

ICAM-1 (P2A4): sc-18839

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.

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 $\alpha 4\beta 7$. 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 (human) mapping to 19p13.2.

SOURCE

ICAM-1 (P2A4) is a mouse monoclonal antibody raised against IL-1B activated human vascular endothelial cells expressing ICAM-1.

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. Also available azide-free for blocking, sc-18839 L, 200 μ g/0.1 ml.

ICAM-1 (P2A4) is available conjugated to either phycoerythrin (sc-18839 PE) or fluorescein (sc-18839 FITC), 200 μ g/ml, for WB (RGB), 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

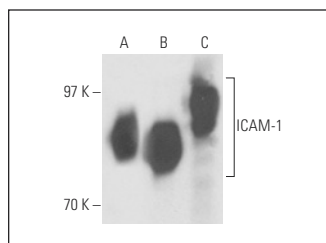
ICAM-1 (P2A4) is recommended for detection of ICAM-1 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (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 shRNA Plasmid (h): sc-29354-SH and ICAM-1 shRNA (h) Lentiviral Particles: sc-29354-V.

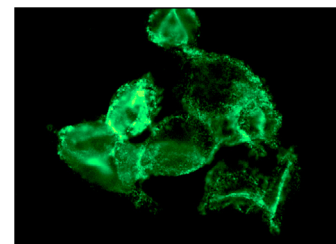
Molecular Weight of ICAM-1: 85-110 kDa.

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

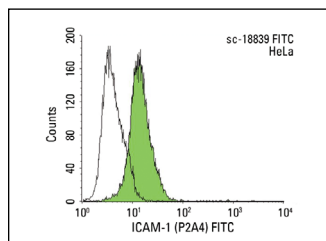
DATA



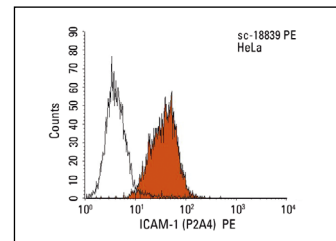
ICAM-1 (P2A4): sc-18839. Western blot analysis of ICAM-1 expression in Raji (A), U266 (B) and SK-MEL-28 (C) whole cell lysates under non-reducing conditions.



ICAM-1 (P2A4): sc-18839. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane localization.



ICAM-1 (P2A4) FITC: sc-18839 FITC. FCM analysis of HeLa. Black line histogram represents the isotype control, normal mouse IgG₁-FITC: sc-2855.



ICAM-1 (P2A4) PE: sc-18839 PE. FCM analysis of HeLa cells. Black line histogram represents the isotype control, normal mouse IgG₁-PE: 2866.

SELECT PRODUCT CITATIONS

1. Curran, D.R., et al. 2005. Mechanism of eosinophil induced signaling in cholinergic IMR-32 cells. *Am. J. Physiol. Lung Cell. Mol. Physiol.* 288: L326-L332.

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.