

# IL-2R $\beta$ (C-6): sc-393362

## 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

- Mosley, B., et al. 1989. The murine interleukin-4 receptor: molecular cloning and characterization of secreted and membrane bound forms. *Cell* 59: 335-348.
- Tanaka, T., et al. 1991. A novel monoclonal antibody against murine IL-2 receptor  $\beta$ -chain. Characterization of receptor expression in normal lymphoid cells and EL-4 cells. *J. Immunol.* 147: 2222-2228.
- 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.
- Minami, Y., et al. 1993. The IL-2 receptor complex: its structure, function, and target genes. *Annu. Rev. Immunol.* 11: 245-268.
- Taniguchi, T. and Minami, Y. 1993. The IL-2/IL-2 receptor system: a current overview. *Cell* 73: 5-8.
- 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.
- Russell, S.M., et al. 1993. Interleukin-2 receptor  $\gamma$  chain: a functional component of the interleukin-4 receptor. *Science* 262: 1880-1883.

## CHROMOSOMAL LOCATION

Genetic locus: IL2RB (human) mapping to 22q12.3; Il2rb (mouse) mapping to 15 E1.

## SOURCE

IL-2R $\beta$  (C-6) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 496-523 near the C-terminus of IL-2R $\beta$  of mouse origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG $_1$  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-393362 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## APPLICATIONS

IL-2R $\beta$  (C-6) is recommended for detection of IL-2R $\beta$  of mouse, rat and 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).1:3000).

Suitable for use as control antibody for IL-2R $\beta$  siRNA (h): sc-35654, IL-2R $\beta$  siRNA (m): sc-35655, IL-2R $\beta$  shRNA Plasmid (h): sc-35654-SH, IL-2R $\beta$  shRNA Plasmid (m): sc-35655-SH, IL-2R $\beta$  shRNA (h) Lentiviral Particles: sc-35654-V and IL-2R $\beta$  shRNA (m) Lentiviral Particles: sc-35655-V.

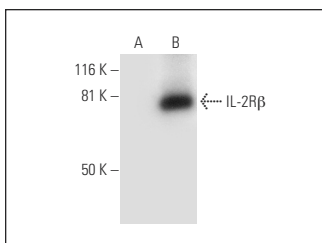
Molecular Weight of IL-2R $\beta$ : 70-75 kDa.

Positive Controls: IL-2R $\beta$  (m): 293T Lysate: sc-121046.

## 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. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (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® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA



IL-2R $\beta$  (C-6): sc-393362. Western blot analysis of IL-2R $\beta$  expression in non-transfected: sc-117752 (A) and mouse IL-2R $\beta$  transfected: sc-121046 (B) 293T whole cell lysates.

## SELECT PRODUCT CITATIONS

- Zhang, Y., et al. 2015. Mutual enhancement of IL-2 and IL-7 on DNA vaccine immunogenicity mainly involves regulations on their receptor expression and receptor-expressing lymphocyte generation. *Vaccine* 33: 3480-3487.

## 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.