

ICAM-1 (K-18): sc-31725

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 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 $\beta 2\alpha 1$ and $\beta 2\alpha M$ 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 $\alpha L\beta 2$, $\alpha M\beta 2$, $\alpha 4\beta 1$, the αV family and $\alpha IIb\beta 3$, 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

- Jorgensen, O.S. 1995. Neural cell adhesion molecule (NCAM) as a quantitative marker in synaptic remodeling. *Neurochem. Res.* 20: 533-547.
- Edelman, G.M. and Jones, F.S. 1995. Developmental control of N-CAM expression by Hox and Pax gene products. *Phil. Trans. Royal Soc. London Biol. Sci.* 349: 305-312.
- Briskin, M.J., et al. 1996. Structural requirements for mucosal vascular addressin binding to its lymphocyte receptor $\alpha 4 \beta 7$. Common themes among integrin-Ig family interactions. *J. Immunol.* 156: 719-726.
- 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.
- Tian, L., et al. 2000. Binding of T lymphocytes to hippocampal neurons through ICAM-5 (telencephalin) and characterization of its interaction with the leukocyte integrin CD11a/CD18. *Eur. J. Immunol.* 30: 810-818.
- Kessel, J.M., et al. 2003. Ligation of intercellular adhesion molecule 3 inhibits GM-CSF production by human eosinophils. *J. Allergy. Clin. Immunol.* 111: 1024-1031.
- Mankelov, T.J., et al. 2003. Identification of critical amino-acid residues on the erythroid intercellular adhesion molecule-4 (ICAM-4) mediating adhesion to αV integrins. *Blood* 103: 1503-1508.

CHROMOSOMAL LOCATION

Genetic locus: ICAM1 (human) mapping to 19p13.2.

SOURCE

ICAM-1 (K-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of ICAM-1 of human origin.

RESEARCH USE

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

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-31725 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

ICAM-1 (K-18) is recommended for detection of ICAM-1 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (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 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: Jurkat Whole Cell Lysate : sc-2204, HeLa whole cell lysate: sc-2200 or SK-N-MC cell lysate: sc-2237.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

STORAGE

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

PROTOCOLS

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



Try **ICAM-1 (G-5): sc-8439** or **ICAM-1 (H-4): sc-390483**, our highly recommended monoclonal alternatives to ICAM-1 (K-18). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **ICAM-1 (G-5): sc-8439**.