SANTA CRUZ BIOTECHNOLOGY, INC.

VAP-1 (H-43): sc-28642

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 inflammatory 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 deaminates exogenous and endogenous primary amines. Soluble VAP-1 is found in circulation and its level is increased in patients who have inflammatory liver diseases.

CHROMOSOMAL LOCATION

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

SOURCE

VAP-1 (H-43) is a rabbit polyclonal antibody raised against amino acids 721-763 mapping within a C-terminal extracellular domain 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.

APPLICATIONS

VAP-1 (H-43) is recommended for detection of VAP-1 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

VAP-1 (H-43) is also recommended for detection of VAP-1 in additional species, including canine and bovine.

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.

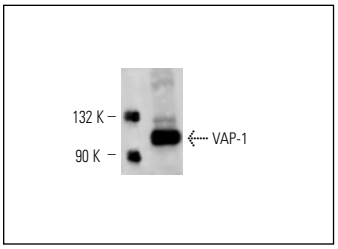
Molecular Weight (observed) of VAP-1: 110 kDa.

Positive Controls: human lung extract: sc-363767.

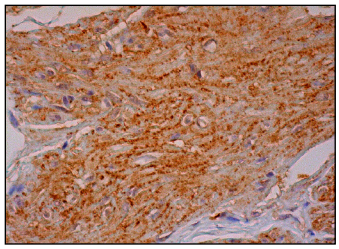
STORAGE

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

DATA



VAP-1 (H-43): sc-28642. Western blot analysis of VAP-1 expression in human lung tissue extract.



VAP-1 (H-43): sc-28642. Immunoperoxidase staining of formalin fixed, paraffin-embedded human smooth muscle tissue showing cytoplasmic staining of smooth muscle cells.

SELECT PRODUCT CITATIONS

1. Valente, T., et al. 2008. SSAO/VAP-1 protein expression during mouse embryonic development. Dev. Dyn. 237: 2585-2593.
2. Noda, K., et al. 2008. Vascular adhesion protein-1 blockade suppresses choroidal neovascularization. FASEB J. 22: 2928-2935.
3. Solé, M., et al. 2008. p53 phosphorylation is involved in vascular cell death induced by the catalytic activity of membrane-bound SSAO/VAP-1. Biochim. Biophys. Acta 1783: 1085-1094.
4. Noda, K., et al. 2009. Vascular adhesion protein-1 regulates leukocyte transmigration rate in the retina during diabetes. Exp. Eye Res. 89: 774-781.
5. 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.
6. Nakao, S., et al. 2011. VAP-1-mediated M2 macrophage infiltration underlies IL-1β- but not VEGF-A-induced lymph- and angiogenesis. Am. J. Pathol. 178: 1913-1921.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

MONOS Satisfaction Guaranteed

Try **VAP-1 (A-8): sc-166713** or **VAP-1 (E-10): sc-373924**, our highly recommended monoclonal alternatives to VAP-1 (H-43).