SANTA CRUZ BIOTECHNOLOGY, INC.

GM-CSFRα (8G6): sc-73545

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The human IL-3, IL-5 and GM-CSF receptors are each composed of both unique α subunits and a common β subunit. The α subunits are low affinity ligand binding proteins while the β subunits do not themselves bind ligand, but are required for high affinity binding by the α subunits. In contrast, the mouse IL-3 receptor has two distinct β subunits, one that functions only in IL-3 mediated cell signaling and a second that is shared with IL-5 and GM-CSF. The murine β subunits are 91% homologous at the amino acid level but only 56% homologous to the human β subunit. Although neither the murine nor the human β subunit contains tyrosine kinase domains, both activate tyrosine phosphorylation mediated signaling pathways.

REFERENCES

1. Hayashida, K., et al. 1990. Molecular cloning of a second subunit of the receptor for human granulocyte-macrophage colony-stimulating factor (GM-CSF): reconstitution of a high-affinity GM-CSF receptor. Proc. Natl. Acad. Sci. USA 87: 9655-9659.
2. Tavernier, J., et al. 1992. A human high-affinity interleukin-5 receptor (IL-5R) is composed of an IL-5 specific chain and a β chain shared with the receptor for GM-CSF. Cell 66: 1175-1184.
3. Hara, T., et al. 1992. Two distinct functional receptors for mouse interleukin-3. EMBO J. 11: 1875-1884.
4. Sakamaki, K., et al. 1992. Critical cytoplasmic domains of the common β subunit of the human GM-CSF, IL-3, and IL-5 receptors for growth signal transduction and tyrosine phosphorylation. EMBO J. 11: 3541-3549.
5. Miyajima, A., et al. 1992. Cytokine receptors and signal transduction. Annu. Rev. Immunol. 10: 295-331.
6. Park, L.S., et al. 1992. Cloning of the low-affinity murine granulocyte-macrophage colony-stimulating factor receptor and reconstitution of a high-affinity receptor complex. Proc. Natl. Acad. Sci. USA 89: 4295-4299.
7. Goodall, G.J., et al. 1993. A model for the interaction of the GM-CSF, IL-3 and IL-5 receptors with their ligands. Growth Factors 8: 87-97.
8. Rao, P., et al. 1995. Human IL-3 receptor signaling: rapid induction of phosphatidylcholine hydrolysis is independent of protein kinase C but dependent on tyrosine phosphorylation in transfected NIH 3T3 cells. J. Immunol. 154: 1664-1674.

CHROMOSOMAL LOCATION

Genetic locus: CSF2RAX (human) mapping to Xp22.33/Yp11.32; Csf2ra (mouse) mapping to 19 D3.

SOURCE

GM-CSFRα (8G6) is a mouse monoclonal antibody raised against GM-CSFRα of human origin.

STORAGE

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

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.

GM-CSFRα (8G6) is available conjugated to either phycoerythrin (sc-73545 PE) or fluorescein (sc-73545 FITC), 200 µg/ml, for IF, IHC(P) and FCM.

APPLICATIONS

GM-CSFRα (8G6) is recommended for detection of GM-CSFRα of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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) and flow cytometry (1 µg per 1 x 10^6 cells).

Suitable for use as control antibody for GM-CSFRα siRNA (h): sc-35501, GM-CSFRα siRNA (m): sc-40057, GM-CSFRα shRNA Plasmid (h): sc-35501-SH, GM-CSFRα shRNA Plasmid (m): sc-40057-SH, GM-CSFRα shRNA (h) Lentiviral Particles: sc-35501-V and GM-CSFRα shRNA (m) Lentiviral Particles: sc-40057-V.

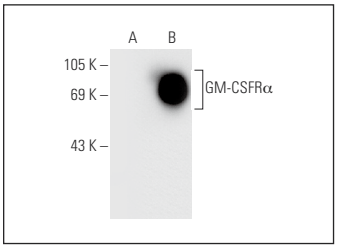
Molecular Weight of GM-CSFRα: 80 kDa.

Positive Controls: GM-CSFRα (h): 293T Lysate: sc-159381 or HL-60 + DMSO cell lysate: sc-24703.

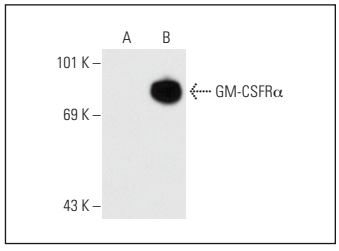
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



GM-CSFRα (8G6): sc-73545. Western blot analysis of GM-CSFRα expression in non-transfected: sc-117752 (**A**) and human GM-CSFRα transfected: sc-159381 (**B**) 293T whole cell lysates.



GM-CSFRα (8G6): sc-73545. Western blot analysis of GM-CSFRα expression in non-transfected: sc-117752 (**A**) and human GM-CSFRα transfected: sc-159461 (**B**) 293T whole cell lysates.

RESEARCH USE

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