abcam

Product datasheet

Anti-CD31 antibody [RM1006] ab281583

Recombinant RabMAb

5 Abreviews 9 Images

Overview

Product name	Anti-CD31 antibody [RM1006]
Description	Rabbit recombinant multiclonal [RM1006] to CD31
Host species	Rabbit
Tested applications	**Suitable for:** IP, IHC-Fr, WB, IHC-P **Unsuitable for:** Flow Cyt or ICC/IF
Species reactivity	**Reacts with:** Mouse, Rat, Human
Immunogen	**This product was produced with the following immunogens:** Recombinant fragment. This information is proprietary to Abcam and/or its suppliers. Synthetic peptide. This information is proprietary to Abcam and/or its suppliers.
Positive control	WB: HUVEC, bEnd.3 lysates. IHC-P: Human placenta; Rat lung; Mouse lung IHC-Fr: Mouse lung, Rat lung tissues. IP: THP-1, bEnd.3 cells.
General notes	Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to **RabMAb® patents**.

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C long term. Avoid freeze / thaw cycle.
Storage buffer	Preservative: 0.01% Sodium azide Constituents: 59.94% PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Purity	Protein A purified
Clonality	Recombinant Multiclonal
Clone number	RM1006
Isotype	IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab281583 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
IP		1/30.
IHC-Fr		1/50. Heat mediated antigen retrieval using sodium citrate buffer (10mM citrate pH 6.0 + 0.05% Tween-20)
WB		1/1000. Predicted molecular weight: 82 kDa.
IHC-P	★★★★★ **(5)**	1/4000. Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Application notes Is unsuitable for Flow Cyt or ICC/IF.

Target

Function Induces susceptibility to atherosclerosis (By similarity). Cell adhesion molecule which is required for leukocyte transendothelial migration (TEM) under most inflammatory conditions. Tyr-690 plays a critical role in TEM and is required for efficient trafficking of PECAM1 to and from the lateral border recycling compartment (LBRC) and is also essential for the LBRC membrane to be targeted around migrating leukocytes. Prevents phagocyte ingestion of closely apposed viable cells by transmitting 'detachment' signals, and changes function on apoptosis, promoting tethering of dying cells to phagocytes (the encounter of a viable cell with a phagocyte via the homophilic interaction of PECAM1 on both cell surfaces leads to the viable cell's active repulsion from the phagocyte. During apoptosis, the inside-out signaling of PECAM1 is somehow disabled so that the apoptotic cell does not actively reject the phagocyte anymore. The lack of this repulsion signal together with the interaction of the eat-me signals and their respective receptors causes the attachment of the apoptotic cell to the phagocyte, thus triggering the process of engulfment). Isoform Delta15 is unable to protect against apoptosis. Modulates BDKRB2 activation. Regulates bradykinin- and hyperosmotic shock-induced ERK1/2 activation in human umbilical cord vein cells (HUVEC).

Tissue specificity Expressed on platelets and leukocytes and is primarily concentrated at the borders between endothelial cells. Isoform Long predominates in all tissues examined. Isoform Delta12 is detected only in trachea. Isoform Delta14-15 is only detected in lung. Isoform Delta14 is detected in all tissues examined with the strongest expression in heart. Isoform Delta15 is expressed in brain, testis, ovary, cell surface of platelets, human umbilical vein endothelial cells (HUVECs), Jurkat T-cell leukemia, human erythroleukemia (HEL) and U937 histiocytic lymphoma cell lines (at protein level).

Sequence similarities Contains 6 Ig-like C2-type (immunoglobulin-like) domains.

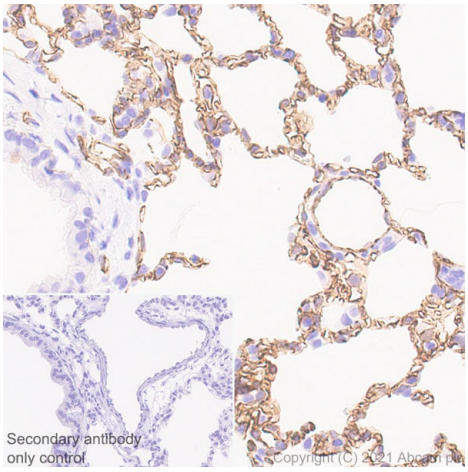
Domain The Ig-like C2-type domains 2 and 3 contribute to formation of the complex with BDKRB2 and in regulation of its activity.

Post-translational modifications Phosphorylated on Ser and Tyr residues after cellular activation. In endothelial cells Fyn mediates mechanical-force (stretch or pull) induced tyrosine phosphorylation.

Cellular localization Membrane. Cell junction. Localizes to the lateral border recycling compartment (LBRC) and recycles from the LBRC to the junction in resting endothelial cells and Cell junction. Localizes to the lateral border recycling compartment (LBRC) and recycles from the LBRC to the junction in

resting endothelial cells.

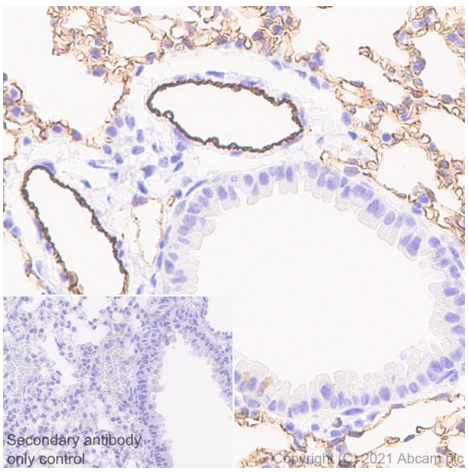
Images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD31 antibody [RM1006] (ab281583)

IHC image of ab281583 staining CD31 in rat lung formalin fixed paraffin embedded tissue sections, performed on a Leica Biosystems BOND® RX instrument. The section was pre-treated using heat mediated antigen retrieval using Bond™ Epitope Retrieval Solution 2 (pH 9.0) for 20 minutes. The section was then incubated with ab281583 at 1:4000 dilution (0.116 µg/ml) for 30 mins at room temperature and detected using an HRP conjugated compact polymer system (Bond™ Polymer Refine Detection). DAB was used as the chromogen. Positive staining was obtained on blood vessels in rat lung. The section was then counterstained with haematoxylin and mounted with DPX. No primary antibody was used in the secondary only control (shown on the inset).

For other IHC staining systems (automated and non-automated) customers should optimize variable parameters such as antigen retrieval conditions, primary antibody concentration and antibody incubation times.



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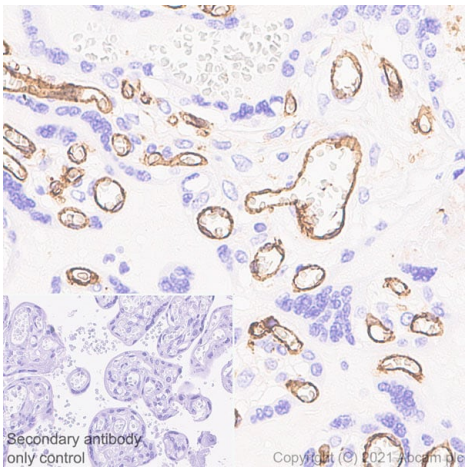
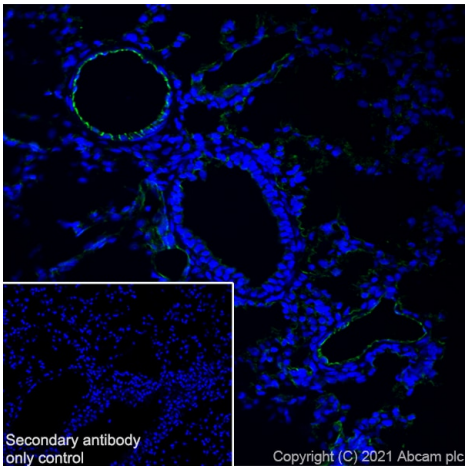


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD31 antibody [RM1006] (ab281583)

IHC image of ab281583 staining CD31 in human placenta formalin fixed paraffin embedded tissue sections, performed on a Leica Biosystems BOND® RX instrument. The section was pre-treated using heat mediated antigen retrieval using Bond™ Epitope Retrieval Solution 2 (pH 9.0) for 20 minutes. The section was then incubated with ab281583 at 1:4000 dilution (0.116 µg/ml) for 30 mins at room temperature and detected using an HRP conjugated compact polymer system (Bond™ Polymer Refine Detection). DAB was used as the chromogen. Positive staining was obtained on blood vessels in human placenta. The section was then counterstained with haematoxylin and mounted with DPX. No primary antibody was used in the secondary only control (shown on the inset).

For other IHC staining systems (automated and non-automated) customers should optimize variable parameters such as antigen retrieval conditions, primary antibody concentration and antibody incubation times.

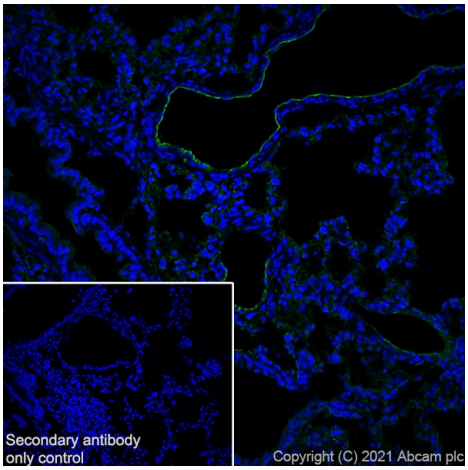


Immunohistochemistry (Frozen sections) - Anti-CD31 antibody [RM1006] (ab281583)

Immunohistochemical analysis of 4% PFA-fixed, 0.2% Triton X-100 permeabilized frozen Mouse lung tissue labeling CD31 with 281583 at 1/50 (9.24 ug/ml) dilution followed by **ab150077** Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) at 1/1000 dilution (Green). Positive staining on mouse lung is observed. The nuclear counterstain was DAPI (Blue).

Secondary antibody control: Secondary antibody is **ab150077** Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488)at 1/1000 dilution.

Heat mediated antigen retrieval using sodium citrate buffer (10mM citrate pH 6.0 + 0.05% Tween-20).



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Immunohistochemical analysis of 4% PFA-fixed, 0.2% Triton X-100 permeabilized frozen Rat lung tissue labeling CD31 with 281583 at 1/50 (9.24 ug/ml) dilution followed by **ab150077** Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) at 1/1000 dilution (Green). Positive staining on rat lung is observed. The nuclear counterstain was DAPI (Blue).

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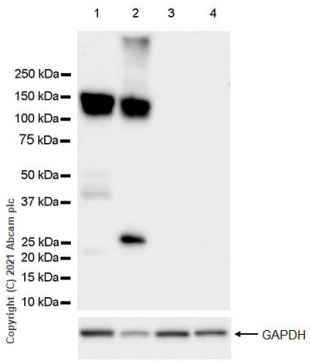
Heat mediated antigen retrieval using sodium citrate buffer (10mM citrate pH 6.0 + 0.05% Tween-20).



Western blot - Anti-CD31 antibody [RM1006] (ab281583)

All lanes : Anti-CD31 antibody [RM1006] (ab281583) at 1/1000 dilution

Lane 1 : HUVEC (Human umbilical vein endothelial cell) whole cell lysate
Lane 2 : bEnd.3 (Mouse brain endothelioma) whole cell lysate
Lane 3 : NIH/3T3 (Mouse embryonic fibroblast) whole cell lysate
Lane 4 : Rat lung lysate

Lysates/proteins at 20 µg per lane.

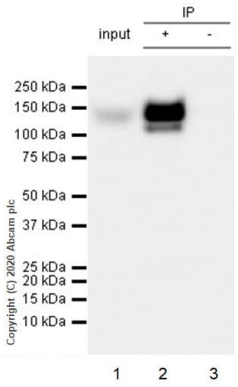
Secondary
All lanes : Goat Anti-Rabbit IgG H&L (HRP) (**ab97051**) at 1/100000 dilution (Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated)

Predicted band size: 82 kDa
Observed band size: 125 kDa

Blocking and diluting buffer and concentration:5% NFDM/TBST

Negative control: NIH/3T3 (PMID: 1429859).

Exposure time: 37 seconds



Immunoprecipitation - Anti-CD31 antibody [RM1006] (ab281583)

CD31 was immunoprecipitated from 0.35 mg THP-1 (Human monocytic leukemia monocyte) whole cell lysate 10 ug with 281583 at 1/30 dilution (2ug in 0.35mg lysates). Western blot was performed on the immunoprecipitate using 281583 at 1/1000 dilution. VeriBlot for IP Detection Reagent (HRP)(**ab131366**) was used at 1/5000 dilution.

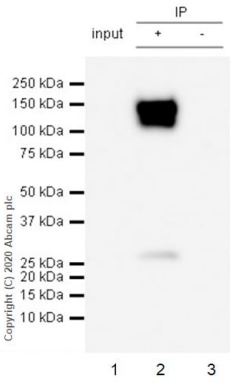
Lane 1: THP-1 (Human monocytic leukemia monocyte) whole cell lysate 10 ug

Lane 2: ab281583 IP in THP-1 whole cell lysate

Lane 3: Rabbit monoclonal IgG (**ab172730**) instead of ab281583 in THP-1 whole cell lysate

Blocking and dilution buffer and concentration: 5% NFDM/TBST.

Exposure time: 6 seconds.



Immunoprecipitation - Anti-CD31 antibody [RM1006] (ab281583)

CD31 was immunoprecipitated from 0.35 mg bEnd.3 (Mouse brain endothelioma) whole cell lysate 10 ug with 281583 at 1/30 dilution (2ug in 0.35mg lysates). Western blot was performed on the immunoprecipitate using 281583 at 1/1000 dilution. VeriBlot for IP Detection Reagent (HRP)(**ab131366**) was used at 1/5000 dilution.

Lane 1: bEnd.3 (Mouse brain endothelioma) whole cell lysate 10 ug

Lane 2: ab281583 IP in bEnd.3 whole cell lysate

Lane 3: Rabbit monoclonal IgG (**ab172730**) instead of ab281583 in bEnd.3 whole cell lysate

Blocking and dilution buffer and concentration: 5% NFDM/TBST.

Exposure time: 6 seconds.

Anti-CD31 antibody [RM1006] (ab281583)

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