SANTA CRUZ BIOTECHNOLOGY, INC.

IL-3Rα (6H6 BOT) : sc-80651

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 exerts its biological effects through a receptor which consists of a ligand-specific α subunit (IL-3Rα) and a signal transducing β subunit (IL-3Rβ) common to the IL-3/IL-5/GM-CSF receptors. The α subunits are low-affinity ligand-binding proteins while the β subunits do not themselves bind ligand, but are required for high affinity binding by the α subunits. The mouse IL-3 receptor has two distinct β 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 β subunits are 91% homologous at the amino acid level but only 56% homologous to the human β subunit. 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.

CHROMOSOMAL LOCATION

Genetic locus: IL3RA (human) mapping to Xp22.3/Yp11.32.

SOURCE

IL-3Rα (6H6 BOT) is a mouse monoclonal antibody raised against COS cells transfected with the IL-3Rα chain 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.

STORAGE

Store at 4° 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 for detailed protocols and support products.

APPLICATIONS

IL-3Rα (6H6 BOT) is recommended for detection of IL-3Rα 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)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for IL-3Rα siRNA (h): sc-29368, IL-3Rα shRNA Plasmid (h): sc-29368-SH and IL-3Rα shRNA (h) Lentiviral Particles: sc-29368-V.

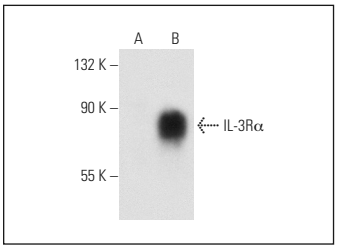
Molecular Weight of IL-3Rα: 70 kDa.

Positive Controls: IL-3Rα (h): 293T Lysate: sc-114555.

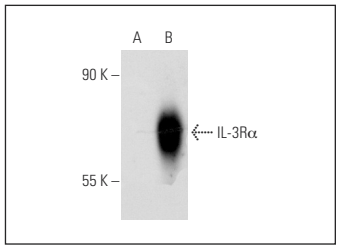
RECOMMENDED SUPPORT REAGENTS

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-3Rα (6H6 BOT): sc-80651. Western blot analysis of IL-3Rα expression in non-transfected: sc-117752 (**A**) and human IL-3Rα transfected: sc-176365 (**B**) 293T whole cell lysates.



IL-3Rα (6H6 BOT): sc-80651. Western blot analysis of IL-3Rα expression in non-transfected: sc-117752 (**A**) and human IL-3Rα transfected: sc-114555 (**B**) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Dirksen, U., et al. 1997. Human pulmonary alveolar proteinosis associated with a defect in GM-CSF/IL-3/IL-5 receptor common β chain expression. J. Clin. Invest. 100: 2211-2217.
2. Dirksen, U, et al. 1998. Defective expression of granulocyte-macrophage colony-stimulating factor/interleukin-3/interleukin-5 receptor common β chain in children with acute myeloid leukemia associated with respiratory failure. Blood 92: 1097-1103.
3. Aldinucci, D., et al. 2002. Expression of functional Interleukin-3 receptors on Hodgkin and Reed-Sternberg cells. Am. J. Pathology 160: 585-596.
4. Basso, K., et al. 2004. Gene expression profiling of hairy cell leukemia reveals a phenotype related to memory B cells with altered expression of chemokine and adhesion receptors. J. Exp. Med. 199: 59-68.

RESEARCH USE

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