

IL-3R α (S-12): sc-455

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-3R α) and a signal transducing β subunit (IL-3R β) 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 Xp22.33/Yp11.32.

SOURCE

IL-3R α (S-12) is a mouse monoclonal antibody raised against COS cells transfected with the IL-3R α chain of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

IL-3R α (S-12) is available conjugated to agarose (sc-455 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-455 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-455 PE), fluorescein (sc-455 FITC), Alexa Fluor[®] 488 (sc-455 AF488), Alexa Fluor[®] 546 (sc-455 AF546), Alexa Fluor[®] 594 (sc-455 AF594) or Alexa Fluor[®] 647 (sc-455 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-455 AF680) or Alexa Fluor[®] 790 (sc-455 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

IL-3R α (S-12) is recommended for detection of IL-3R α of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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-3R α siRNA (h): sc-29368, IL-3R α shRNA Plasmid (h): sc-29368-SH and IL-3R α shRNA (h) Lentiviral Particles: sc-29368-V.

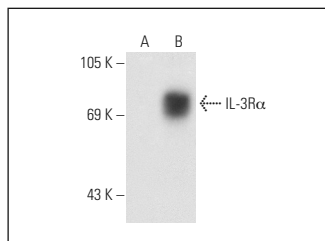
Molecular Weight of IL-3R α : 70 kDa.

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

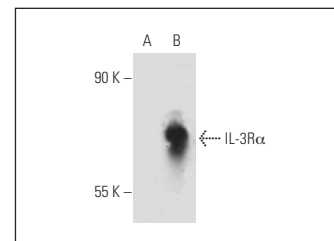
STORAGE

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

DATA



IL-3R α (S-12): sc-455. Western blot analysis of IL-3R α expression in non-transfected: sc-117752 (A) and human IL-3R α transfected: sc-176365 (B) 293T whole cell lysates.



IL-3R α (S-12): sc-455. Western blot analysis of IL-3R α expression in non-transfected: sc-117752 (A) and human IL-3R α transfected: sc-114555 (B) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

- Trentin, L., et al. 1994. Expression and regulation of tumor necrosis factor, Interleukin-2, and hematopoietic growth factor receptors in B-cell chronic lymphocytic leukemia. *Blood* 84: 4249-4256.
- Dirksen, U. 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.
- Dirksen, U. 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.
- Jordan, C.T., et al. 2000. The Interleukin-3 receptor α chain is a unique marker for human acute myelogenous leukemia stem cells. *Leukemia* 14: 1777-1784.
- Aldinucci, D., et al. 2002. Expression of functional Interleukin-3 receptors on Hodgkin and Reed-Sternberg cells. *Am. J. Pathol.* 160: 585-596.
- 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.
- Cibull, T.L., et al. 2008. Myeloid leukemia cutis: a histologic and immunohistochemical review. *J. Cutan. Pathol.* 35: 180-185.
- Feng, L., et al. 2022. MARCH3 negatively regulates IL-3-triggered inflammatory response by mediating K48-linked polyubiquitination and degradation of IL-3R α . *Signal Transduct. Target. Ther.* 7: 21.
- Koni, M., et al. 2022. Interleukin-3-receptor- α in triple-negative breast cancer (TNBC): an additional novel biomarker of TNBC aggressiveness and a therapeutic target. *Cancers* 14: 3918.

RESEARCH USE

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