

## CEACAM1 Protein, Rat (HEK293, His)

<b>Cat. No.:</b>	HY-P75358
<b>Synonyms:</b>	Carcinoembryonic antigen-related cell adhesion molecule 1; BGP-1; CD66a; CEACAM1
<b>Species:</b>	Rat
<b>Source:</b>	HEK293
<b>Accession:</b>	P16573 (Q35-S422)
<b>Gene ID:</b>	81613
<b>Molecular Weight:</b>	66-76 kDa

### PROPERTIES

<b>AA Sequence</b>	<pre> Q V T V D A V P P N   V V E E K S V L L L   A H N L P Q E F Q V   F Y W Y K G T T L N P D S E I A R Y I R   S D N M S K T G P A   Y S G R E T I Y S N   G S L F F Q N V N K T D E R A Y T L S V   F D Q Q F N P I Q T   S V Q F R V Y P A L   Q K P N V T G N N S N P M E G E P F V S   L M C E P Y T N N T   S Y L W S R N G E S   L S E G D R V T F S E G N R T L T L L N   V R R T D K G Y Y E   C E A R N P A T F N   R S D P F N L D V I Y G P D A P V I S P   P D I Y L H Q G S N   L N L S C H A D S N   P P A Q Y F W L I N E K L Q T S S Q E L   F I S N I T T N N S   G T Y A C F V N N T   V T G L S R T T V K N I T V F E P V T Q   P S I Q I T N T T V   K E L G S V T L T C   F S K D T G V S V R W L F N S Q S L Q L   T D R M T L S Q D N   S T L R I D P I K R   E D A G D Y Q C E I S N P V S F R I S H   P I K L D V I P D P   T Q G N S G L S </pre>
<b>Appearance</b>	Lyophilized powder
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution of PBS, pH 7.4.
<b>Endotoxin Level</b>	<1 EU/µg, determined by LAL method.
<b>Reconstitution</b>	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).
<b>Storage &amp; Stability</b>	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.
<b>Shipping</b>	Room temperature in continental US; may vary elsewhere.

### DESCRIPTION

<b>Background</b>	The CD31/PECAM-1 protein, a pivotal cell adhesion molecule, is indispensable for leukocyte transendothelial migration (TEM) in the majority of inflammatory scenarios. The critical role of Tyr-690 in TEM is highlighted by its involvement in the
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efficient trafficking of PECAM1 to and from the lateral border recycling compartment (LBRC), essential for targeting the LBRC membrane around migrating leukocytes. This protein engages in trans-homophilic interactions that likely contribute to endothelial cell-cell adhesion through cell junctions, while its heterophilic interaction with CD177 plays a crucial 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 simultaneously promoting macrophage-mediated phagocytosis of apoptotic leukocytes by tethering them to the phagocytic cells. Beyond its role in cell adhesion, CD31/PECAM-1 modulates bradykinin receptor BDKRB2 activation and regulates ERK1/2 activation in endothelial cells induced by bradykinin and hyperosmotic shock. Despite its versatility, CD31/PECAM-1 has a notable impact on atherosclerosis susceptibility while lacking a protective effect against apoptosis. This underscores the multifaceted functions of CD31/PECAM-1 in orchestrating diverse aspects of immune and endothelial cell responses.

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

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