

VAP-1 Human Chinese Hamster Ovary Cells (CHO)

Product Data Sheet

Type: Recombinant	Cat. No.:	
Source: Chinese Hamster Ovary Cells (CHO)	RBG10338002	(2 µg)
Species: Human	RBG10338010	(10 µg)
Other names: Vascular adhesion protein 1, copper-containing	RBG10338100	(100 µg)
3		

Description

VAP-1 is a type II membrane cell adhesion protein belonging to the copper/topaquinone oxidase family. It is primarily expressed on the high endothelial venules of peripheral lymph nodes and on hepatic endothelia. VAP-1 can catalyze the oxidative deamination of low molecular weight amines, and plays an important role in the migration of lymphocytes to inflamed tissue. Inhibition of VAP-1 can protect against inflammation-related damage to certain injured tissues. Additionally, VAP-1 can function as a significant prognostic marker for certain cancers and cardiovascular diseases. Recombinant Human VAP-1 is a mixture of monomeric and disulfide-linked homodimeric forms of a 737 amino acid polypeptide, corresponding to amino acids 27 to 763 of the VAP-1 precursor. The calculated molecular weight of Recombinant Human VAP-1 is 81.8 kDa.

Introduction to the Molecule

The mature VAP-1 molecule is a 170 kDa homodimeric glycoprotein that consists of two 90 kDa subunits held together by disulfide bonds. VAP-1 has a large extracellular domain, a single-pass transmembrane domain, and a short cytoplasmic tail. The molecule has abundant sialic acid decorations that are essential to its adhesive function, because VAP-1 is unable to mediate lymphocyte adhesion to desialylated vessels. The leukocyte ligand for VAP-1 is currently unknown. Induction of VAP-1 has been shown at sites of inflammation, such as in inflammatory bowel diseases and chronic dermatoses, where expression of VAP-1 is clearly increased. It is constitutively expressed on hepatic endothelium playing a critical role in regulation of T-cell recirculation to the liver. Strong expression of VAP-1 on tumor endothelium distinguishes human hepatocellular carcinomas from colorectal hepatic metastases.

Research topic

Cell adhesion proteins , Oncology

Amino Acid Sequence

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GRGGDGGEPS QLPHCPVSP SAQPWTHPGQ SQLFADLSRE ELTAVMRFLT QRLGPGLVDA AQARPSDNCV FSVELQLPPK
AAALAHLDRLG SPPPAREALA IVFFGRQPQP NVSELVVGPL PPHSYMRDVT VERHGGPLPY HRRPVLQFEY LDIDQMIFNR
ELPQASGLLH HCCFYKHRGR NLVTMTTAPR GLQSGDRATW FGLYINISGA GFFLHHVBLE LLVNHKALDP ARWTIQKVFY
QGRYYDSLAAQ LEAQFEAGLV NVVLIPDNGT GGSWSLKSPPV PPGPAPPLQF YPQGPRFSVQ GSRVASSLWT FSGGLGAFSG
PRIFDVRFQG ERLVYEISLQ EALAIYGGNS PAAMTRYVD GGFGMGKYTT PLTRGVDCPY LATYVDWHFL LESQAPKTIR
DAFCVFEQNG GLPLRRHSD LYSHYFGGLA ETVLVVRSMS TLLNYDYVWD TVFHPSGAIE IRFYATGYIS SAFLFGATGK
YGNQVSEHTL GTVHTSAHF KVDLDVAGLE NWWAEDMVF VPMAMPWSPE HQLQRLQVTR KLLMEMEQAA FLVGSATPRY
LYLASNHSNK WGHPRGYRIQ MLSFAGEPLP QNSSMARGFS WERYQLAVTQ RKEEEPSSSS VFNQNDPWAP TVDFSDFINN
ETIAGKDLVA WVTAGFLHIP HAEDIPNTVT VGNGVGFLLR PYNFFDEDPS FYSADSIYFR GDQDAGACEV NPLACLQAA
ACAPDLPAFS HGGFSHN
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Source

Chinese Hamster Ovary Cells (CHO)

Purity

95% by SDS-PAGE gel and HPLC analysis

Biological Activity

Measured by its ability to produce hydrogen peroxide during the oxidation of benzylamine. The specific activity >16 pMoles/min/µg of VAP-1.

Endotoxin

Endotoxin level is <0.1 ng/µg of protein (<1EU/µg).

Formulation

Sterile filtered through a 0.2µm. Lyophilized from 10mM Sodium Phosphate, pH 7.8

Reconstitution

Centrifuge the vial prior to opening. Reconstitute in water to a concentration of 0.1-1.0 mg/ml. Do not vortex. For extended storage, it is recommended to further dilute in a buffer containing a carrier protein (example 0.1% BSA) and store in working aliquots at -20°C to -80°C.

Storage, Stability/Shelf Life

-20°C

Quality Control Test

Verified by UV Spectroscopy and/or SDS PAGE gel

Note

This product is intended for research use only.

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