SANTA CRUZ BIOTECHNOLOGY, INC.

IL-3 (C-19): sc-1769

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 α subunit and a signal transducing β subunit common to the IL-3/IL-5/GM-CSF receptors. The carboxy terminus of the β 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. 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.
2. Cockayne, D.A., et al. 1992. Antisense RNA inhibition of hematopoietic growth factor production. Growth Factors 5: 171-181.
3. 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.
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. Sander, B., et al. 1994. 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.

CHROMOSOMAL LOCATION

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

SOURCE

IL-3 (C-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of IL-3 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-1769 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

IL-3 (C-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 µg per 100-500 µg 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).

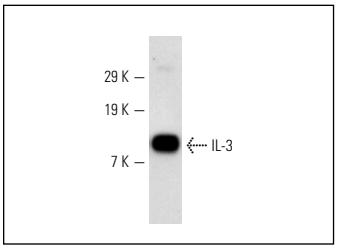
Suitable for use as control antibody for IL-3 siRNA (h): sc-39621, IL-3 shRNA Plasmid (h): sc-39621-SH and IL-3 shRNA (h) Lentiviral Particles: sc-39621-V.

Molecular Weight of IL-3: 15 kDa.

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 (C-19): sc-1769. Western blot analysis of human recombinant IL-3.

SELECT PRODUCT CITATIONS

1. Zhang, Y., et al. 2009. Synergistic protecting effect of cord blood CD34+ cells over-expressing both interleukin-3 and Flt3 ligand on lethally irradiated mice. Int. J. Hematol. 90: 64-73.

RESEARCH USE

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