC BY license. PMID: 24719558

100 Publications Citing This Product

1. PubMed ID: 10.1111/bph.13981, The role of 5-HT2B receptors in mitral valvulopathy: bone marrow mobilization of endothelial progenitors

2. PubMed ID: -, Dahai Dong,Yu Yao,Jinlei Song,Lijiang Sun,Guiming Zhang,"Cancer-Associated Fibroblasts Regulate Bladder Cancer Invasion and Metabolic Phenotypes through Autophagy",Disease Markers,vol.2021,Article ID 6645220,8 pages,2021.https://doi.org/10.1155/2021/6645220

3. PubMed ID: 33770315, Ma C,Liu G,Liu W,Xu W,Li H,Piao S,Sui Y,Feng W.CXCL1 stimulates decidual angiogenesis via the VEGF-A pathway during the first trimester of pregnancy.Mol Cell Biochem.2021 Mar 26.doi:10.1007/s11010-021-04137-x.Epub ahead of print.PMID:33770315.

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