

Datasheet for ABIN921112

CD31 ELISA Kit**1** Image**1** Publication[Go to Product page](#)

Overview

Quantity:	96 tests
Target:	CD31 (PECAM1)
Binding Specificity:	AA 28-601
Reactivity:	Human
Method Type:	Sandwich ELISA
Detection Range:	156-10000 pg/mL
Minimum Detection Limit:	156 pg/mL
Application:	ELISA

Product Details

Purpose:	Sandwich High Sensitivity ELISA kit for Quantitative Detection of Human PECAM-1/CD31
Brand:	PicoKine™
Sample Type:	Cell Culture Supernatant, Serum, Plasma (heparin), Plasma (EDTA)
Analytical Method:	Quantitative
Detection Method:	Colorimetric
Immunogen:	Expression system for standard: CHO Immunogen sequence: Q28-K601
Specificity:	Expression system for standard: CHO Immunogen sequence: Q28-K601
Cross-Reactivity (Details):	There is no detectable cross-reactivity with other relevant proteins.

Product Details

Sensitivity:	<10pg/mL
Material not included:	Microplate reader in standard size. Automated plate washer. Adjustable pipettes and pipette tips. Multichannel pipettes are recommended in the condition of large amount of samples in the detection. Clean tubes and Eppendorf tubes. Washing buffer (neutral PBS or TBS). Preparation of 0.01M TBS: Add 1.2g Tris, 8.5g NaCl

Target Details

Target:	CD31 (PECAM1)
Alternative Name:	PECAM1 (PECAM1 Products)
Background:	<p>Protein Function: Induces susceptibility to atherosclerosis (By similarity). Cell adhesion molecule which is required for leukocyte transendothelial migration (TEM) under most inflammatory conditions. 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. Prevents phagocyte ingestion of closely apposed viable cells by transmitting 'detachment' signals, and changes function on apoptosis, promoting tethering of dying cells to phagocytes (the encounter of a viable cell with a phagocyte via the homophilic interaction of PECAM1 on both cell surfaces leads to the viable cell's active repulsion from the phagocyte. During apoptosis, the inside-out signaling of PECAM1 is somehow disabled so that the apoptotic cell does not actively reject the phagocyte anymore. The lack of this repulsion signal together with the interaction of the eat-me signals and their respective receptors causes the attachment of the apoptotic cell to the phagocyte, thus triggering the process of engulfment). Isoform Delta15 is unable to protect against apoptosis. Modulates BDKRB2 activation. Regulates bradykinin- and hyperosmotic shock-induced ERK1/2 activation in human umbilical cord vein cells (HUVEC). .</p> <p>Background: Human platelet/endothelial cell adhesion molecule-1(PECAM1), an important member of the immunoglobulin gene superfamily, is widely distributed on cells of the vascular system and mediates cellular interactions through both homophilic and heterophilic adhesive mechanisms. The function of PECAM1 in vitro has begun to be understood, but its function in vivo is yet to be established.1 The PECAM1 locus is on the long arm of chromosome 17, in the region q23-qter. To confirm this observation and obtain a more precise localization of the PECAM1 locus, fluorescence in situ hybridization was conducted. Together our data allowed assignment of the PECAM1 locus to the region 17q23.2 To examine the functional role of PECAM-1 in regulating platelet-collagen interactions, 2 different approaches were applied using recombinant human PECAM-1-immunoglobulin chimeras and platelets derived from PECAM-1-</p>

Target Details

deficient mice.³ PECAM-1, an integral membrane protein with an essential role in TEM, is found in this compartment and constitutively recycles evenly along endothelial cell borders.⁴ The standard used in this kit is the product of gene recombinant expression(extracellular part), consisting of 574 amino acids(Q28-K601) with the molecular weight of 64.5KDa. After glycosylating, its molecular weight changes to 90-100KDa.

Synonyms: Platelet endothelial cell adhesion molecule,PECAM-1,EndoCAM,GPIIA',PECA1,CD31,PECAM1,

Full Gene Name: Platelet endothelial cell adhesion molecule

Cellular Localisation: Isoform Long: Cell membrane, Single-pass type I membrane protein. Cell membrane, Lipid-anchor. Cell junction. Localizes to the lateral border recycling compartment (LBRC) and recycles from the LBRC to the junction in resting endothelial cells.

Gene ID: 5175

UniProt: [P16284](#)

Pathways: [Regulation of Actin Filament Polymerization](#)

Application Details

Application Notes: Before using Kit, spin tubes and bring down all components to bottom of tube. Duplicate well assay was recommended for both standard and sample testing.

Comment: Sequence similarities: Contains 6 Ig-like C2-type (immunoglobulin-like) domains.
Tissue Specificity: Expressed on platelets and leukocytes and is primarily concentrated at the borders between endothelial cells. Isoform Long predominates in all tissues examined. Isoform Delta12 is detected only in trachea. Isoform Delta14-15 is only detected in lung. Isoform Delta14 is detected in all tissues examined with the strongest expression in heart. 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). .

Plate: Pre-coated

Protocol: human PECAM-1 ELISA Kit was based on standard sandwich enzyme-linked immune-sorbent assay technology. A monoclonal antibody from mouse specific for PECAM-1 has been precoated onto 96-well plates. Standards(CHO, Q28-K601) and test samples are added to the wells, a biotinylated detection polyclonal antibody from goat specific for PECAM-1 is added subsequently and then followed by washing with PBS or TBS buffer. Avidin-Biotin-Peroxidase Complex was added and unbound conjugates were washed away with PBS or TBS buffer. HRP

Application Details

substrate TMB was used to visualize HRP enzymatic reaction. TMB was catalyzed by HRP to produce a blue color product that changed into yellow after adding acidic stop solution. The density of yellow is proportional to the human PECAM-1 amount of sample captured in plate.

Assay Procedure: Aliquot 0.1 mL per well of the 10000pg/mL, 5000pg/mL, 2500pg/mL, 1250pg/mL, 625pg/mL, 312pg/mL, 156pg/mL human PECAM-1 standard solutions into the precoated 96-well plate. Add 0.1 mL of the sample diluent buffer into the control well (Zero well). Add 0.1 mL of each properly diluted sample of human cell culture supernates, serum or plasma(heparin, EDTA) to each empty well. See "Sample Dilution Guideline" above for details. It is recommended that each human PECAM-1 standard solution and each sample be measured in duplicate.

Assay Precision:

- Sample 1: n=16, Mean(pg/ml): 1282, Standard deviation: 87.2, CV(%): 6.8
- Sample 2: n=16, Mean(pg/ml): 2520, Standard deviation: 120.96, CV(%): 4.8
- Sample 3: n=16, Mean(pg/ml): 5023, Standard deviation: 261.2, CV(%): 5.2,
- Sample 1: n=24, Mean(pg/ml): 1526, Standard deviation: 116, CV(%): 7.6
- Sample 2: n=24, Mean(pg/ml): 2768, Standard deviation: 182.7, CV(%): 6.6
- Sample 3: n=24, Mean(pg/ml): 5281, Standard deviation: 338, CV(%): 6.4

Restrictions: For Research Use only

Handling

Handling Advice: Avoid multiple freeze-thaw cycles.

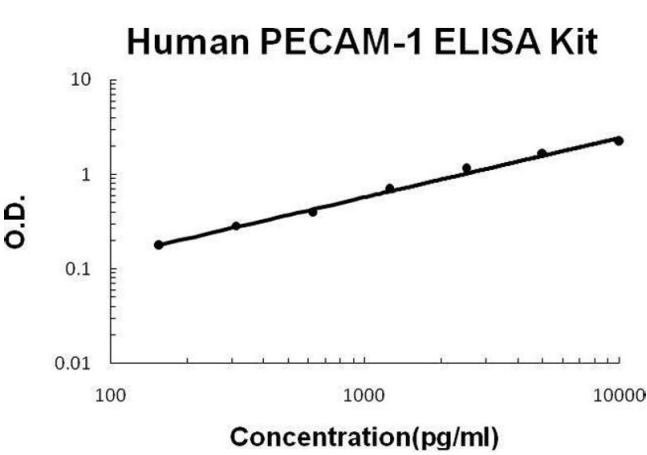
Storage: -20 °C,4 °C

Storage Comment: Store at 4°C for 6 months, at -20°C for 12 months. Avoid multiple freeze-thaw cycles

Expiry Date: 12 months

Publications

Product cited in: Wang, Wei, Lin, Shi, Dong: "The inhibition of Endostar on the angiogenesis and growth of gastrointestinal stromal tumor xenograft." in: **Clinical and experimental medicine**, Vol. 12, Issue 2, pp. 89-95, (2012) ([PubMed](#)).



ELISA

Image 1. Human PECAM-1/CD31 PicoKine ELISA Kit standard curve