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### SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

[mail@szabo-scandic.com](mailto:mail@szabo-scandic.com)

[www.szabo-scandic.com](http://www.szabo-scandic.com)

[linkedin.com/company/szaboscandic](http://linkedin.com/company/szaboscandic)



# IL-2R $\alpha$ (h2): 293T Lysate: sc-176584

## 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

1. Mosley, B., et al. 1989. The murine interleukin-4 receptor: molecular cloning and characterization of secreted and membrane bound forms. *Cell* 59: 335-348.
2. 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.
3. Takeshita, T., et al. 1992. Cloning of the  $\gamma$  chain of the human IL-2 receptor. *Science* 57: 379-382.
4. 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.
5. Minami, Y., et al. 1993. The IL-2 receptor complex: its structure, function and target genes. *Ann. Rev. Immunol.* 11: 245-268.
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.

## PRODUCT

IL-2R $\alpha$  (h2): 293T Lysate represents a lysate of human IL-2R $\alpha$  transfected 293T cells and is provided as 100  $\mu$ g protein in 200  $\mu$ l SDS-PAGE buffer.

## RESEARCH USE

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

## APPLICATIONS

IL-2R $\alpha$  (h2): 293T Lysate is suitable as a Western Blotting positive control for human reactive IL-2R $\alpha$  antibodies. Recommended use: 10-20  $\mu$ l per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

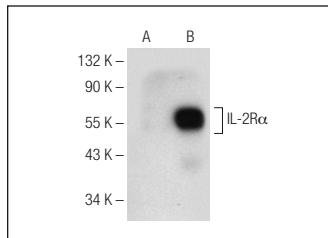
IL-2R $\alpha$  (H-6): sc-374034 is recommended as a positive control antibody for Western Blot analysis of enhanced human IL-2R $\alpha$  expression in IL-2R $\alpha$  transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

## 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™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

## DATA



IL-2R $\alpha$  (H-6): sc-374034. Western blot analysis of IL-2R $\alpha$  expression in non-transfected: sc-117752 (**A**) and human IL-2R $\alpha$  transfected: sc-176584 (**B**) 293T whole cell lysates.

## STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

## PROTOCOLS

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