

CD31/PECAM-1 Protein, Human

Cat. No.:	HY-P72892
Synonyms:	Platelet endothelial cell adhesion molecule; PECAM-1; EndoCAM; PECA1; CD31
Species:	Human
Source:	HEK293
Accession:	EAW94208.1 (Q28-K601)
Gene ID:	5175
Molecular Weight:	Approximately 115 kDa

PROPERTIES

AA Sequence	<pre> Q E N S F T I N S V D M K S L P D W T V Q N G K N L T L Q C F A D V S T T S H V K P Q H Q M L F Y K D D V L F Y N I S S M K S T E S Y F I P E V R I Y D S G T Y K C T V I V N N K E K T T A E Y Q V L V E G V P S P R V T L D K K E A I Q G G I V R V N C S V P E E K A P I H F T I E K L E L N E K M V K L K R E K N S R D Q N F V I L E F P V E E Q D R V L S F R C Q A R I I S G I H M Q T S E S T K S E L V T V T E S F S T P K F H I S P T G M I M E G A Q L H I K C T I Q V T H L A Q E F P E I I I Q K D K A I V A H N R H G N K A V Y S V M A M V E H S G N Y T C K V E S S R I S K V S S I V V N I T E L F S K P E L E S S F T H L D Q G E R L N L S C S I P G A P P A N F T I Q K E D T I V S Q T Q D F T K I A S K S D S G T Y I C T A G I D K V V K K S N T V Q I V V C E M L S Q P R I S Y D A Q F E V I K G Q T I E V R C E S I S G T L P I S Y Q L L K T S K V L E N S T K N S N D P A V F K D N P T E D V E Y Q C V A D N C H S H A K M L S E V L R V K V I A P V D E V Q I S I L S S K V V E S G E D I V L Q C A V N E G S G P I T Y K F Y R E K E G K P F Y Q M T S N A T Q A F W T K Q K A N K E Q E G E Y Y C T A F N R A N H A S S V P R S K I L T V R V I L A P W K K </pre>
Biological Activity	Measured by its ability of the immobilized protein to support the adhesion of Jurkat human acute T cell leukemia cells. When 5×10^4 cells/well are added to rhCD31 coated plates (3.3 $\mu\text{g}/\text{mL}$, 100 $\mu\text{L}/\text{well}$) in the presence of 20 ng/mL PMA, approximately 80.4% will adhere after 30 minutes at 37°C.
Appearance	Lyophilized powder
Formulation	Lyophilized from a 0.2 μm filtered solution of 50 mM Tris, 10 mM NaCl, pH 7.5.
Endotoxin Level	<1 EU/ μg , determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 $\mu\text{g}/\text{mL}$ in ddH ₂ O. For long term storage it is recommended to add a carrier protein (0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose).
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.

Shipping

Room temperature in continental US; may vary elsewhere.

DESCRIPTION**Background**

CD31/PECAM-1, a pivotal cell adhesion molecule, is essential for leukocyte transendothelial migration (TEM) in most inflammatory conditions. The critical role of Tyr-679 in TEM is underscored by its requirement for efficient trafficking of PECAM-1 to and from the lateral border recycling compartment (LBRC), crucial for targeting the LBRC membrane around migrating leukocytes. The trans-homophilic interaction potentially contributes to endothelial cell-cell adhesion via cell junctions. Homophilic ligation of PECAM-1 serves a dual purpose, preventing macrophage-mediated phagocytosis of neighboring viable leukocytes by transmitting a detachment signal, while promoting the macrophage-mediated phagocytosis of apoptotic leukocytes by tethering them to phagocytic cells. Notably, PECAM-1 modulates bradykinin receptor BDKRB2 activation and regulates bradykinin- and hyperosmotic shock-induced ERK1/2 activation in endothelial cells. Its interaction with various partners, including BDKRB2, GNAQ, PTPN11, FER, and CD177, further elucidates the intricate molecular mechanisms governing its diverse cellular functions, while its trans-homodimerization is crucial for effective cell-cell interaction^{[1][2][3][4][5]}.

Caution: Product has not been fully validated for medical applications. For research use only.

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