

# IL-2R $\alpha$ (G-7): sc-365912

## 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.

## REFERENCES

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2. Mosley, B., et al. 1989. The murine interleukin-4 receptor: molecular cloning and characterization of secreted and membrane-bound forms. *Cell* 59: 335-348.
3. Goodwin, R.G., et al. 1990. Cloning of the human and murine interleukin-7 receptors: demonstration of a soluble form and homology to a new receptor superfamily. *Cell* 60: 941-951.
4. Takeshita, T., et al. 1992. Cloning of the  $\gamma$  chain of the human IL-2 receptor. *Science* 257: 379-382.
5. Cao, X., et al. 1993. Characterization of cDNAs encoding the murine interleukin-2 receptor (IL-2R)  $\gamma$  chain: chromosomal mapping and tissue specificity of IL-2R  $\gamma$  chain expression. *Proc. Natl. Acad. Sci. USA* 90: 8464-8468.
6. Kondo, M., et al. 1993. Sharing of the interleukin-2 (IL-2) receptor  $\gamma$  chain between receptors for IL-2 and IL-4. *Science* 262: 1874-1877.
7. Russell, S.M., et al. 1993. Interleukin-2 receptor  $\gamma$  chain: a functional component of the interleukin-4 receptor. *Science* 262: 1880-1883.
8. Minami, Y., et al. 1993. The IL-2 receptor complex: its structure, function and target genes. *Annu. Rev. Immunol.* 11: 245-268.
9. He, Y.W., et al. 1995. Expression and function of the  $\gamma$ c subunit of the IL-2, IL-4 and IL-7 receptors. *J. Immunol.* 154: 1596-1605.

## CHROMOSOMAL LOCATION

Genetic locus: IL2RA (human) mapping to 10p15.1.

## SOURCE

IL-2R $\alpha$  (G-7) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 23-49 at the N-terminus of IL-2R $\alpha$  of human origin.

## PRODUCT

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

Blocking peptide available for competition studies, sc-365912 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## APPLICATIONS

IL-2R $\alpha$  (G-7) is recommended for detection of IL-2R $\alpha$  of human origin by Western Blotting (starting dilution 1:100, 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-2R $\alpha$  siRNA (h): sc-29367, IL-2R $\alpha$  shRNA Plasmid (h): sc-29367-SH and IL-2R $\alpha$  shRNA (h) Lentiviral Particles: sc-29367-V.

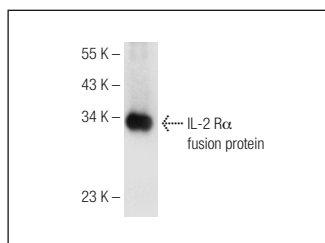
Molecular Weight of IL-2R $\alpha$ : 55 kDa.

Positive Controls: HuT 78 whole cell lysate: sc-2208.

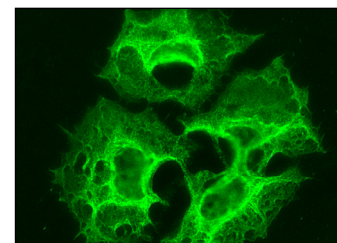
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>TM</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein L-Agarose: sc-2336 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850.

## DATA



IL-2R $\alpha$  (G-7): sc-365912. Western blot analysis of human recombinant IL-2R $\alpha$  fusion protein.



IL-2R $\alpha$  (G-7): sc-365912. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane localization.

## 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.