SANTA CRUZ BIOTECHNOLOGY, INC.

IL-3 (G-1): sc-28342

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 (G-1) is a mouse monoclonal antibody raised against amino acids 20-152 of IL-3 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

IL-3 (G-1) is available conjugated to agarose (sc-28342 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-28342 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-28342 PE), fluorescein (sc-28342 FITC), Alexa Fluor® 488 (sc-28342 AF488), Alexa Fluor® 546 (sc-28342 AF546), Alexa Fluor® 594 (sc-28342 AF594) or Alexa Fluor® 647 (sc-28342 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-28342 AF680) or Alexa Fluor® 790 (sc-28342 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

IL-3 (G-1) 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).

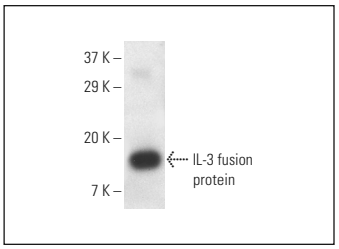
Suitable for use as control antibody for IL-3 siRNA (h): sc-39621, IL-3 shRNA Plasmid (h): sc-39621-SH and IL-3 shRNA (h) Lentiviral Particles: sc-39621-V.

Molecular Weight of IL-3: 15 kDa.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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 (G-1): sc-28342. Western blot analysis of human 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.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.