

**CD31 Antibody**  
**Purified Mouse Monoclonal Antibody (Mab)**  
**Catalog # AP52799****Specification**

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**CD31 Antibody - Product Information**

Application	<b>IP, WB</b>
Primary Accession	<a href="#">P16284</a>
Reactivity	<b>Human</b>
Host	<b>Mouse</b>
Clonality	<b>Monoclonal</b>
Isotype	<b>IgG1</b>
Calculated MW	<b>130 KDa</b>

**CD31 Antibody - Additional Information****Gene ID** 5175**Other Names**

Adhesion molecule;CD31;CD31 antigen;CD31 EndoCAM;Endocam;FLJ34100;FLJ58394;GPIIA; GPIIA';PECA1;PECA1\_HUMAN;Pecam 1;PECAM 1 CD31 EndoCAM;PECAM;PECAM-1;Pecam1;Platelet endothelial cell adhesion molecule;Platelet/endothelial cell adhesion molecule 1; Platelet/endothelial cell adhesion molecule.

**Dilution**

IP~~1:500  
WB~~1:1000

**Format**

Purified mouse monoclonal antibody in PBS(pH 7.4) containing with 0.09% (W/V) sodium azide,0.1mg/mlBSA and 50% glycerol.

**Storage**

Store at -20 °C.Stable for 12 months from date of receipt

**CD31 Antibody - Protein Information****Name** PECAM1**Function**

Cell adhesion molecule which is required for leukocyte transendothelial migration (TEM) under most inflammatory conditions (PubMed:<a href="http://www.uniprot.org/citations/17580308" target="\_blank">17580308</a>, PubMed:<a href="http://www.uniprot.org/citations/19342684" target="\_blank">19342684</a>). 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 (PubMed:<a href="http://www.uniprot.org/citations/19342684" target="\_blank">19342684</a>). Trans-homophilic interaction may play a role in endothelial cell-cell adhesion via cell junctions

(PubMed:<a href="http://www.uniprot.org/citations/27958302" target="\_blank">27958302</a>). Heterophilic interaction with CD177 plays a role in transendothelial migration of neutrophils (PubMed:<a href="http://www.uniprot.org/citations/17580308" target="\_blank">17580308</a>). Homophilic ligation of PECAM1 prevents macrophage-mediated phagocytosis of neighboring viable leukocytes by transmitting a detachment signal (PubMed:<a href="http://www.uniprot.org/citations/12110892" target="\_blank">12110892</a>). Promotes macrophage-mediated phagocytosis of apoptotic leukocytes by tethering them to the phagocytic cells; PECAM1-mediated detachment signal appears to be disabled in apoptotic leukocytes (PubMed:<a href="http://www.uniprot.org/citations/12110892" target="\_blank">12110892</a>). Modulates bradykinin receptor BDKRB2 activation (PubMed:<a href="http://www.uniprot.org/citations/18672896" target="\_blank">18672896</a>). Regulates bradykinin- and hyperosmotic shock-induced ERK1/2 activation in endothelial cells (PubMed:<a href="http://www.uniprot.org/citations/18672896" target="\_blank">18672896</a>). Induces susceptibility to atherosclerosis (By similarity).

### Cellular Location

Cell membrane; Single-pass type I membrane protein. Note=Cell surface expression on neutrophils is down-regulated upon fMLP or CXCL8/IL8- mediated stimulation. [Isoform Delta15]: Cell junction. Note=Localizes to the lateral border recycling compartment (LBRC) and recycles from the LBRC to the junction in resting endothelial cells

### Tissue Location

Expressed on platelets and leukocytes and is primarily concentrated at the borders between endothelial cells (PubMed:18388311, PubMed:21464369). Expressed in human umbilical vein endothelial cells (HUVECs) (at protein level) (PubMed:17580308, PubMed:19342684). Expressed on neutrophils (at protein level) (PubMed:17580308). Isoform Long predominates in all tissues examined (PubMed:12433657). Isoform Delta12 is detected only in trachea (PubMed:12433657). Isoform Delta14-15 is only detected in lung (PubMed:12433657). Isoform Delta14 is detected in all tissues examined with the strongest expression in heart (PubMed:12433657). 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 U-937 histiocytic lymphoma cell lines (at protein level) (PubMed:12433657, PubMed:18388311).

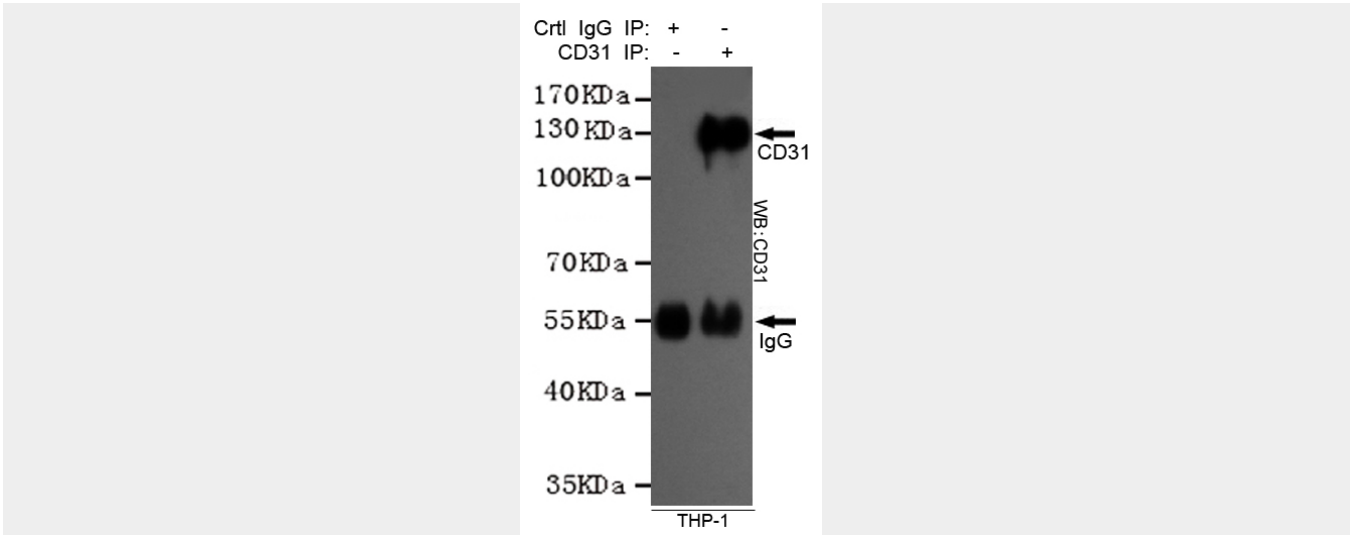
### CD31 Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

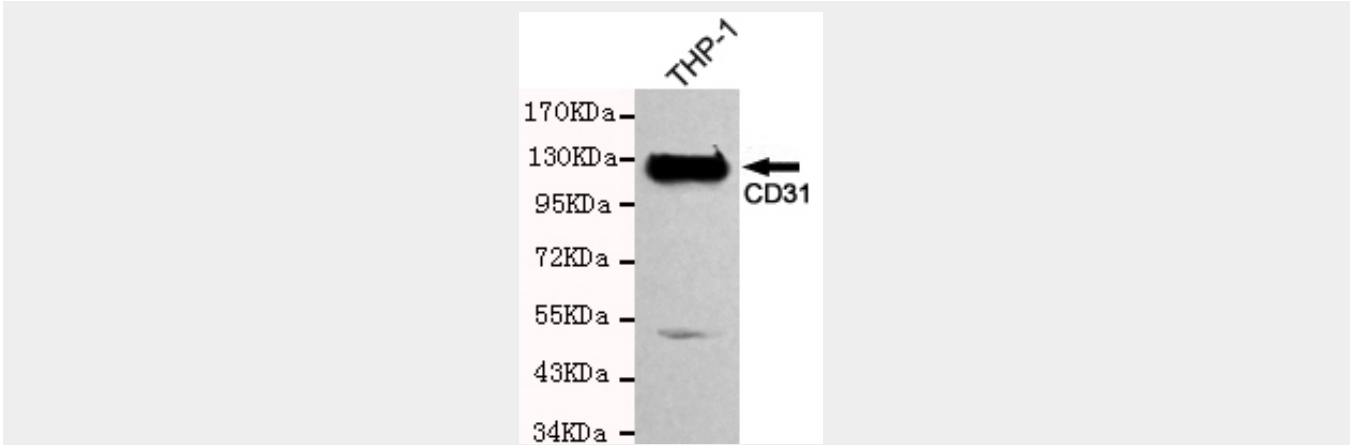
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

### CD31 Antibody - Images





Immunoprecipitation analysis of THP-1 cell lysates using CD31 mouse mAb.



Western blot detection of CD31 in THP-1 cell lysate using CD31 mouse mAb (1:1000 diluted). Predicted band size: 130KDa. Observed band size: 130KDa.

### CD31 Antibody - Background

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).

### CD31 Antibody - References

- Simmons D.L., et al. J. Exp. Med. 171:2147-2152(1990).
- Stockinger H., et al. J. Immunol. 145:3889-3897(1990).

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Albelda S.M.,et al.J. Cell Biol. 114:1059-1068(1991).  
Kirschbaum N.E.,et al.Blood 84:4028-4037(1994).