

# IL-4R $\alpha$ (S-20): sc-686

## BACKGROUND

The IL-2 receptor is a multicomponent complex consisting of three subunits,  $\alpha$ ,  $\beta$  and  $\gamma$ , each of which is required for high affinity binding of IL-2. The  $\alpha$  chain functions primarily in binding IL-2, whereas the  $\beta$  and  $\gamma$  chains contribute to IL-2 binding and are essential to IL-2-induced activation of signaling pathways leading to T cell growth. Both IL-4R and IL-7R were initially described as single chain, high-affinity ligand-binding cytokine receptors. However, it is now well established that the IL-2R $\gamma$  chain functions as a second subunit of the high affinity IL-4R and IL-7R receptors. Consequently, the originally described subunits of these latter receptors are now referred to as IL-4R $\alpha$  and IL-7R $\alpha$ , respectively, while the common subunit is referred to as  $\gamma_c$ . Although the common  $\gamma$  chain enhances ligand binding in these three cytokine receptors, it has no capacity to bind these ligands on its own. There is evidence that the  $\gamma_c$  chain is also a subunit of IL-13R.

## CHROMOSOMAL LOCATION

Genetic locus: Il4ra (mouse) mapping to 7 F3.

## SOURCE

IL-4R $\alpha$  (S-20) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the C-terminus of IL-4R $\alpha$  of mouse origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-686 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

IL-4R $\alpha$  (S-20) is recommended for detection of IL-4R $\alpha$  of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g 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-4R $\alpha$  siRNA (m): sc-35662, IL-4R $\alpha$  shRNA Plasmid (m): sc-35662-SH and IL-4R $\alpha$  shRNA (m) Lentiviral Particles: sc-35662-V.

Molecular Weight of IL-4R $\alpha$ : 140 kDa.

Molecular Weight of IL-4R $\alpha$  glycoprotein: 130 kDa.

Positive Controls: WEHI-231 whole cell lysate: sc-2213 or NIH/3T3 whole cell lysate: sc-2210.

## RESEARCH USE

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

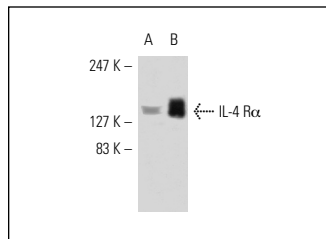
## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.

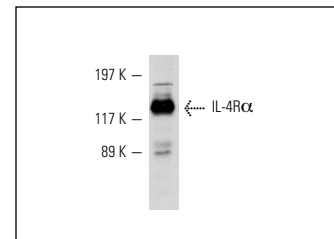
## STORAGE

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

## DATA



IL-4R $\alpha$  (S-20): sc-686. Western blot analysis of IL-4R $\alpha$  expression in untreated NIH/3T3 (A) and IL-4 induced NIH/3T3 (B) whole cell lysates.



IL-4R $\alpha$  (S-20): sc-686. Western blot analysis of IL-4R $\alpha$  expression in WEHI-231 whole cell lysate.

## SELECT PRODUCT CITATIONS

- Webb, D.C., et al. 2004. Polymorphisms in IL-4R $\alpha$  correlate with airways hyperreactivity, eosinophilia, and Ym protein expression in allergic IL-13<sup>-/-</sup> mice. *J. Immunol.* 172: 1092-1098.
- Duran, A., et al. 2004. Crosstalk between PKC  $\zeta$  and the IL-4/Stat6 pathway during T-cell-mediated hepatitis. *EMBO J.* 23: 4595-4605.
- Hocke, A.C., et al. 2006. Regulation of interleukin IL-4, IL-13, IL-10, and their downstream components in lipopolysaccharide-exposed rat lungs. Comparison of the constitutive expression between rats and humans. *Cytokine* 33: 199-211.
- MacKinnon, A.C., et al. 2008. Regulation of alternative macrophage activation by Galectin-3. *J. Immunol.* 180: 2650-2658.
- Liao, W., et al. 2008. Priming for T helper type 2 differentiation by interleukin 2-mediated induction of interleukin 4 receptor  $\alpha$ -chain expression. *Nat. Immunol.* 9: 1288-1296.
- Shimizu, E., et al. 2008. IL-4-induced selective clearance of oligomeric  $\beta$ -amyloid peptide by rat primary type 2 microglia. *J. Immunol.* 181: 6503-6513.
- Shandley, S., et al. 2009. IL-4 receptor as a bridge between the immune system and muscle in experimental myasthenia gravis I: up-regulation of muscle IL-15 by IL-4. *Clin. Immunol.* 132: 246-256.
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Try **IL-4R $\alpha$  (H-4): sc-28361** or **IL-4R $\alpha$  (E-1): sc-165974**, our highly recommended monoclonal alternatives to IL-4R $\alpha$  (S-20). Also, for AC, HRP, FITC, PE,  $\beta$ Alexa Fluor<sup>®</sup> 488 and Alexa Fluor<sup>®</sup> 647 conjugates, see **IL-4R $\alpha$  (H-4): sc-28361**.