SANTA CRUZ BIOTECHNOLOGY, INC.

ICAM-1 (LB-2): sc-18908

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 (human) mapping to 19p13.2.

SOURCE

ICAM-1 (LB-2) is a mouse monoclonal antibody raised against intracellular epitope of ICAM-1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available azide-free for functional studies, sc-18908 L, 200 µg/0.1 ml.

ICAM-1 (LB-2) is available conjugated to either phycoerythrin (sc-18908 PE) or fluorescein (sc-18908 FITC), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM.

APPLICATIONS

ICAM-1 (LB-2) is recommended for detection of ICAM-1 of human 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) and flow cytometry (1 µg per 1 x 10^6 cells).

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

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

Positive Controls: HeLa whole cell lysate: sc-2200, TF-1 cell lysate: sc-2412 or U-937 cell lysate: sc-2239.

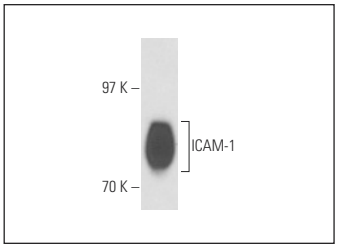
STORAGE

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

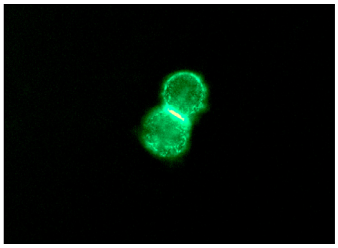
RESEARCH USE

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

DATA



ICAM-1 (LB-2): sc-18908. Western blot analysis of ICAM-1 expression in TF-1 whole cell lysate.



ICAM-1 (LB-2): sc-18908. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane staining.

SELECT PRODUCT CITATIONS

1. Muro, S., et al. 2005. ICAM-1 recycling in endothelial cells: a novel pathway for sustained intracellular delivery and prolonged effects of drugs. Blood 105: 650-658.
2. Ubogu, E.E., et al. 2006. Determinants of CCL5-driven mononuclear cell migration across the blood-brain barrier. Implications for therapeutically modulating neuroinflammation. J. Neuroimmunol. 179: 132-144.
3. Kang, S., et al. 2011. Tunable physiologic interactions of adhesion molecules for inflamed cell-selective drug delivery. Biomaterials 32: 3487-3498.
4. Yosef, N. and Ubogu, E.E. 2012. $\alpha_M\beta_2$-Integrin-intercellular adhesion molecule-1 interactions drive the flow-dependent trafficking of Guillain-Barré syndrome patient derived mononuclear leukocytes at the blood-nerve barrier *in vitro*. J. Cell. Physiol. 227: 3857-3875.
5. Effenberger, T., et al. 2014. Senescence-associated release of transmembrane proteins involves proteolytic processing by ADAM17 and microvesicle shedding. FASEB J. 28: 4847-4856.
6. Duncan, C.J., et al. 2014. High-multiplicity HIV-1 infection and neutralizing antibody evasion mediated by the macrophage-T cell virological synapse. J. Virol. 88: 2025-2034.
7. Shimizu, F., et al. 2017. Glucose-regulated protein 78 autoantibody associates with blood-brain barrier disruption in neuromyelitis optica. Sci. Transl. Med. 9 pii: eaai9111.
8. Zhang, Q., et al. 2018. Engineering a yeast double-molecule carrier for drug screening. Artif. Cells Nanomed. Biotechnol. 1-11.
9. Zhou, B., et al. 2021. Creation of an anti-inflammatory, leptin-dependent anti-obesity celastrol mimic with better druggability. Front. Pharmacol. 12: 705252.

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.