SANTA CRUZ BIOTECHNOLOGY, INC.

IL-3Rβ (M-300): sc-33202

BACKGROUND

The human IL-3, IL-5 and GM-CSF receptors are each composed of both unique α subunits and a common 130 kDa β subunit. 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. In contrast, 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. Although neither the murine nor the human β subunit contains tyrosine kinase domains, both activate tyrosine phosphorylation-mediated signaling pathways.

REFERENCES

1. Hayashida, K., et al. 1990. Molecular cloning of a second subunit of the receptor for human granulocyte-macrophage colony-stimulating factor (GM-CSF): reconstitution of a high-affinity GM-CSF receptor. Proc. Natl. Acad. Sci. USA 87: 9655-9659.
2. Tavernier, J., et al. 1992. A human high-affinity interleukin-5 receptor (IL-5R) is composed of an IL-5 specific chain and a β chain shared with the receptor for GM-CSF. Cell 66: 1175-1184.
3. Hara, T., et al. 1992. Two distinct functional receptors for mouse interleukin-3. EMBO J. 11: 1875-1884.
4. Sakamaki, K., et al. 1992. Critical cytoplasmic domains of the common β subunit of the human GM-CSF, IL-3 and IL-5 receptors for growth signal transduction and tyrosine phosphorylation. EMBO J. 11: 3541-3549.
5. Park, L.S., et al. 1992. Cloning of the low-affinity murine granulocyte-macrophage colony-stimulating factor receptor and reconstitution of a high-affinity receptor complex. Proc. Natl. Acad. Sci. USA 89: 4295-4299.
6. Goodall, G.J., et al. 1993. A model for the interaction of the GM-CSF, IL-3 and IL-5 receptors with their ligands. Growth Factors 8: 87-97.
7. Rao, P., et al. 1995. Human IL-3 receptor signaling: rapid induction of phosphatidylcholine hydrolysis is independent of protein kinase C but dependent on tyrosine phosphorylation in transfected NIH/3T3 cells. J. Immunol. 154: 1664-1674.

CHROMOSOMAL LOCATION

Genetic locus: CSF2RB2 (human) mapping to 22q13.1; Csf2rb2 (mouse) mapping to 15 E1.

SOURCE

IL-3Rβ (M-300) is a rabbit polyclonal antibody raised against amino acids 23-322 mapping within an N-terminal extracellular domain of IL-3Rβ of mouse origin.

PRODUCT

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

APPLICATIONS

IL-3Rβ (M-300) is recommended for detection of the unique IL-3Rβ chain of mouse and rat origin and the β chain common to IL-3R, IL-5R and GM-CSFR of mouse, rat and, to a lesser extent, 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-3Rβ siRNA (m): sc-40061.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: 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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

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 or our catalog for detailed protocols and support products.