

# IL-3/IL-5/GM-CSFR $\beta$ (C-20): sc-675

## 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 ligands, 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.
- 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: CSF2RB (human) mapping to 22q12.3.

## SOURCE

IL-3/IL-5/GM-CSFR $\beta$  (C-20) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the C-terminus of IL-3/IL-5/GM-CSFR $\beta$  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.

Blocking peptide available for competition studies, sc-675 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

IL-3/IL-5/GM-CSFR $\beta$  (C-20) is recommended for detection of IL-3/IL-5/GM-CSFR  $\beta$  chain 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) 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 $\beta$  siRNA (h): sc-35658, IL-3/IL-5/GM-CSFR $\beta$  shRNA Plasmid (h): sc-35658-SH and IL-3/IL-5/GM-CSFR $\beta$  shRNA (h) Lentiviral Particles: sc-35658-V.

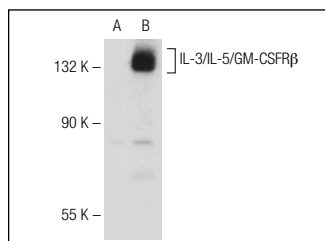
Molecular Weight of IL-3/IL-5/GM-CSFR $\beta$ : 130 kDa.

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

## STORAGE

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

## DATA



IL-3/IL-5/GM-CSFR $\beta$  (C-20): sc-675. Western blot analysis of IL-3/IL-5/GM-CSFR $\beta$  expression in non-transfected: sc-117752 (A) and human IL-3/IL-5/GM-CSFR $\beta$  transfected: sc-128879 (B) 293T whole cell lysates.

## SELECT PRODUCT CITATIONS

- Ooi, J., et al. 1998. Thrombopoietin induces tyrosine phosphorylation of a common  $\beta$  subunit of GM-CSF receptor and its association with Stat5 in TF-1/TPO cells. Biochem. Biophys. Res. Commun. 246: 132-136.
- Lee, S., et al. 1999. Cytokine receptor common  $\beta$  chain as a potential activator of cytokine withdrawal-induced apoptosis. Mol. Cell. Biol. 19: 7399-7409.
- Martinez-Moczygema, M., et al. 2001. Proteasomal regulation of  $\beta$ c signaling reveals a novel mechanism for cytokine receptor heterotypic desensitization. J. Clin. Invest. 108: 1797-1806.
- Chen, J., et al. 2003. The Laminin receptor modulates granulocyte-macrophage colony-stimulating factor receptor complex formation and modulates its signaling. Proc. Natl. Acad. Sci. USA 100: 14000-14005.
- Horn, S., et al. 2003. An increase in the expression and total activity of endogenous p60c-Src in several factor-independent mutants of a human GM-CSF-dependent leukemia cell line (TF-1). Oncogene 22: 7170-7180.

## RESEARCH USE

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

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Try **IL-3/IL-5/GM-CSFR $\beta$  (1C1): sc-21765** or **IL-3/IL-5/GM-CSFR $\beta$  (F-12): sc-393281**, our highly recommended monoclonal alternatives to IL-3/IL-5/GM-CSFR $\beta$  (C-20).