SANTA CRUZ BIOTECHNOLOGY, INC.

ICAM-1 (5K16): sc-71303

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 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.
3. Briskin, M.J., et al. 1996. Structural requirements for mucosal vascular addressin binding to its lymphocyte receptor α4/β7. Common themes among integrin-Ig family interactions. J. Immunol. 156: 719-726.
4. Heiska, L., et al. 1996. Binding of the cytoplasmic domain of intercellular adhesion molecule-2 (ICAM-2) to α-actinin. J. Biol. Chem. 271: 26214-26219.

CHROMOSOMAL LOCATION

Genetic locus: Icam1 (mouse) mapping to 9 A3.

SOURCE

ICAM-1 (5K16) is a rat monoclonal antibody raised against NS-1 cells of mouse origin.

PRODUCT

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

ICAM-1 (5K16) is available conjugated to either phycoerythrin (sc-71303 PE) or fluorescein (sc-71303 FITC), 200 µg/ml, for IF, IHC(P) and FCM.

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.

APPLICATIONS

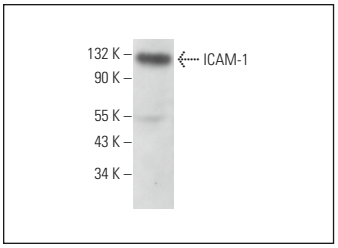
ICAM-1 (5K16) is recommended for detection of ICAM-1 of mouse origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10^6 cells).

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

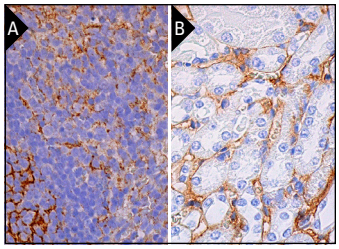
Molecular Weight of ICAM-1: 85-110 kDa.

Positive Controls: RAW 264.7 whole cell lysate: sc-2211 or mouse heart extract: sc-2254.

DATA



ICAM-1 (5K16): sc-71303. Western blot analysis of ICAM-1 expression in RAW 264.7 whole cell lysate.



ICAM-1 (5K16): sc-71303. Immunoperoxidase staining of formalin fixed, paraffin-embedded mouse spleen tissue (**A**) and mouse kidney tissue (**B**) showing membrane and cytoplasmic staining of endothelial cells.

SELECT PRODUCT CITATIONS

1. Chaves, K.C., et al. 2012. Endostatin gene therapy stimulates upregulation of ICAM-1 and VCAM-1 in a metastatic renal cell carcinoma model. Cancer Gene Ther. 19: 558-565.
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. Guo, Q., et al. 2020. Decreased Jagged1 expression in vascular smooth muscle cells delays endothelial regeneration in arteriovenous graft. Cardiovasc. Res. 116: 2142-2155.
4. Guo, Q., et al. 2022. Temporal regulation of Notch activation improves arteriovenous fistula maturation. J. Transl. Med. 20: 543.

CONJUGATES

See **ICAM-1 (G-5): sc-8439** for ICAM-1 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.