

IL-3/IL-5/GM-CSFR β (H-300): sc-13945

BACKGROUND

Interleukin-3, or IL-3, is a pleiotropic cytokine that is primarily secreted by activated T lymphocytes and stimulates the proliferation and differentiation of hematopoietic cells. IL-3 not only supports growth of both pluripotent stem cells and the more differentiated committed progenitors, but it also stimulates the functional activity of some fully differentiated cells. IL-3 has also been shown to protect mast cells from undergoing apoptosis. IL-3 exerts its biological effects through a receptor which consists of a ligand-specific α subunit and a signal transducing β subunit common to the IL-3/IL-5/GM-CSF receptors. The carboxy terminus of the β subunit has been shown to be necessary for activation of the MAP kinase signaling pathway. Although the IL-3 receptor has no intrinsic kinase activity, stimulation with IL-3 leads to tyrosine phosphorylation of the JAK/Tyk 2 family member, JAK2, which in turn activates and causes nuclear translocation of Stat5a and Stat5b.

REFERENCES

- 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.
- 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.
- Miyajima, A., et al. 1992. Cytokine receptors and signal transduction. *Annu. Rev. Immunol.* 10: 295-331.
- 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.
- Hara, T., et al. 1992. Two distinct functional receptors for mouse interleukin-3. *EMBO J.* 11: 1875-1884.
- 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.

CHROMOSOMAL LOCATION

Genetic locus: CSF2RB (human) mapping to 22q13.1; Csf2rb (mouse) mapping to 15 E1.

SOURCE

IL-3/IL-5/GM-CSFR β (H-300) is a rabbit polyclonal antibody raised against amino acids 598-897 of IL-3/IL-5/GM-CSFR β of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RESEARCH USE

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

APPLICATIONS

IL-3/IL-5/GM-CSFR β (H-300) is recommended for detection of 130 kDa β chain common to IL-3R, IL-5R and GM-CSFR of human and, to a lesser extent, mouse and rat 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for IL-3/IL-5/GM-CSFR β siRNA (h): sc-35658, IL-3/IL-5/GM-CSFR β shRNA Plasmid (h): sc-35658-SH and IL-3/IL-5/GM-CSFR β shRNA (h) Lentiviral Particles: sc-35658-V.

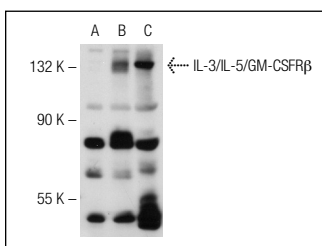
Molecular Weight of IL-3/IL-5/GM-CSFR β : 130 kDa.

Positive Controls: THP-1 cell lysate: sc-2238, IL-3/IL-5/GM-CSFR β (h): 293T Lysate: sc-128879 or HL-60 whole cell lysate: sc-2209.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



IL-3/IL-5/GM-CSFR β (H-300): sc-13945. Western blot analysis of IL-3/IL-5/GM-CSFR β expression in non-transfected 293T: sc-117752 (A), human IL-3/IL-5/GM-CSFR β transfected 293T: sc-128879 (B) and HL-60 (C) whole cell lysates.

STORAGE

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


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Try **IL-3/IL-5/GM-CSFR β (1C1): sc-21765** or **IL-3/IL-5/GM-CSFR β (F-12): sc-393281**, our highly recommended monoclonal alternatives to IL-3/IL-5/GM-CSFR β (H-300).