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# Anti-CD31 / PECAM-1 Antibody

Mouse Monoclonal Antibody
Catalog # AH13426

## Product Information

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| **Application** | IF, FC |
| **Primary Accession** | P16284 |
| **Other Accession** | 376675, 514412 |
| **Reactivity** | Human |
| **Host** | Mouse |
| **Clonality** | Monoclonal |
| **Isotype** | Mouse / IgG1, kappa |
| **Clone Names** | C31.12 |
| **Calculated MW** | 82522 |

## Additional Information

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| **Gene ID** | 5175 |
| **Other Names** | EndoCAM; PECA1; Platelet Endothelial Cell Adhesion Molecule 1; GPIIA' |
| **Application Note** | Flow Cytometry (0.5-1ug/million cells); Immunofluorescence (1-2ug/ml); Optimal dilution for a specific application should be determined. |
| **Format** | 200ug/ml of Ab purified from Bioreactor Concentrate 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

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| **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 |

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| | 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.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.