SANTA CRUZ BIOTECHNOLOGY, INC.

VAP-1 (E-19): sc-13741

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Lymphocyte binding to vascular endothelium is a prerequisite for the movement of immune cells from the blood into lymphoid tissues and into sites of inflammation. Under inflammatory conditions, cell surface expression of VAP-1 (vascular adhesion protein-1) which is an endothelial sialoglycoprotein, is induced. VAP-1 is a type II transmembrane protein with a single transmembrane domain and N and O-glycosylation sites in the extracellular domain. *In vivo*, VAP-1 exists predominantly as a homodimer and functions both as an enzyme (monoamine oxidase) and an adhesion molecule for lymphocytes. With the appropriate glycosylation and in the correct inflam-matory setting, expression of VAP-1 on the lumenal endothelial cell surface allows it to mediate lymphocyte adhesion and to function as an adhesion receptor involved in lymphocyte recirculation. VAP-1 is also expressed in all types of smooth muscle cells, except in cardiac and skeletal muscle cells. VAP-1 localized on smooth muscle cells does not support binding of lymphocytes, but it deam inates exogenous and endogenous primary amines. Soluble VAP-1 is found in circulation and its level is increased in patients who have inflammatory liver diseases.

REFERENCES

1. Salminen, T.A., et al. 1998. Structural model of the catalytic domain of an enzyme with cell adhesion activity: human vascular adhesion protein-1 (HVAP-1) D4 domain is an amine oxidase. Protein Eng. 11: 1195-1204.
2. Smith, D.J., et al. 1998. Cloning of vascular adhesion protein-1 reveals a novel multifunctional adhesion molecule. J. Exp. Med. 188: 17-27.
3. Kurkijarvi, R., et al. 1998. Circulating form of human vascular adhesion protein-1 (VAP-1): increased serum levels in inflammatory liver diseases. J. Immunol. 161: 1549-1557.
4. Slami, M., et al. 2000. Human vascular adhesion protein-1 (VAP-1) plays a critical role in lymphocyte-endothelial cell adhesion cascade under shear. Circ. Res. 86: 1245-1251.

CHROMOSOMAL LOCATION

Genetic locus: AOC3 (human) mapping to 17q21.31; Aoc3 (mouse) mapping to 11 D.

SOURCE

VAP-1 (E-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of VAP-1 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-13741 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

VAP-1 (E-19) is recommended for detection of VAP-1 and placenta amine oxidase of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

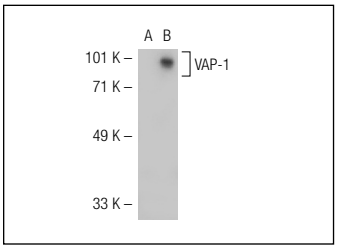
Suitable for use as control antibody for VAP-1 siRNA (h): sc-43197, VAP-1 siRNA (m): sc-43198, VAP-1 shRNA Plasmid (h): sc-43197-SH, VAP-1 shRNA Plasmid (m): sc-43198-SH, VAP-1 shRNA (h) Lentiviral Particles: sc-43197-V and VAP-1 shRNA (m) Lentiviral Particles: sc-43198-V.

Molecular Weight (predicted) of VAP-1: 85 kDa.

Molecular Weight (observed) of VAP-1: 110 kDa.

Positive Controls: human lung extract: sc-363767 or VAP-1 (h): 293T Lysate: sc-116189.

DATA



VAP-1 (E-19): sc-13741. Western blot analysis of VAP-1 expression in non-transfected: sc-117752 (**A**) and human VAP-1 transfected: sc-116189 (**B**) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Solé, M., et al. 2007. Characterization of A7r5 cell line transfected in a stable form by hSSAO/VAP-1 gene (A7r5 hSSAO/VAP-1 cell line). J. Neural Transm. 114: 763-767.
2. Solé, M. and Unzeta, M. 2011. Vascular cell lines expressing SSAO/VAP-1: a new experimental tool to study its involvement in vascular diseases. Biol. Cell 103: 543-557.

RESEARCH USE

For research use only, not for use in diagnostic procedures.