

ICAM-1 (1A29): sc-19584

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

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 N-CAM expression by Hox and Pax gene products. *Philos. Trans. R. Soc. Lond., B, Biol. Sci.* 349: 305-312.

CHROMOSOMAL LOCATION

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

SOURCE

ICAM-1 (1A29) is a mouse monoclonal antibody raised against a suspension of HEV-derived Ax cell line of rat origin.

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-19584 L, 200 μ g/0.1 ml.

ICAM-1 (1A29) is available conjugated to either phycoerythrin (sc-19584 PE) or fluorescein (sc-19584 FITC), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM.

APPLICATIONS

ICAM-1 (1A29) is recommended for detection of ICAM-1 of mouse, rat and human origin by 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 1×10^6 cells).

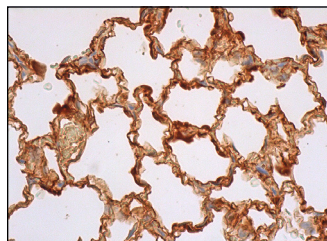
Suitable for use as control antibody for ICAM-1 siRNA (h): sc-29354, ICAM-1 siRNA (m): sc-29355, ICAM-1 shRNA Plasmid (h): sc-29354-SH, ICAM-1 shRNA Plasmid (m): sc-29355-SH, ICAM-1 shRNA (h) Lentiviral Particles: sc-29354-V and ICAM-1 shRNA (m) Lentiviral Particles: sc-29355-V.

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

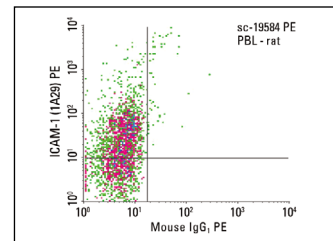
STORAGE

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

DATA



ICAM-1 (1A29): sc-19584. Immunoperoxidase staining of formalin fixed, paraffin-embedded rat lung tissue showing membrane and cytoplasmic staining of pneumocytes and cytoplasmic staining of macrophages.



ICAM-1 (1A29) PE: sc-19584 PE. FCM analysis of rat peripheral blood leukocytes. Quadrant markers were set based on the isotype control, normal mouse IgG₁-PE: sc-2866.

SELECT PRODUCT CITATIONS

1. Nyska, A., et al. 2003. Ocular expression of vascular cell adhesion molecule (VCAM-1) in 2-butoxyethanol-induced hemolysis and thrombosis in female rats. *Exp. Toxicol. Pathol.* 55: 231-236.
2. Miller, S.J., et al. 2007. Development of progressive aortic vasculopathy in a rat model of aging. *Am. J. Physiol. Heart Circ. Physiol.* 293: H2634-H2643.
3. Benameur, T., et al. 2010. PPAR α is essential for microparticle-induced differentiation of mouse bone marrow-derived endothelial progenitor cells and angiogenesis. *PLoS ONE* 5: e12392.
4. Tong, S., et al. 2011. Constitutive expression and enzymatic cleavage of ICAM-1 in the spontaneously hypertensive rat. *J. Vasc. Res.* 48: 386-396.
5. Teo, G.S., et al. 2012. Mesenchymal stem cells transmigrate between and directly through tumor necrosis factor- α -activated endothelial cells via both leukocyte-like and novel mechanisms. *Stem Cells* 30: 2472-2486.
6. Li, Y., et al. 2019. NADPH oxidase 2 inhibitors CPP11G and CPP11H attenuate endothelial cell inflammation & vessel dysfunction and restore mouse hind-limb flow. *Redox Biol.* 22: 101143.

RESEARCH USE

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

PROTOCOLS

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



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.