

ICAM-1 (6.5B5): sc-18853

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 $\beta 2\alpha 1$ 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.

CHROMOSOMAL LOCATION

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

SOURCE

ICAM-1 (6.5B5) is a mouse monoclonal antibody raised against TNF-activated human umbilical vein endothelial cells.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

ICAM-1 (6.5B5) is available conjugated to agarose (sc-18853 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-18853 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-18853 PE), fluorescein (sc-18853 FITC), Alexa Fluor[®] 488 (sc-18853 AF488), Alexa Fluor[®] 546 (sc-18853 AF546), Alexa Fluor[®] 594 (sc-18853 AF594) or Alexa Fluor[®] 647 (sc-18853 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-18853 AF680) or Alexa Fluor[®] 790 (sc-18853 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

ICAM-1 (6.5B5) is recommended for detection of ICAM-1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 μ g per 1 x 10⁶ cells).

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, ICAM-1 shRNA (m) Lentiviral Particles: sc-29355-V.

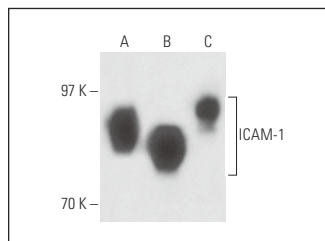
Molecular Weight of ICAM-1: 85-110 kDa.

Positive Controls: Raji whole cell lysate: sc-364236, U266 whole cell lysate: sc-364800 or SK-MEL-28 cell lysate: sc-2236.

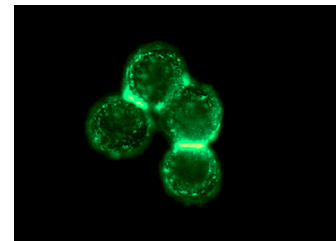
STORAGE

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

DATA



ICAM-1 (6.5B5): sc-18853. Western blot analysis of ICAM-1 expression in Raji (A), U266 (B) and SK-MEL-28 (C) whole cell lysates under non-reducing conditions.



ICAM-1 (6.5B5): sc-18853. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane staining.

SELECT PRODUCT CITATIONS

- Lee, H., et al. 2004. Lysophospholipids increase ICAM-1 expression in HUVEC through a G_i- and NF κ B-dependent mechanism. *Am. J. Physiol. Cell Physiol.* 287: C1657-C1666.
- Kim, H.J., et al. 2013. Inhibition of endoplasmic reticulum stress alleviates lipopolysaccharide-induced lung inflammation through modulation of NF κ B/HIF-1 α signaling pathway. *Sci. Rep.* 3: 1142.
- Valente, A.J., et al. 2014. OxLDL induces endothelial dysfunction and death via TRAF3IP2: inhibition by HDL3 and AMPK activators. *Free Radic. Biol. Med.* 70: 117-128.
- Kraut, B., et al. 2015. Cardiac-specific activation of IKK2 leads to defects in heart development and embryonic lethality. *PLoS ONE* 10: e0141591.
- Boal, F., et al. 2016. PI5P triggers ICAM-1 degradation in *Shigella* infected cells, thus dampening immune cell recruitment. *Cell Rep.* 14: 750-759.
- Kaisar, M.A., et al. 2017. Offsetting the impact of smoking and E-cigarette vaping on the cerebrovascular system and stroke injury: is Metformin a viable countermeasure? *Redox Biol.* 13: 353-362.
- Ueki, S., et al. 2018. ICAM-1 upregulation is not required for retinoic acid-induced human eosinophil survival. *Immunol. Lett.* 196: 68-73.
- Pichavaram, P., et al. 2019. Cholesterol crystals promote endothelial cell and monocyte interactions via H₂O₂-mediated PP2A inhibition, NF κ B activation and ICAM1 and VCAM1 expression. *Redox Biol.* 24: 101180.
- Shi, Y., et al. 2020. Increased expression levels of inflammatory cytokines and adhesion molecules in lipopolysaccharide-induced acute inflammatory apoM^{-/-} mice. *Mol. Med. Rep.* 22: 3117-3126.

RESEARCH USE

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

Alexa Fluor[®] is a trademark of Molecular Probes, Inc., Oregon, USA