

VCAM-1 (M/K-2): sc-18864

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 B2 α 1 and B2 α 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

1. Thornhill, M.H., et al. 1991. Tumor necrosis factor combines with IL-4 or IFN- γ to selectively enhance endothelial cell adhesiveness for T cells. The contribution of vascular cell adhesion molecule-1-dependent and -independent binding mechanisms. *J. Immunol.* 146: 592-598.
2. Bevilacqua, M.P. 1993. Endothelial-leukocyte adhesion molecules. *Annu. Rev. Immunol.* 11: 767-804.

CHROMOSOMAL LOCATION

Genetic locus: VCAM1 (human) mapping to 1p21.2; Vcam1 (mouse) mapping to 3 G1.

SOURCE

VCAM-1 (M/K-2) 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. Also available azide-free for blocking, sc-18864 L, 200 μ g/0.1 ml.

VCAM-1 (M/K-2) is available conjugated to agarose (sc-18864 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-18864 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-18864 PE), fluorescein (sc-18864 FITC), Alexa Fluor[®] 488 (sc-18864 AF488), Alexa Fluor[®] 546 (sc-18864 AF546), Alexa Fluor[®] 594 (sc-18864 AF594) or Alexa Fluor[®] 647 (sc-18864 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-18864 AF680) or Alexa Fluor[®] 790 (sc-18864 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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RESEARCH USE

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

APPLICATIONS

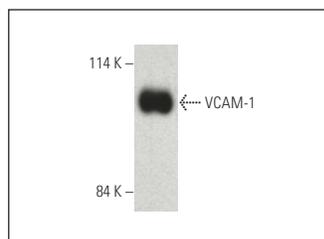
VCAM-1 (M/K-2) is recommended for detection of VCAM-1 of mouse, rat, human and porcine origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (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, VCAM-1 siRNA (m): sc-36810, VCAM-1 shRNA Plasmid (h): sc-29519-SH, VCAM-1 shRNA Plasmid (m): sc-36810-SH, VCAM-1 shRNA (h) Lentiviral Particles: sc-29519-V and VCAM-1 shRNA (m) Lentiviral Particles: sc-36810-V.

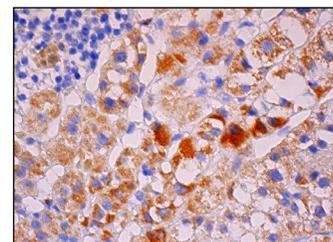
Molecular Weight of VCAM-1: 110 kDa.

Positive Controls: Sol8 cell lysate: sc-2249.

DATA



VCAM-1 (M/K-2) HRP: sc-18864 HRP. Direct western blot analysis of VCAM-1 expression in Sol8 whole cell lysate under non-reducing conditions.



VCAM-1 (M/K-2): sc-18864. Immunoperoxidase staining of formalin fixed, paraffin-embedded human adrenal gland tissue showing cytoplasmic staining of subset of glandular cells.

SELECT PRODUCT CITATIONS

1. Mendoza, L., et al. 2004. Inhibition of cytokine-induced microvascular arrest of tumor cells by recombinant endostatin prevents experimental hepatic melanoma metastasis. *Cancer Res.* 64: 304-310.
2. Han, H., et al. 2016. Atorvastatin attenuates p-cresyl sulfate-induced atherogenesis and plaque instability in ApoE knockout mice. *Mol. Med. Rep.* 14: 3122-3128.
3. Liu, J., et al. 2018. CEST MRI of sepsis-induced acute kidney injury. *NMR Biomed.* 31: e3942.
4. Han, Z., et al. 2021. Highly efficient magnetic labelling allows MRI tracking of the homing of stem cell-derived extracellular vesicles following systemic delivery. *J. Extracell. Vesicles* 10: e12054.
5. Atanasova, V.S., et al. 2023. Mimicking tumor cell heterogeneity of colorectal cancer in a patient-derived organoid-fibroblast model. *Cell. Mol. Gastroenterol. Hepatol.* E-published.

STORAGE

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