SANTA CRUZ BIOTECHNOLOGY, INC.

Integrin αM (ICRF44): sc-80542

BACKGROUND

Integrin αM (also designated complement component receptor-3 α, CD11b (p170), macrophage antigen α polypeptide, cell surface glycoprotein Mac-1 α subunit, MAC1A, MO1A and ITGAM) is a cell adhesion molecule that acts as a receptor for cell surface ligands such as intracellular adhesion molecules (ICAMs) or soluble ligands. Integrins are heterodimeric proteins that contain an α chain and β chain. Integrin αM combines with the Integrin β2 to form a leukocyte-specific integrin, referred to as macrophage receptor 1 (Mac-1), or inactivated-C3b (iC3b) receptor 3 (CR3). Integrin αM/β2 is important in the adherence of neutrophils and monocytes to stimulated endothelium, and also in the phagocytosis of complement coated particles.

REFERENCES

1. Nathan, C., et al. 1990. Tumor necrosis factor and CD11/CD18 (β2) Integrins act synergistically to lower cAMP in human neutrophils. J. Cell Biol. 111: 2171-2181.
2. Li, R., et al. 1995. A peptide derived from the intercellular adhesion molecule-2 regulates the avidity of the leukocyte Integrins CD11b/CD18 and CD11c/CD18. J. Cell Biol. 129: 1143-1153.
3. Nueda, A., et al. 1995. Hematopoietic cell-type-dependent regulation of leukocyte integrin functional activity: CD11b and CD11c expression inhibits LFA-1-dependent aggregation of differentiatied U937 cells. Cell. Immunol. 164: 163-169.
4. Walzog, B., et al. 1995. The leukocyte Integrin Mac-1 (CD11b/CD18) contributes to binding of human granulocytes to collagen. Exp. Cell Res. 218: 28-38.
5. Schlecht, G., et al. 2004. Antigen targeting to CD11b allows efficient presentation of $CD4^+$ and $CD8^+$ T cell epitopes and *in vivo* Th1-polarized T cell priming. J. Immunol. 173: 6089-6097.
6. Lau, D., et al. 2005. Myeloperoxidase mediates neutrophil activation by association with CD11b/CD18 Integrins. Proc. Natl. Acad. Sci. USA 102: 431-436.
7. Sandilands, G.P., et al. 2005. Cross-linking of neutrophil CD11b results in rapid cell surface expression of molecules required for antigen presentation and T-cell activation. Immunology 114: 354-368.
8. Hieronymus, T., et al. 2005. Progressive and controlled development of mouse dendritic cells from $Flt\text{-}3^+CD11b^+$ progenitors *in vitro*. J. Immunol. 174: 2552-2562.
9. Carrigan, S.O., et al. 2005. Neutrophil differentiated HL-60 cells model Mac-1 (CD11b/CD18)-independent neutrophil transepithelial migration. Immunology 115: 108-117.

CHROMOSOMAL LOCATION

Genetic locus: ITGAM (human) mapping to 16p11.2; Itgam (mouse) mapping to 7 F3.

SOURCE

Integrin αM (ICRF44) is a mouse monoclonal antibody raised against Integrin αM from rheumatoid synovial cells and monocytes of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Integrin αM (ICRF44) is recommended for detection of Integrin αM of mouse, rat and human origin by immunoprecipitation [1-2 µg per 100-500 µg 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 µg per 1 x 10^6 cells).

Suitable for use as control antibody for Integrin αM siRNA (h): sc-37261, Integrin αM siRNA (m): sc-35693, Integrin αM shRNA Plasmid (h): sc-37261-SH, Integrin αM shRNA Plasmid (m): sc-35693-SH, Integrin αM shRNA (h) Lentiviral Particles: sc-37261-V and Integrin αM shRNA (m) Lentiviral Particles: sc-35693-V.

Molecular Weight of Integrin αM: 170 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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

SELECT PRODUCT CITATIONS

1. Gong, Y., et al. 2017. Dynamic contributions of P- and E-selectins to β2-Integrin-induced neutrophil transmigration. FASEB J. 31: 212-223.
2. Xu, Y., et al. 2019. Mechanical features of endothelium regulate cell adhesive molecule-induced calcium response in neutrophils. APL Bioeng. 3: 016104.

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.

CONJUGATES

See **Integrin αM (2LPM19c): sc-20050** for Integrin αM antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.