Datasheet for ABIN4987154

VCAM1 ELISA Kit

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1 Image

Overview

Quantity:	96 tests
Target:	VCAM1
Reactivity:	Human
Method Type:	Sandwich ELISA
Detection Range:	62.5-4000 pg/mL
Minimum Detection Limit:	62.5 pg/mL
Application:	ELISA

Product Details

Sample Type:	Cell Culture Supernatant, Serum, Plasma (heparin), Plasma (citrate), Plasma (EDTA)
Analytical Method:	Quantitative
Detection Method:	Colorimetric
Specificity:	Natural and recombinant Human VCAM-1 Ligand
Sensitivity:	31 pg/mL
Material not included:	• Microplate reader. • Pipettes and pipette tips. • EP tube Deionized or distilled water.

Target Details

Target:	VCAM1

Target Details

Alternative Name:	VCAM-1 (VCAM1 Products)
Background:	Human Vascular Cell Adhesion Molecule-1 (VCAM-1) is a 100 - 110 kDa, 715 amino acid (aa) type I transmembrane glycoprotein typically characterized by the presence of seven C2-type immunoglobulin (Ig) domains (1 - 3). Its extracellular region is 674 aa in length, followed by a 22 aa transmembrane segment and a 19 aa cytoplasmic tail (1, 2). In the extracellular region, there are multiple N-linked glycosylation sites (the predicted molecular weight is 80 kDa), and each C2 domain is closed by a disulfide bridge. There is considerable interspecies VCAM-1 homology, with mouse and rat VCAM-1 showing approximately 75 % aa identity to human VCAM-1 (2 - 4). Notably, the short 19 aa cytoplasmic tail is absolutely conserved, mouse to human to rat (4). Cells expressing mouse VCAM-1 bind both mouse and human leukocytes, and this reflects their high degree of aa identity (4). A number of variants of VCAM-1 are known to occur, all of which are likely the result of alternate gene splicing. In particular, a human six Ig domain molecule is known (1), and in rabbits, an eight Ig domain form has been identified (2). There is also a three-C2 domain, 43 kDa GPI-linked form of VCAM-1 (5, 6). Although it binds known VCAM-1 ligands (or co-receptors), its function is unclear. Cells known to express VCAM-1 include neurons (7), endothelial cells (8), smooth muscle cells (9), fibroblasts (10) and macrophages (11). Soluble VCAM-1 has been identified in culture supernates (12), blood (13 - 15), and cerebrospinal fluid (15, 16). In vitro, basal levels of VCAM-1 shedding by unstimulated NIH3T3 cells appear to partially require metalloproteinase activity, while PMA-induced shedding is dependent upon the proteolytic activity of TACE/ADAM17 (12).Functionally, VCAM-1 binds to both a4b1 (VLA-4) and a4b7 (LPAM-1) integrins (17, 18). These integrins (or VCAM-1 ligands) are expressed on a variety of cells, with VLA-4 found on all leukocytes with the exception of neutrophils (17, 19, 20). Because of this, VCAM-1/VCAM-1 ligand interactions are undoubtedly key events in the rate and timing of leukocyte extravasation(3). Other roles proposed for VCAM-1 include the regulation of osteoclastogenesis via a cell-to-cell contact mechanism (22) and the induction of sickle cell adherence to vascular endothelial cells during hypoxemia (23).
Pathways:	Carbohydrate Homeostasis

Application Details

Application Notes:	Detection Wavelength: 450 nm
Sample Volume:	20 µL
Assay Time:	3 h
Plate:	Pre-coated

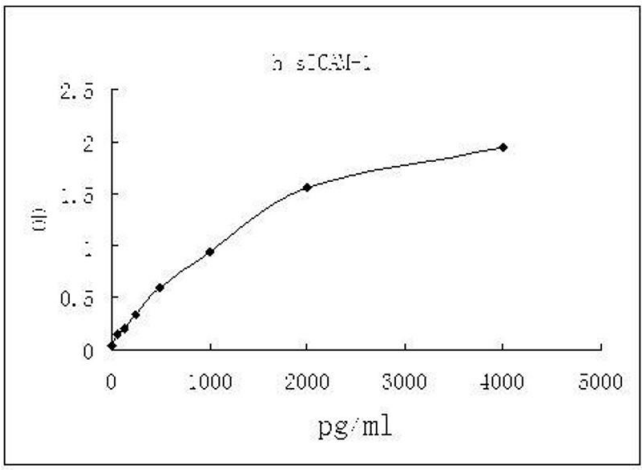
Application Details

Restrictions:	For Research Use only

Handling

Storage:	4 °C

Images



ELISA

Image 1.