Datasheet for ABIN411368

VCAM1 ELISA Kit

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Overview

Quantity:	96 tests
Target:	VCAM1
Binding Specificity:	AA 25-698
Reactivity:	Mouse
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 Mouse VCAM-1
Brand:	PicoKine™
Sample Type:	Cell Culture Supernatant, Serum, Plasma (heparin), Plasma (EDTA)
Analytical Method:	Quantitative
Detection Method:	Colorimetric
Immunogen:	Expression system for standard: NSO Immunogen sequence: F25 - E698
Specificity:	Expression system for standard: NSO,F25 - E698
Cross-Reactivity (Details):	There is no detectable cross-reactivity with other relevant proteins.
Sensitivity:	<5pg/mL

Product Details

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:	VCAM1
Alternative Name:	VCAM1 (VCAM1 Products)
Background:	Protein Function: Important in cell-cell recognition. Appears to function in leukocyte-endothelial cell adhesion. Interacts with integrin alpha-4/beta-1 (ITGA4/ITGB1) on leukocytes, and mediates both adhesion and signal transduction. The VCAM1/ITGA4/ITGB1 interaction may play a pathophysiologic role both in immune responses and in leukocyte emigration to sites of inflammation. Background: Vascular cell adhesion molecule 1(VCAM-1) is a cell surface glycoprotein adhesive for certain blood leukocytes and tumor cells, which is expressed by activated endothelium in a variety of pathologic conditions including atherosclerosis.Increased expression of VCAM1 is associated with a variety of chronic inflammatory conditions, making its expression and function a target for therapeutic intervention.Integrin alpha4beta1(VLA-4) and VCAM-1 facilitate a critical cell-cell adhesion event required for survival of endothelial and mural cells during vascularization.The VCAM1 gene is assigned to the 1p31-32 region of chromosome 1 based on the analysis of human-mouse hybrid cell lines and in situ hybridization.The standard product used in this kit is recombinant mouse VCAM-1, a dimeric protein linking with a disulfide bond. It consists of Phe25-Glu698 amino acid sequence of a single chain with the molecular mass of 101.9KDa. As a result of glycosylation, the molecular mass of 120KDa is revealed by SDS-PAGE. Synonyms: Vascular cell adhesion protein 1,V-CAM 1,VCAM-1,CD106,Vcam1,Vcam-1, Full Gene Name: Vascular cell adhesion protein 1 Cellular Localisation: Isoform 1: Cell membrane, Single-pass type I membrane protein.
Gene ID:	22329
UniProt:	P29533
Pathways:	Carbohydrate Homeostasis

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 7 Ig-like C2-type (immunoglobulin-like) domains. Tissue Specificity: Expressed on inflamed vascular endothelium, as well as on macrophage-like and dendritic cell types in both normal and inflamed tissue. Expressed in the bone marrow. .
Plate:	Pre-coated
Protocol:	mouse VCAM-1 ELISA Kit was based on standard sandwich enzyme-linked immune-sorbent assay technology. A monoclonal antibody from rat specific for VCAM-1 has been precoated onto 96-well plates. Standards (NSO,F25 - E698) and test samples are added to the wells, a biotinylated detection polyclonal antibody from goat specific for VCAM-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 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 mouse VCAM-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, 313pg/mL, 156pg/mL mouse VCAM-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 mouse cell culture supernates, serum or plasma(heparin, EDTA) to each empty well. See "Sample Dilution Guideline" above for details. We recommend that each mouse VCAM-1 standard solution and each sample is measured in duplicate.
Assay Precision:	• Sample 1: n=16, Mean(pg/ml): 230, Standard deviation: 8.74, CV(%): 3.8 • Sample 2: n=16, Mean(pg/ml): 2346, Standard deviation: 105.6, CV(%): 4.5 • Sample 3: n=16, Mean(pg/ml): 5393, Standard deviation: 280.4, CV(%): 5.2, • Sample 1: n=24, Mean(pg/ml): 384, Standard deviation: 17.28, CV(%): 4.5 • Sample 2: n=24, Mean(pg/ml): 3017, Standard deviation: 162.9, CV(%): 5.4 • Sample 3: n=24, Mean(pg/ml): 6245, Standard deviation: 37, CV(%): 6
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

Handling

Expiry Date:	12 months

Publications

Product cited in:

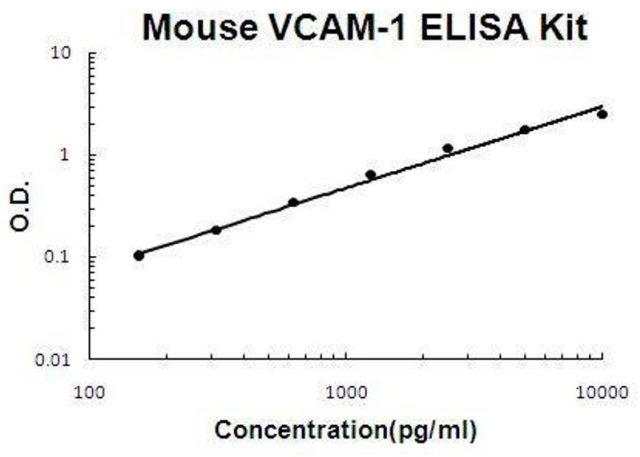
Sai, Yao, Shen, Zheng, Sun, Wu, Wang, Yao: "Dynamic expression of hepatic GP73 mRNA and protein and circulating GP73 during hepatocytes malignant transformation." in: **Hepatobiliary & pancreatic diseases international : HBPD INT**, Vol. 19, Issue 5, pp. 449-454, (2020) (PubMed).

Dong, Chen, Li, Li, Wen, Lin, Ma, Wei, Chen, Ruan, Lin, Wang, Wu, Wu: "Serum Golgi protein 73 is a prognostic rather than diagnostic marker in hepatocellular carcinoma." in: **Oncology letters**, Vol. 14, Issue 5, pp. 6277-6284, (2017) (PubMed).

Kosanam, Prassas, Chrystoja, Soleas, Chan, Dimitromanolakis, Blasutig, Rückert, Gruetzmann, Pilarsky, Maekawa, Brand, Diamandis: "Laminin, gamma 2 (LAMC2): a promising new putative pancreatic cancer biomarker identified by proteomic analysis of pancreatic adenocarcinoma tissues." in: **Molecular & cellular proteomics : MCP**, Vol. 12, Issue 10, pp. 2820-32, (2013) (PubMed).

There are more publications referencing this product on: Product page

Images



ELISA

Image 1. Mouse VCAM-1 PicoKine ELISA Kit standard curve