Product name: Anti-CD31 antibody [TLD-3A12] ab64543

Description: Mouse monoclonal [TLD-3A12] to CD31

Host species: Mouse

Specificity: ab64543 recognises rat PECAM-1 (CD31). It also partially block the proliferative response of antigen-specific CD4+ T cells to antigen-presenting cells and relevant antigen.

Tested applications:
- Suitable for: WB, IHC-Fr, Flow Cyt, ICC/IF, ELISA
- Unsuitable for: IHC-P

Species reactivity:
- Reacts with: Rat
- Predicted to work with: Pig, Rhesus monkey
- Does not react with: Human

Immunogen: Activated, Lewis rat derived microglial cells

Positive control: Rat spleen; activated microglial cells.

General notes:
This antibody has been shown to partially block the proliferative response of antigen-specific CD4+ T cells to antigen-presenting cells and relevant antigen.

Properties:
- Form: Liquid
- Storage buffer: Preservative: 0.1% Sodium Azide
  Constituents: PBS, pH 7.4
- Purity: Immunogen affinity purified
- Primary antibody notes: This antibody has been shown to partially block the proliferative response of antigen-specific CD4+ T cells to antigen-presenting cells and relevant antigen.
- Clonality: Monoclonal
- Clone number: TLD-3A12
- Myeloma: Sp2
- Isotype: IgG1

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**Applications**

Our **Abpromise guarantee** covers the use of ab64543 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>Abviews</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>WB</td>
<td>🌟🌟🌟🌟🌟</td>
<td>Use at an assay dependent concentration. Predicted molecular weight: 83 kDa.</td>
</tr>
<tr>
<td>IHC-Fr</td>
<td>🌟🌟🌟🌟🌟</td>
<td>1/10 - 1/100. A fixation with acetone or methanol is recommended. Do not fix with PFA.</td>
</tr>
<tr>
<td>Flow Cyt</td>
<td></td>
<td>Use 10µl for 10^6 cells. ab170190 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.</td>
</tr>
<tr>
<td>ICC/IF</td>
<td></td>
<td>Use at an assay dependent concentration. PubMed: 20813915</td>
</tr>
<tr>
<td>ELISA</td>
<td></td>
<td>Use at an assay dependent concentration.</td>
</tr>
</tbody>
</table>

**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, 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.

Images

Immunohistochemical staining of rat brain cryosection with Mouse anti Rat CD31 (ab64543)

ab64543 staining CD31 in rat brain tissue by Immunohistochemistry (Frozen sections). The sections were fixed in paraformaldehyde prior to blocking with 5% donkey serum, BSA 1%, Triton 1.5% for 2 hours at room temperature. The primary antibody was diluted 1/200 in PBS/5% Donkey serum and incubated with the sample for 12 hours at 4°C. An Alexa Fluor® 555-conjugated donkey anti-mouse polyclonal was used as the secondary antibody, diluted 1/200.

Immunohistochemical staining of rat spleen cryosection with Mouse anti Rat CD31 (ab64543)

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