SANTA CRUZ BIOTECHNOLOGY, INC.

ICAM-1 (YN1/1.7.4): sc-52553

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.

CHROMOSOMAL LOCATION

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

SOURCE

ICAM-1 (YN1/1.7.4) 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 (YN1/1.7.4) is available conjugated to either phycoerythrin (sc-52553 PE) or fluorescein (sc-52553 FITC), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM.

APPLICATIONS

ICAM-1 (YN1/1.7.4) 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.

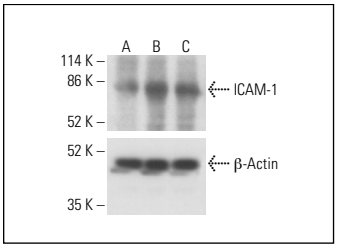
STORAGE

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

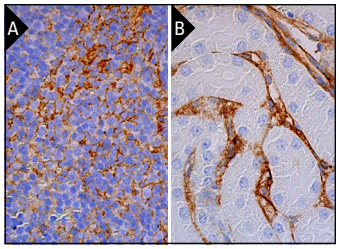
RESEARCH USE

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

DATA



ICAM-1 (YN1/1.7.4): sc-52553. Western blot analysis of ICAM-1 expression in untreated (**A**) and chemically-treated (**B**, **C**) K-562 whole cell lysates. Detection reagent used: anti-rat IgG-HRP. β-Actin (C4): sc-47778 used as loading control. Detection reagent used: m-IgG Fc BP-HRP: sc-525409.



ICAM-1 (YN1/1.7.4): sc-52553. 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. Yamagishi, H., et al. 2001. Genetically modified bone marrow-derived vehicle cells site specifically deliver an anti-inflammatory cytokine to inflamed interstitium of obstructive nephropathy. J. Immunol. 166: 609-616.
2. Rummel, C., et al. 2010. Leptin regulates leukocyte recruitment into the brain following systemic LPS-induced inflammation. Mol. Psychiatry 15: 523-534.
3. Wu, Z., et al. 2013. Rhodamine-loaded intercellular adhesion molecule-1-targeted microbubbles for dual-modality imaging under controlled shear stresses. Circ. Cardiovasc. Imaging 6: 974-981.
4. Li, S.J., et al. 2017. Targeting delivery of simvastatin using ICAM-1 antibody-conjugated nanostructured lipid carriers for acute lung injury therapy. Drug Deliv. 24: 402-413.
5. Jiang, S., et al. 2019. Combined delivery of angiopoietin-1 gene and simvastatin mediated by anti-intercellular adhesion molecule-1 antibody-conjugated ternary nanoparticles for acute lung injury therapy. Nanomedicine 15: 25-36.

PROTOCOLS

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