SANTA CRUZ BIOTECHNOLOGY, INC.

ICAM-1 (H-4): sc-390483

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Cell adhesion molecules (CAMs) are a family of closely related cell surface glycoproteins involved in cell-cell interactions during growth and are thought to play important, yet separate, roles in embryogenesis and development. The intracellular adhesion molecule-1 (ICAM-1), also referred to as CD54, is an integral membrane protein of the immunoglobulin superfamily and recognizes the β2α1 and β2αM Integrins. ICAM-2 functions as a ligand for lymphocyte function-associated antigen-1 (LFA-1) and is involved in leukocyte adhesion. ICAM-3 is highly expressed on the surface of human eosinophils, and when bound to ligand may inhibit eosinophil inflammatory responses and survival. ICAM-4, also known as LW glycoprotein, interacts with the Integrins αLβ2, αMβ2, α4β1, the αV family and αIIbβ3, and selective binding to different integrins may be relevant to the pathology in a number of red blood cell associated diseases. Lastly, ICAM-5, expressed on telencephalic neurons, binds CD11a/CD18 and thus may act as an adhesion molecule for leukocyte binding in the central nervous system.

REFERENCES

1. Jorgensen, O.S. 1995. Neural cell adhesion molecule (NCAM) as a quantitative marker in synaptic remodeling. Neurochem. Res. 20: 533-547.
2. Edelman, G.M. and Jones, F.S. 1995. Developmental control of NCAM expression by HOX and PAX gene products. Philos. Trans. R. Soc. Lond., B, Biol. Sci. 349: 305-312.

CHROMOSOMAL LOCATION

Genetic locus: ICAM1 (human) mapping to 19p13.2; Icam1 (mouse) mapping to 9 A3.

SOURCE

ICAM-1 (H-4) is a mouse monoclonal antibody raised against amino acids 396-480 mapping within a C-terminal extracellular domain of ICAM-1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

ICAM-1 (H-4) is available conjugated to agarose (sc-390483 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-390483 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390483 PE), fluorescein (sc-390483 FITC), Alexa Fluor® 488 (sc-390483 AF488), Alexa Fluor® 546 (sc-390483 AF546), Alexa Fluor® 594 (sc-390483 AF594) or Alexa Fluor® 647 (sc-390483 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390483 AF680) or Alexa Fluor® 790 (sc-390483 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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STORAGE

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

APPLICATIONS

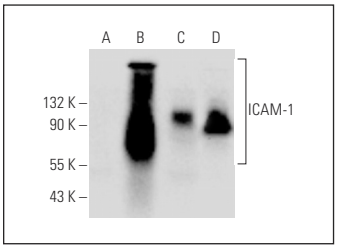
ICAM-1 (H-4) is recommended for detection of ICAM-1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 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).

Suitable for use as control antibody for ICAM-1 siRNA (h): sc-29354, ICAM-1 siRNA (m): sc-29355, ICAM-1 shRNA Plasmid (h): sc-29354-SH, ICAM-1 shRNA Plasmid (m): sc-29355-SH, ICAM-1 shRNA (h) Lentiviral Particles: sc-29354-V and ICAM-1 shRNA (m) Lentiviral Particles: sc-29355-V.

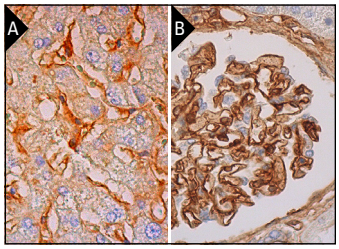
Molecular Weight of ICAM-1: 85-110 kDa.

Positive Controls: ICAM-1 (h): 293T Lysate: sc-176625, HUV-EC-C whole cell lysate: sc-364180 or Raji whole cell lysate: sc-364236.

DATA



ICAM-1 (H-4): sc-390483. Western blot analysis of ICAM-1 expression in non-transfected 293T: sc-117752 (**A**), human ICAM-1 transfected 293T: sc-176625 (**B**), HUV-EC-C (**C**) and Raji (**D**) whole cell lysates.



ICAM-1 (H-4): sc-390483. Immunoperoxidase staining of formalin fixed, paraffin-embedded human liver tissue showing membrane and cytoplasmic staining of hepatic sinusoids (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing membrane and cytoplasmic staining of cells in glomeruli and endothelial cells (**B**).

SELECT PRODUCT CITATIONS

1. Buhrmann, C., et al. 2014. Curcumin suppresses crosstalk between colon cancer stem cells and stromal fibroblasts in the tumor microenvironment: potential role of EMT. PLoS ONE 9: e107514.
2. Beddek, K., et al. 2021. TRPV4 channel activation induces the transition of venous and arterial endothelial cells toward a pro-inflammatory phenotype. Physiol. Rep. 9: e14613.
3. Jang, M., et al. 2022. Hyperglycemic neurovasculature-on-a-chip to study the effect of SIRT1-targeted therapy for the type 3 diabetes "Alzheimer's disease". Adv. Sci. 9: e2201882.
4. Kang, J.H., et al. 2023. Mechanobiological adaptation to hyperosmolarity enhances barrier function in human vascular microphysiolgical system. Adv. Sci. 10: e2206384.

RESEARCH USE

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