

# IL-3 (D-19): sc-34802

## 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

1. Ihle, J.N., et al. 1985. Interleukin 3. *Methods Enzymol.* 116: 540-552.
2. Yang, Y.C., et al. 1986. Human IL-3 (multi-CSF): identification by expression cloning of a novel hematopoietic growth factor related to murine IL-3. *Cell* 47: 3-10.
3. Mekori, Y.A., et al. 1993. IL-3-dependent murine mast cells undergo apoptosis on removal of IL-3. Prevention of apoptosis by c-Kit ligand. *J. Immunol.* 151: 3775-3784.
4. 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.
5. 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.
6. Mui, A.L.-F., et al. 1995. Interleukin-3, granulocyte-macrophage colony stimulating factor and interleukin-5 transduce signals through two Stat5 homologs. *EMBO J.* 14: 1166-1175.
7. Bagley, C.J., et al. 1995. Interaction of GM-CSF and IL-3 with the common  $\beta$ -chain of their receptors. *J. Leukocyte Biol.* 57: 739-746.

## CHROMOSOMAL LOCATION

Genetic locus: IL3 (human) mapping to 5q31.1.

## SOURCE

IL-3 (D-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of IL-3 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-34802 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

IL-3 (D-19) is recommended for detection of IL-3 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 siRNA (h): sc-39621, IL-3 shRNA Plasmid (h): sc-39621-SH and IL-3 shRNA (h) Lentiviral Particles: sc-39621-V.

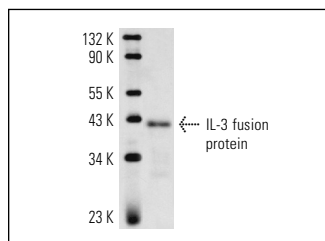
Molecular Weight of IL-3: 15 kDa.

Positive Controls: Hs 294T whole cell lysate.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



IL-3 (D-19): sc-34802. Western blot analysis of human recombinant IL-3 fusion protein.

## STORAGE

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

## RESEARCH USE

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

**MONOS**  
Satisfaction  
Guaranteed

Try **IL-3 (G-1): sc-28342**, our highly recommended monoclonal alternative to IL-3 (D-19).