

## CD31/PECAM-1 Protein, Mouse (573a.a, HEK293, His)

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| <b>Cat. No.:</b>         | HY-P72737   |
| <b>Synonyms:</b>         | Platelet endothelial cell adhesion molecule; PECAM-1; CD31; Pecam |
| <b>Species:</b>          | Mouse   |
| <b>Source:</b>           | HEK293  |
| <b>Accession:</b>        | Q08481 (E18-K590)   |
| <b>Gene ID:</b>          | 18613   |
| <b>Molecular Weight:</b> | approximately 86-106 kDa  |

### PROPERTIES

#### AA Sequence

|                     |                     |                     |                     |
|---------------------|---------------------|---------------------|---------------------|
| E E N S F T I N S I | H M E S L P S W E V | M N G Q Q L T L E C | L V D I S T T S K S |
| R S Q H R V L F Y K | D D A M V Y N V T S | R E H T E S Y V I P | Q A R V F H S G K Y |
| K C T V M L N N K E | K T T I E Y E V K V | H G V S K P K V T L | D K K E V T E G G V |
| V T V N C S L Q E E | K P P I F F K I E K | L E V G T K F V K R | R I D K T S N E N F |
| V L M E F P I E A Q | D H V L V F R C Q A | G I L S G F K L Q E | S E P I R S E Y V T |
| V Q E S F S T P K F | E I K P P G M I I E | G D Q L H I R C I V | Q V T H L V Q E F T |
| E I I I Q K D K A I | V A T S K Q S S E A | V Y S V M A M V E Y | S G H Y T C K V E S |
| N R I S K A S S I M | V N I T E L F P K P | K L E F S S S R L D | Q G E L L D L S C S |
| V S G T P V A N F T | I Q K E E T V L S Q | Y Q N F S K I A E E | S D S G E Y S C T A |
| G I G K V V K R S G | L V P I Q V C E M L | S K P S I F H D A K | S E I I K G H A I G |
| I S C Q S E N G T A | P I T Y H L M K A K | S D F Q T L E V T S | N D P A T F T D K P |
| T R D M E Y Q C R A | D N C H S H P A V F | S E I L R V R V I A | P V D E V V I S I L |
| S S N E V Q S G S E | M V L R C S V K E G | T S P I T F Q F Y K | E K E D R P F H Q A |
| V V N D T Q A F W H | N K Q A S K K Q E G | Q Y Y C T A S N R A | S S M R T S P R S S |
| T L A V R V F L A P | W K K               |                     |                     |

**Biological Activity** Data is not available.

**Appearance** Lyophilized powder.

**Formulation** Lyophilized from a 0.2 µm filtered solution of PBS, 5 mM EDTA, pH 7.4 or 20 mM PB, 150 mM NaCl, pH 7.4.

**Endotoxin Level** <1 EU/µg, determined by LAL method.

**Reconstitution** It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH<sub>2</sub>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.

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## DESCRIPTION

### Background

CD31/PECAM-1 protein, 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 PECAM1 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, while heterophilic interaction with CD177 plays a role in the transendothelial migration of neutrophils. Homophilic ligation of PECAM1 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, PECAM1 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. The interaction nuances, such as Ca(2+)-dependency and directness, add layers of complexity to the regulatory roles of CD31/PECAM-1.

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

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