**Product datasheet**

**Anti-CD31 antibody [EPR3094] ab76533**

**Recombinant RabMab**

![9 Abreviews 27 References 8 Images](image)

**Overview**

**Product name**
Anti-CD31 antibody [EPR3094]

**Description**
Rabbit monoclonal [EPR3094] to CD31

**Host species**
Rabbit

**Tested applications**
Suitable for: WB, IHC-P
Unsuitable for: Flow Cyt, ICC/IF or IP

**Species reactivity**
Reacts with: Human

**Immunogen**
Synthetic peptide corresponding to Human CD31 aa 150-250 (Cysteine residue). Synthetic peptide corresponding to residues in the extracellular domain of human CD31. (The amino acid sequence is considered to be commercially sensitive)

Database link: P16284

**Positive control**
WB: THP-1 and Jurkat cell lysates IHC-P: Human kidney tissue and human muscle tissue

**General notes**
This antibody shows no cross-reactivity with rat and mouse samples in WB. However it can give some non specific staining on mouse smooth muscle tissues. Please contact our Scientific support for more information.

Our RabMab® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMab® patents.

**We are constantly working hard to ensure we provide our customers with best in class antibodies. As a result of this work we are pleased to now offer this antibody in purified format. We are in the process of updating our datasheets. The purified format is designated 'PUR' on our product labels. If you have any questions regarding this update, please contact our Scientific Support team.**

This product is a recombinant rabbit monoclonal antibody.

**Properties**

**Form**
Liquid

**Storage instructions**
Shipped at 4°C. Upon delivery aliquot and store at -20°C. Avoid freeze / thaw cycles.

**Dissociation constant (K<sub>D</sub>)**

\[ K_D = 1.79 \times 10^{-10} \text{ M} \]
Learn more about $K_D$

**Storage buffer**
- pH: 7.20
- Preservative: 0.01% Sodium azide
- Constituents: 59% PBS, 40% Glycerol, 0.05% BSA

**Purity**
- Protein A purified

**Clonality**
- Monoclonal

**Clone number**
- EPR3094

**Isotype**
- IgG

### Applications

Our [Abpromise guarantee](https://www.abcam.com/abpromise) covers the use of ab76533 in the following tested applications.

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

<table>
<thead>
<tr>
<th>Application</th>
<th>Abreviews</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>IHC-P</td>
<td>⭐⭐⭐⭐⭐</td>
<td>1/100 - 1/500. Perform heat mediated antigen retrieval via the pressure cooker method before commencing with IHC staining protocol. We suggest to program the pressure cooker to run for 30 seconds at 125°C, followed by 10 seconds at 90°C. Then let the slide cool down to room temperature (10 - 20 minutes).</td>
</tr>
</tbody>
</table>

**Application notes**
- Is unsuitable for Flow Cyt, ICC/IF or IP.

### 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).

<table>
<thead>
<tr>
<th><strong>Sequence similarities</strong></th>
<th>Contains 6 Ig-like C2-type (immunoglobulin-like) domains.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Domain</strong></td>
<td>The Ig-like C2-type domains 2 and 3 contribute to formation of the complex with BDKRB2 and in regulation of its activity.</td>
</tr>
<tr>
<td><strong>Post-translational modifications</strong></td>
<td>Phosphorylated on Ser and Tyr residues after cellular activation. In endothelial cells Fyn mediates mechanical-force (stretch or pull) induced tyrosine phosphorylation.</td>
</tr>
<tr>
<td><strong>Cellular localization</strong></td>
<td>Membrane. Cell junction. Localizes to the lateral border recycling compartment (LBRC) and recycles from the LBRC to the junction in resting endothelial cells and</td>
</tr>
</tbody>
</table>
ab76533 staining CD31 in human kidney tissue sections by Immunohistochemistry (IHC-P - paraformaldehyde-fixed, paraffin-embedded sections). Tissue was fixed with paraformaldehyde and antigen retrieval was by heat mediation in a EDTA buffer. Samples were incubated with primary antibody at a dilution of 1/100. A goat anti-rabbit IgG H&L (HRP) ab97051 was used as the secondary antibody at a dilution of 1/500.

Anti-CD31 antibody [EPR3094] (ab76533) at 1/10000 dilution + THP-1 (Human monocytic leukemia cell line) whole cell lysate at 20 µg

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

Predicted band size: 83 kDa
Additional bands at: 125 kDa. We are unsure as to the identity of these extra bands.

Blocking and diluting buffer: 5% NFDM /TBST
**Western blot - Anti-CD31 antibody [EPR3094] (ab76533)**

**All lanes**: Anti-CD31 antibody [EPR3094] (ab76533) at 1/20000 dilution

**Lane 1**: THP-1 cell lysate

**Lane 2**: Jurkat cell lysate

Lysates/proteins at 10 µg per lane.

**Secondary**

**All lanes**: HRP labelled goat anti-rabbit at 1/2000 dilution

**Predicted band size**: 83 kDa

**Observed band size**: 125 kDa

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

Immunohistochemical analysis of paraffin embedded human kidney tissue using ab76533 at a 1/250 dilution. Note positive staining of endothelial cells.

Immunohistochemical analysis of paraffin embedded human muscle tissue using ab76533 at a 1/250 dilution. Note positive staining of endothelial cells.
ab76533 staining CD31 in human muscle tissue by Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections). Tissue was fixed with formaldehyde and a heat mediated antigen retrieval step was performed using citrate buffer pH 6.0. Samples were then blocked with 3% serum for 30 minutes at 20°C followed by incubation with the primary antibody at a 1/200 dilution for 12 hours at 20°C. A Cy3®-conjugated goat anti-rabbit polyclonal was used as secondary antibody at a 1/200 dilution.

Equilibrium disassociation constant (K_D) measurement to determine antibody affinity to the target antigen.

Click here to learn more about K_D

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