

Recombinant Human PECAM1/CD31 protein (His tag)

Catalog No. PDMH100087

Note: Centrifuge before opening to ensure complete recovery of vial contents.

Description

Synonyms	Platelet endothelial cell adhesion molecule;PECAM-1;EndoCAM;GPIIA;PECA1;CD31;PECAM1
Species	Human
Expression Host	HEK293 Cells
Sequence	Met 1-Lys 601
Accession	P16284
Calculated Molecular Weight	66.0 kDa
Observed molecular weight	85 kDa
Tag	C-His
Bioactivity	Not validated for activity

Properties

Purity	> 95 % as determined by reducing SDS-PAGE.
Endotoxin	Please contact us for more information.
Storage	Generally, lyophilized proteins are stable for up to 12 months when stored at -20 to -80°C. Reconstituted protein solution can be stored at 4-8°C for 2-7 days. Aliquots of reconstituted samples are stable at < -20°C for 3 months.
Shipping	This product is provided as lyophilized powder which is shipped with ice packs.
Formulation	Lyophilized from sterile PBS, pH 7.4. Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Please refer to the specific buffer information in the printed manual.
Reconstitution	It is recommended that sterile water be added to the vial to prepare a stock solution of 0.5 mg/mL. Concentration is measured by UV-Vis

Background

CD31, also known as platelet endothelial cell adhesion molecule-1 (PECAM-1), is a 130 kDa heavily glycosylated transmembrane protein belonging to the immunoglobulin (Ig) superfamily of cell adhesion molecules. CD31 is highly expressed on endothelial cells and at a lower level on platelets, granulocytes, macrophages, dendritic cells, T and B cells, and natural killer (NK) cells. It is involved in cell adhesion and is required for transepithelial migration of leukocytes (TEM). CD31 is composed of an extracellular domain (ECD) of 574 amino acids containing six Ig-like domains, a transmembrane domain, and a 118 aa cytoplasmic domain. The latter undergoes alternative splicing which generates multiple isoforms showing altered adhesive properties compared to full length CD31. The human CD31 ECD shares 63% and 61% aa sequence identity with mouse and rat CD31, respectively. CD31 acts as a homophilic receptor through its extracellular domain and is involved in downstream signaling via its cytoplasmic domain. This domain contains highly conserved ITIM motifs which, once tyrosine phosphorylated, recruit and activate the signaling molecules Src and SHP-2. The resulting inhibition of TCR signaling increases the activation threshold of T cells, thus reinforcing peripheral tolerance and preventing development of autoimmunity. CD31 additionally regulates immune responses by acting as a key inhibitory receptor in dendritic cell development. Besides its role in TEM, CD31 appears to regulate T cell trafficking through a complex coordination of endothelial cell junctions and T cell extravasation.

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