SANTA CRUZ BIOTECHNOLOGY, INC.

ICAM-1 (P1W16): sc-53336



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 integrins $\alpha L\beta 2$, $\alpha M\beta 2$, $\alpha 4\beta 1$, the αV family and $\alpha llb\beta 3$, 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 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-lg 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 (P1W16) is a mouse monoclonal antibody raised against V+B2- ocular melanoma line of human origin.

PRODUCT

Each vial contains 200 μg lgG1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

ICAM-1 (P1W16) is available conjugated to either phycoerythrin (sc-53336 PE) or fluorescein (sc-53336 FITC), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM.

STORAGE

Store at 4° C, **D0 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 (P1W16) is recommended for detection of ICAM-1 of human origin by 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.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 2) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850. 3) Immunohistochemistry: use m-IgG κ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



ICAM-1 (P1W16): sc-53336. Indirect FCM analysis of human peripheral blood leukocytes stained with ICAM-1 (P1W16), followed by PE-conjugated goat anti-mouse IgG: sc-3738. Black line histogram represents the iso twoe control. normal mouse IgG: sc-3877.

SELECT PRODUCT CITATIONS

- Meyer, N.J., et al. 2017. Myeloperoxidase-derived 2-chlorofatty acids contribute to human sepsis mortality via acute respiratory distress syndrome. JCI Insight 2: e96432.
- McHowat, J., et al. 2020. 2-chlorofatty aldehyde elicits endothelial cell activation. Front. Physiol. 11: 460.
- Pike, D.P., et al. 2020. 2-chlorofatty acids are biomarkers of sepsis mortality and mediators of barrier dysfunction in rats. J. Lipid Res. 61: 1115-1127.



See ICAM-1 (G-5): sc-8439 for ICAM-1 antibody conjugates, including AC, HRP, FITC, PE, Alexa Fluor[®] 488, 546, 594, 647, 680 and 790.