SANTA CRUZ BIOTECHNOLOGY, INC.

VAP-1 (h): 293T Lysate: sc-116189

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 exog-enous 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., 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.
2. 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.
3. 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.
4. 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.
5. Tohka, S., Laukkanen, M., Jalkanen, S. and Salmi, M. 2001. Vascular adhesion protein-1 (VAP-1) functions as a molecular brake during granulocyte rolling and mediates recruitment *in vivo*. FASEB J. 15: 373-382.

CHROMOSOMAL LOCATION

Genetic locus: AOC3 (human) mapping to 17q21.31.

PRODUCT

VAP-1 (h): 293T Lysate represents a lysate of human VAP-1 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

APPLICATIONS

VAP-1 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive VAP-1 antibodies. Recommended use: 10-20 µl per lane.

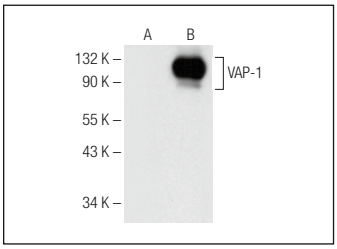
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

VAP-1 (D-1): sc-374561 is recommended as a positive control antibody for Western Blot analysis of enhanced human VAP-1 expression in VAP-1 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

DATA



VAP-1 (D-1): sc-374561. 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.

RESEARCH USE

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

PROTOCOLS

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