abcam

Product datasheet

Anti-CD31 antibody [EPR17260-254] ab213175

Recombinant RabMAb

6 Images

Overview

Product name	Anti-CD31 antibody [EPR17260-254]
Description	Rabbit monoclonal [EPR17260-254] to CD31
Host species	Rabbit
Specificity	Not suitable for FC-Mouse.
Tested applications	**Suitable for:** WB, IP, Sandwich ELISA **Unsuitable for:** Flow Cyt
Species reactivity	**Reacts with:** Mouse, Rat
Immunogen	Recombinant fragment. This information is proprietary to Abcam and/or its suppliers.
Positive control	WB: Mouse CD31 active protein; mouse and rat platelet and lung lysates; bEnd.3 whole cell lysate. IP: bEnd.3 whole cell lysate.
General notes	This product is a recombinant monoclonal antibody, which offers several advantages including: - High batch-to-batch consistency and reproducibility - Improved sensitivity and specificity - Long-term security of supply - Animal-free production For more information **see here**. 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	pH: 7.2 Preservative: 0.01% Sodium azide Constituents: 59% PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Purity	Protein A purified
Clonality	Monoclonal

Clone number	EPR17260-254
Isotype	IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab213175 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
WB		1/1000. Detects a band of approximately 110-130 kDa (predicted molecular weight: 81 kDa). Treat samples with PNGase F or phosphatase to confirm the specificity of bands if necessary. The observed band size of CD31 may not the same as predicted MWs in WB due to the different forms and modifications of CD31.
IP		1/40.
Sandwich ELISA		Use at an assay dependent concentration.

Application notes Is unsuitable for Flow Cyt.

Target

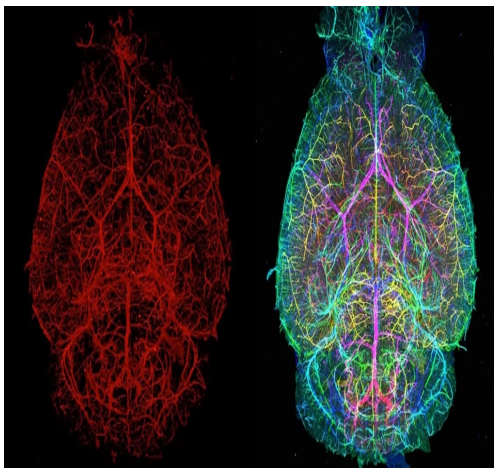
Function Induces susceptibility to atherosclerosis (By similarity). Cell adhesion molecule which is required for leukocyte transendothelial migration (TEM) under most inflammatory conditions. Tyr-690 plays a critical role in TEM and is required for efficient trafficking of PECAM1 to and from the lateral 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



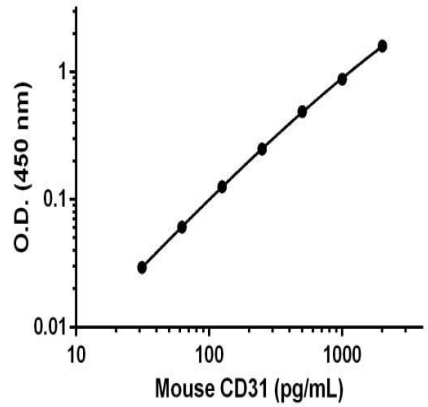
Immunohistochemistry - Anti-CD31 antibody [EPR17260-254] (ab213175)

Anti-CD31 ab213175 was used with Tissue clearing kit – CUBIC (**ab316246**) and 3D Tissue Staining Kit – CUBIC (**ab316248**) to penetrate, stain and clear a whole mouse brain.

Learn more about **tissue clearing kits, reagents, and protocols** designed to make it easier to stain whole brains and get more data from each valuable tissue sample.

For a whole mouse brain, we recommend starting with 10 ug of ab213175 and using a Fab fragment secondary antibody with 6.67 µg to create an antibody complex before 3D staining (see protocol for details). No additive was used during the staining process.

The sample was imaged using a light-sheet microscopy.

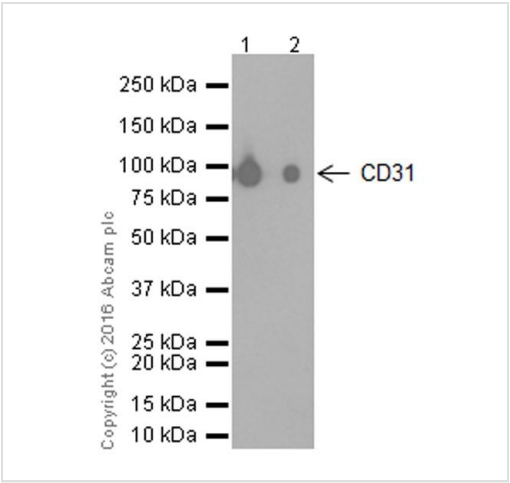


Sandwich ELISA - Anti-CD31 antibody [EPR17260-254] (ab213175)

Example of mouse CD31 standard curve in 1X Cell Extraction Buffer PTR using recombinant CD31 antibody (ab213175) and a recombinant monoclonal antibody. Background-subtracted data values (mean +/- SD) are graphed.

For a matched antibody pair set, see Mouse CD31 Matched Antibody Pair Kit (**ab212065**).

For a complete ELISA kit, see Mouse CD31 ELISA kit (**ab204527**).



Western blot - Anti-CD31 antibody [EPR17260-254] (ab213175)

Lane 1 : Anti-CD31 antibody [EPR17260-254] (ab213175) at 1/20000 dilution
Lane 2 : Anti-CD31 antibody [EPR17260-254] (ab213175) at 1/100000 dilution

All lanes : Mouse CD31 active protein

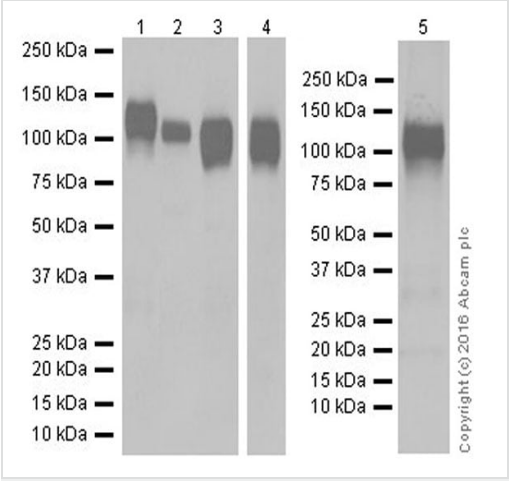
Lysates/proteins at 0.01 µg per lane.

Secondary
All lanes : Goat Anti-Rabbit IgG H&L (HRP) (**ab97051**) at 1/20000 dilution

Predicted band size: 81 kDa
Observed band size: 100 kDa

Exposure time: 3 minutes

Blocking/Dilution buffer: 5% NFDM/TBST.



Western blot - Anti-CD31 antibody [EPR17260-254] (ab213175)

Lanes 1-4 : Anti-CD31 antibody [EPR17260-254] (ab213175) at 1/1000 dilution
Lane 5 : Anti-CD31 antibody [EPR17260-254] (ab213175) at 1/2000 dilution

Lane 1 : Mouse platelet lysate
Lane 2 : Rat platelet lysate
Lane 3 : Rat lung lysate
Lane 4 : Mouse lung lysate
Lane 5 : bEnd.3 (Mouse brain endothelioma cell line) whole cell lysate

Lysates/proteins at 10 µg per lane.

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

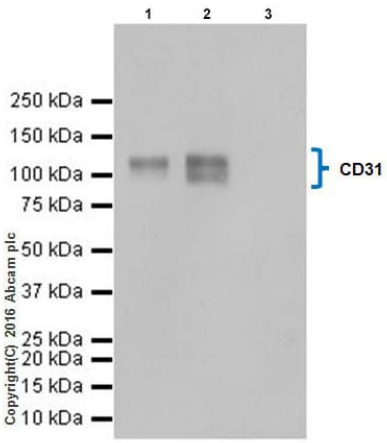
Predicted band size: 81 kDa

Observed band size: 110-130 kDa

Blocking/Dilution buffer: 5% NFDM/TBST.

Exposure time: Lane 1-3: 10 seconds; Lane 4/5: 1 second.

The expression MW observed is consistent with what has been described in the literature (PMID: 18388311; 12433657).



Immunoprecipitation - Anti-CD31 antibody [EPR17260-254] (ab213175)

CD31 was immunoprecipitated from 1 mg of bEnd.3 (Mouse brain endothelioma cell line) whole cell lysate with ab213175 at 1/40 dilution.

Western blot was performed from the immunoprecipitate using ab213175 at 1/1000 dilution.

VeriBlot for IP Detection Reagent (HRP) (**ab131366**), was used for detection at 1/10,000 dilution

Lane 1: bEnd.3 whole cell lysate 10µg (Input). Lane 2: ab213175 IP in bEnd.3 whole cell lysate. Lane 3: Rabbit monoclonal IgG (**ab172730**) instead of ab213175 in bEnd.3 whole cell lysate.

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

Exposure time: 10 seconds.

Anti-CD31 antibody [EPR17260-254] (ab213175)

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