



VCAM-1 (3H1810): sc-73253

BACKGROUND

Cell adhesion molecules are a family of closely related cell surface glycoproteins involved in cell-cell interactions during growth and are thought to play an important role in embryogenesis and development. Neuronal cell adhesion molecule (NCAM) expression is observed in a variety of human tumors including neuroblastomas, rhabdomyosarcomas, Wilm's tumors, Ewing's sarcomas and some primitive myeloid malignancies. The intracellular adhesion molecule-1 (ICAM-1), also referred to as CD54, is an integral membrane protein of the immunoglobulin superfamily and recognizes the $\beta 2\alpha 1$ and $\beta 2\alpha M$ Integrins. PECAM-1 (platelet/endothelial cell adhesion molecule-1), also referred to as CD31, is a glycoprotein expressed on the cell surfaces of monocytes, neutrophils, platelets and a subpopulation of T cells. VCAM-1 (vascular cell adhesion molecule-1) was first identified as an adhesion molecule induced on human endothelial cells by inflammatory cytokines such as IL-1, tumor necrosis factor (TNF) and lipopolysaccharide (LPS). The KALIG gene encodes a nerve cell adhesion molecule (NCAM)-like protein and is deleted in 66% of patients with Kallmann's syndrome, anosmia with secondary hypogonadism.

REFERENCES

- Patel, K., Culverwell, A., Rossell, R.J., Kemshead, J.T. and Phimister, E. 1993. Vase mini-exon usage by NCAM is not restricted to tumours of neuroectodermal origin. *Intl. J. Cancer* 54: 772-777.
- Cowen, M.A. and Green, M. 1993. The Kallmann's syndrome variant (KSV) model of the schizophrenias. *Schizo. Res.* 9: 1-10.
- Jorgensen, O.S. 1995. Neural cell adhesion molecule (NCAM) as a quantitative marker in synaptic remodeling. *Neurochem. Res.* 20: 533-547.
- Edelman, G.M. and Jones, F.S. 1995. Developmental control of N-CAM expression by Hox and Pax gene products. *Phil. Trans. Royal Soc. London Biol. Sci.* 349: 305-312.
- Dominici, C., Gregory, S., Padula, A., Fares, C., Ceccamea, A. and Castello, M.A. 1996. Bone marrow micrometastases in a patient with localized Wilm's tumor. *Med. Ped. Oncol.* 26: 125-128.
- Briskin, M.J., Rott, L. and Butcher, E.C. 1996. Structural requirements for mucosal vascular addressin binding to its lymphocyte receptor $\alpha 4 \beta 7$. Common themes among integrin-Ig family interactions. *J. Immunol.* 156: 719-726.
- Berman, M.E., Xie, Y. and Muller, W.A. 1996. Roles of platelet/endothelial cell adhesion molecule-1 (PECAM-1, CD31) in natural killer cell trans-endothelial migration and $\beta 2$ Integrin activation. *J. Immunol.* 156: 1515-1524.
- Mayet, W.J., Schwarting, A., Orth, T., Duchmann, R. and Meyer zum Buschenfelde, K.H. 1996. Antibodies to proteinase 3 mediate expression of vascular cell adhesion molecule-1 (VCAM-1). *Clin. Exp. Immunol.* 103: 259-267.

CHROMOSOMAL LOCATION

Genetic locus: VCAM1 (human) mapping to 1p32-p31; Vcam1 (mouse) mapping to 3 G1.

SOURCE

VCAM-1 (3H1810) is a rat monoclonal antibody raised against stromal cells from mouse bone marrow.

PRODUCT

Each vial contains 200 μ g IgG₁ in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

VCAM-1 (3H1810) is recommended for detection of VCAM-1 of mouse, pig, and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1–2 μ g per 100–500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 μ g per 1 x 10⁶ cells).

Suitable for use as control antibody for VCAM-1 siRNA (h): sc-29519 and VCAM-1 siRNA (m): sc-36810.

Molecular Weight of VCAM-1: 110 kDa.

Positive Controls: human PBL, SW480 cell lysate: sc-2219 or human tonsil.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rat IgG-HRP: sc-2006 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-rat IgG-HRP: sc-2032 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rat IgG-FITC: sc-2011 (dilution range: 1:100-1:400) or goat anti-rat IgG-TR: sc-2782 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

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.