

## IL-3 (F-6): sc-398177

### 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  $\alpha$  subunit and a signal transducing  $\beta$  subunit common to the IL-3/IL-5/GM-CSF receptors. The carboxy terminus of the  $\beta$  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

- Abrams, J.S. and Pearce, M.K. 1988. Development of rat anti-mouse interleukin 3 monoclonal antibodies which neutralize bioactivity *in vitro*. *J. Immunol.* 140: 131-137.
- Cockayne, D.A., et al. 1991. Antisense RNA inhibition of hematopoietic growth factor production. *Growth Factors* 5: 171-181.
- Abrams, J.S., et al. 1992. Strategies of anti-cytokine monoclonal antibody development: immunoassay of IL-10 and IL-5 in clinical samples. *Immunol. Rev.* 127: 5-24.
- Magnelli, L., et al. 1993. Apoptosis induction in 32D cells by IL-3 withdrawal is preceded by a drop in the intracellular calcium level. *Biochem. Biophys. Res. Commun.* 194: 1394-1397.
- Sander, B., et al. 1993. Similar frequencies and kinetics of cytokine producing cells in murine peripheral blood and spleen. Cytokine detection by immunoassay and intracellular immunostaining. *J. Immunol. Methods* 166: 201-214.
- Kinoshita, T., et al. 1995. Suppression of apoptotic death in hematopoietic cells by signalling through the IL-3/GM-CSF receptors. *EMBO J.* 14: 266-275.
- Mui, A.L., et al. 1995. Interleukin-3, granulocyte-macrophage colony stimulating factor and interleukin-5 transduce signals through two STAT5 homologs. *EMBO J.* 14: 1166-1175.
- Bagley, C.J., et al. 1995. Interaction of GM-CSF and IL-3 with the common  $\beta$ -chain of their receptors. *J. Leukoc. Biol.* 57: 739-746.
- Abrams, J. 1995. Immunoenzymetric assay of mouse and human cytokines using NIP-labeled anti-cytokine antibodies. In J. Coligam, A. Kruisbeek, D. Margulies, E. Shevach, W. Strober, eds., *Current Protocols in Immunology*. John Wiley and Sons, New York. Unit 6.20.

### CHROMOSOMAL LOCATION

Genetic locus: Il3 (mouse) mapping to 11 B1.3.

### RESEARCH USE

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

### SOURCE

IL-3 (F-6) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 117-146 at the C-terminus of IL-3 of mouse origin.

### PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-398177 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

### APPLICATIONS

IL-3 (F-6) is recommended for detection of IL-3 of mouse origin by Western Blotting (starting dilution 1:100, 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).

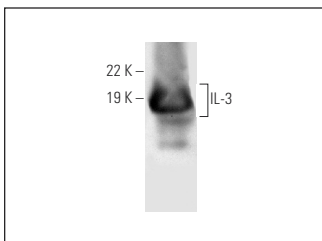
Suitable for use as control antibody for IL-3 siRNA (m): sc-39622, IL-3 shRNA Plasmid (m): sc-39622-SH and IL-3 shRNA (m) Lentiviral Particles: sc-39622-V.

Molecular Weight of IL-3: 15 kDa.

### RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:  
 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  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-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  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



IL-3 (F-6): sc-398177. Western blot analysis of mouse recombinant IL-3.

### STORAGE

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