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Anti-CD31 / PECAM-1 Antibody

Recombinant Rabbit Monoclonal Antibody
Catalog # AH13428

Product Information

Application	IHC-P, IF, FC
Primary Accession	P16284
Other Accession	376675, 514412
Reactivity	Human
Host	Rabbit
Clonality	Monoclonal
Isotype	Rabbit / IgG, kappa
Clone Names	C31/1395R
Calculated MW	82522

Additional Information

Gene ID	5175
Other Names	EndoCAM; PECA1; Platelet Endothelial Cell Adhesion Molecule 1; GPIIA'
Application Note	Flow Cytometry (0.5-1ug/million cells); Immunofluorescence (0.5-1ug/ml); ,Immunohistology (Formalin-fixed) (1-2ug/ml for 30 minutes at RT),(Staining of formalin-fixed tissues requires boiling tissue sections in 10mM Tris with 1mM EDTA, pH 9.0, for 10-20 min followed by cooling at RT for 20 minutes),Optimal dilution for a specific application should be determined.
Format	200ug/ml of Ab purified by Protein A/G. Prepared in 10mM PBS with 0.05% BSA & 0.05% azide. Also available WITHOUT BSA & azide at 1.0mg/ml.
Storage	Store at 2 to 8°C.Antibody is stable for 24 months.
Precautions	Anti-CD31 / PECAM-1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	PECAM1
Function	Cell adhesion molecule which is required for leukocyte transendothelial migration (TEM) under most inflammatory conditions (PubMed:17580308, PubMed:19342684). 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:19342684). Trans-homophilic interaction may play a role in endothelial cell-cell adhesion via cell junctions

(PubMed:27958302). Heterophilic interaction with CD177 plays a role in transendothelial migration of neutrophils (PubMed:17580308). Homophilic ligation of PECAM1 prevents macrophage-mediated phagocytosis of neighboring viable leukocytes by transmitting a detachment signal (PubMed:12110892). 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:12110892). Modulates bradykinin receptor BDKRB2 activation (PubMed:18672896). Regulates bradykinin- and hyperosmotic shock-induced ERK1/2 activation in endothelial cells (PubMed:18672896). 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

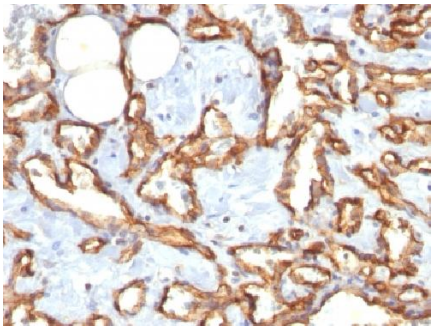
Tissue Location

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).

Background

CD31 (PECAM-1) is a transmembrane glycoprotein member of the immunoglobulin supergene family of adhesion molecules. CD31 is expressed by stem cells of the hematopoietic system and is primarily used to identify and concentrate these cells for experimental studies as well as for bone marrow transplantation. Anti-CD31 has shown to be highly specific and sensitive for vascular endothelial cells. Staining of nonvascular tumors (excluding hematopoietic neoplasms) is rare. CD31 MAb reacts with normal, benign, and malignant endothelial cells which make up blood vessel lining. The level of CD31 expression can help to determine the degree of tumor angiogenesis, and a high level of CD31 expression may imply a rapidly growing tumor and potentially a predictor of tumor recurrence.

Images



Formalin-fixed, paraffin-embedded human Angiosarcoma stained with CD31 Recombinant Rabbit Monoclonal Antibody (C31/1395R).

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