

# GM-CSFR $\alpha$ (H-120): sc-25471

## BACKGROUND

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

## 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.
- Tavernier, J., et al. 1992. A human high-affinity interleukin-5 receptor (IL-5R) is composed of an IL-5 specific chain and a  $\beta$  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  $\beta$  subunit of the human GM-CSF, IL-3, and IL-5 receptors for growth signal transduction and tyrosine phosphorylation. EMBO J. 11: 3541-3549.
- 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.

## CHROMOSOMAL LOCATION

Genetic locus: CSF2RAX (human) mapping to Xp22.33/Yp11.32.

## SOURCE

GM-CSFR $\alpha$  (H-120) is a rabbit polyclonal antibody raised against amino acids 1-120 of GM-CSFR $\alpha$  of human origin.

## PRODUCT

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

## STORAGE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.

## APPLICATIONS

GM-CSFR $\alpha$  (H-120) is recommended for detection of GM-CSFR $\alpha$  of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for GM-CSFR $\alpha$  siRNA (h): sc-35501, GM-CSFR $\alpha$  shRNA Plasmid (h): sc-35501-SH and GM-CSFR $\alpha$  shRNA (h) Lentiviral Particles: sc-35501-V.

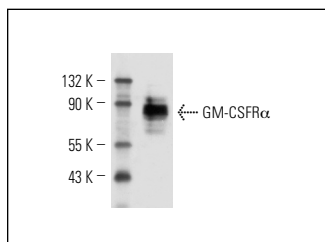
Molecular Weight of GM-CSFR $\alpha$ : 80 kDa.

Positive Controls: HL-60 + DMSO cell lysate: sc-24703.

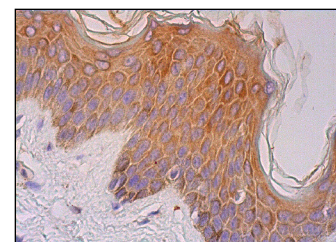
## RECOMMENDED SECONDARY REAGENTS

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 Blotting 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. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

## DATA



GM-CSFR $\alpha$  (H-120): sc-25471. Western blot analysis of GM-CSFR $\alpha$  expression in CHO cells transfected with GM-CSFR $\alpha$  expression vector.



GM-CSFR $\alpha$  (H-120): sc-25471. Immunoperoxidase staining of formalin fixed, paraffin-embedded human skin tissue showing cytoplasmic staining of keratinocytes, Langerhans cells and melanocytes.

## RESEARCH USE

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

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Try **GM-CSFR $\alpha$  (S-50): sc-456** or **GM-CSFR $\alpha$  (8D10): sc-21762**, our highly recommended monoclonal alternatives to GM-CSFR $\alpha$  (H-120).