

# IL-3/IL-5/GM-CSFR $\beta$ (K-17): sc-678

## 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.

## CHROMOSOMAL LOCATION

Genetic locus: CSF2RB (human) mapping to 22q12.3; Csf2rb (mouse) mapping to 15 E1.

## SOURCE

IL-3/IL-5/GM-CSFR $\beta$  (K-17) 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 mouse origin.

## PRODUCT

Each vial contains 100  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-678 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 $\beta$  (K-17) is recommended for detection of  $\beta$  chain common to IL-3, IL-5 and GM-CSFR of mouse, rat and 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).

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

Positive Controls: THP-1 cell lysate: sc-2238, RAW 264.7 whole cell lysate: sc-2211 or HL-60 whole cell lysate: sc-2209.

## STORAGE

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

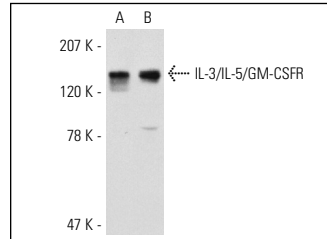
## PROTOCOLS

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

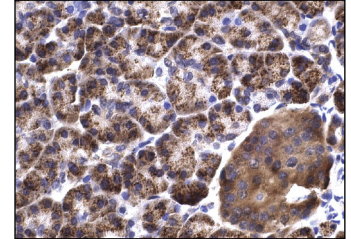
## RESEARCH USE

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

## DATA



IL-3/IL-5/GM-CSFR $\beta$  (K-17): sc-678. Western blot analysis of IL-3/IL-5/GM-CSFR $\beta$  expression in THP-1 (A) and RAW 264.7 (B) whole cell lysates.



IL-3/IL-5/GM-CSFR $\beta$  (K-17): sc-678. Immunoperoxidase staining of formalin fixed, paraffin-embedded human pancreas tissue showing cytoplasmic staining of glandular cells and islet of langerhans cells.

## SELECT PRODUCT CITATIONS

- Gu, H., et al. 1997. Characterization of two SHP-2 associated binding proteins and potential substrates in hematopoietic cells. *J. Biol. Chem.* 272: 16421-16430.
- Jubinsky, P.T., et al. 1997. The  $\beta$  chain of the interleukin-3 receptor functionally associates with the erythropoietin receptor. *Blood* 90: 1867-1873.
- Wong, S., et al. 2003. IL-3 receptor signaling is dispensable for Bcr-Abl-induced myeloproliferative disease. *Proc. Natl. Acad. Sci. USA* 100: 11630-11635.
- Brines, M., et al. 2004. Erythropoietin mediates tissue protection through an erythropoietin and common  $\beta$ -subunit heteroreceptor. *Proc. Natl. Acad. Sci. USA* 101: 14907-14912.
- Lennartsson, J., et al. 2004. Synergistic growth of stem cell factor and granulocyte macrophage colony-stimulating factor involves kinase-dependent and -independent contributions from c-Kit. *J. Biol. Chem.* 279: 44544-44553.
- Ye, Z.J., et al. 2005. Two types of precursor cells in a multipotential hematopoietic cell line. *Proc. Natl. Acad. Sci. USA* 102: 18461-18466.
- Sanchez, P.E., et al. 2009. Erythropoietin receptor expression is concordant with erythropoietin but not with common beta chain expression in the rat brain throughout the life span. *J. Comp. Neurol.* 514: 403-414.
- Joshi, D., et al. 2010. Review of the role of erythropoietin in critical leg ischemia. *Angiology* 61: 541-550.

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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 $\beta$  (K-17).