Product datasheet

Anti-CD31 antibody [EPR17260-263] ab222783

Overview

Product name  Anti-CD31 antibody [EPR17260-263]
Description  Rabbit monoclonal [EPR17260-263] to CD31
Host species  Rabbit
Tested applications  Suitable for: WB, ICC/IF
Species reactivity  Reacts with: Mouse, Rat
Immunogen  Recombinant fragment within Mouse CD31 aa 400-600. The exact sequence is proprietary. Database link: Q08481
Positive control  WB: bEND.3 whole cell lysate; Mouse platelet and lung lysates; Rat lung lysate. ICC: 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.

This product is a recombinant rabbit monoclonal antibody.

Properties

Form  Liquid
Storage buffer  Preservative: 0.01% Sodium azide
Constituents: PBS, 40% Glycerol, 0.05% BSA
Purity  Protein A purified
Clonality  Monoclonal
Clone number  EPR17260-263
Isotype  IgG

Applications

Our Abpromise guarantee covers the use of ab222783 in the following tested applications.
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, tests, 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.

### Application Notes

<table>
<thead>
<tr>
<th>Application</th>
<th>Abreviews</th>
<th>Notes</th>
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<tbody>
<tr>
<td>WB</td>
<td>1/2000</td>
<td>Detects a band of approximately 110-130 kDa (predicted molecular weight: 82 kDa). In WB, under our testing conditions, we observe an additional band (~50 kDa) for some human, mouse and rat cell and tissue lysates.</td>
</tr>
<tr>
<td>ICC/IF</td>
<td>1/100</td>
<td></td>
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</tbody>
</table>

**Target**

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).
Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized bEND.3 (mouse brain endothelioma cell line) and NIH/3T3 (mouse embryo fibroblast cell line) cells labeling CD31 with ab222783 at 1/100 dilution followed by Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 dilution (green). Confocal image showing membranous staining on bEND.3 cells. **Negative control:** NIH/3T3 (PMID: 1429859).

The nuclear counter stain is DAPI (blue). Tubulin is detected with Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) (ab195889) (red) at 1/200 dilution.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 dilution.

**All lanes**: Anti-CD31 antibody [EPR17260-263] (ab222783) at 1/2000 dilution

**Lane 1**: bEND.3 (mouse brain endothelioma cell line) whole cell lysate

**Lane 2**: NIH/3T3 (mouse embryo fibroblast cell line) whole cell lysate

Lysates/proteins at 20 µg per lane.

**Secondary**

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

Developed using the ECL technique.

**Predicted band size**: 82 kDa

**Observed band size**: 110 kDa

**why is the actual band size different from the predicted?**

**Exposure time**: 3 seconds

Blocking/Dilution buffer: 5% NFDM/TBST.

**Negative control**: NIH/3T3 (PMID: 1429859).
Western blot - Anti-CD31 antibody [EPR17260-263] (ab222783)

**All lanes**: Anti-CD31 antibody [EPR17260-263] (ab222783) at 1/2000 dilution

**Lane 1**: Mouse platelet lysate  
**Lane 2**: Rat lung lysate  
**Lane 3**: Mouse lung lysate

Lysates/proteins at 20 µg per lane.

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

Developed using the ECL technique.

**Predicted band size**: 82 kDa  
**Observed band size**: 110-130 kDa

*why is the actual band size different from the predicted?*

**Exposure time**: Lane 1-2: 3 minutes; Lane 3: 5 seconds.

Blocking/Dilution buffer: 5% NFDM/TBST.

The molecular weight observed is consistent with what has been described in the literature (PMID: 10448867).

**Please note**: All products are "FOR RESEARCH USE ONLY AND ARE NOT INTENDED FOR DIAGNOSTIC OR THERAPEUTIC USE"

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