

VAP-1 (N-13): sc-13739

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 luminal 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.

REFERENCES

- Salminen, T.A., Smith, D.J., Jalkanen, S. and Johnson, M.S. 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.
- Smith, D.J., Salmi, M., Bono, P., Hellman, J., Leu, T. and Jalkanen, S. 1998. Cloning of vascular adhesion protein-1 reveals a novel multifunctional adhesion molecule. *J. Exp. Med.* 188: 17-27.
- Kurkijarvi, R., Adams, D.H., Leino, R., Mottonen, T., Jalkanen, S. and Salmi, M. 1998. Circulating form of human vascular adhesion protein-1 (VAP-1): increased serum levels in inflammatory liver diseases. *J. Immunol.* 161: 1549-1557.
- Slami, M., Tohka, S. and Jalkanen, S. 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.

SOURCE

VAP-1 (N-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-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-13739 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

VAP-1 (N-13) is recommended for detection of VAP-1 of 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).

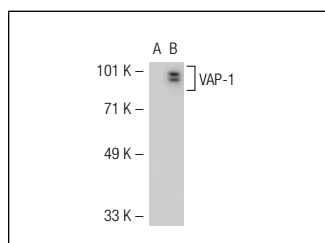
Suitable for use as control antibody for VAP-1 siRNA (h): sc-43197, VAP-1 siRNA (m): sc-43198, VAP-1 shRNA Plasmid (h): sc-43197-SH, VAP-1 shRNA Plasmid (m): sc-43198-SH, VAP-1 shRNA (h) Lentiviral Particles: sc-43197-V and VAP-1 shRNA (m) Lentiviral Particles: sc-43198-V.

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

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

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

DATA



VAP-1 (N-13): sc-13739. 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.

STORAGE

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

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.



Try **VAP-1 (A-8): sc-166713** or **VAP-1 (E-10): sc-373924**, our highly recommended monoclonal alternatives to VAP-1 (N-13).