

## IL-2R $\beta$ (S-20): sc-1046

### 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. 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.

### CHROMOSOMAL LOCATION

Genetic locus: IL2RB (human) mapping to 22q12.3.

### SOURCE

IL-2R $\beta$  (S-20) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping near the C-terminus of IL-2R $\beta$  of human 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-1046 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

### APPLICATIONS

IL-2R $\beta$  (S-20) is recommended for detection of IL-2R $\beta$  of human origin by Western Blotting (starting dilution 1:100, dilution range 1:50-1:500), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:25, dilution range 1:25-1:250) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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

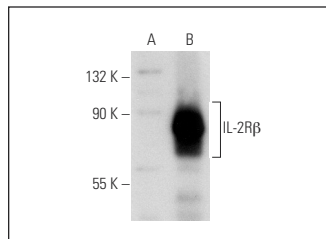
Molecular Weight of IL-2R $\beta$ : 70-75 kDa.

Positive Controls: IL-2R $\beta$  (h): 293T Lysate: sc-114166, HuT 78 whole cell lysate: sc-2208 or BJAB whole cell lysate: sc-2207.

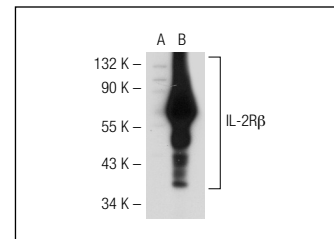
### STORAGE

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

### DATA



IL-2R $\beta$  (S-20): sc-1046. Western blot analysis of IL-2R $\beta$  expression in non-transfected: sc-117752 (A) and human IL-2R $\beta$  transfected: sc-128876 (B) 293T whole cell lysates.



IL-2R $\beta$  (S-20): sc-1046. Western blot analysis of IL-2R $\beta$  expression in non-transfected: sc-117752 (A) and human IL-2R $\beta$  transfected: sc-114166 (B) 293T whole cell lysates.

### SELECT PRODUCT CITATIONS

1. Bulanova, E., et al. 2001. The IL-15R  $\alpha$  chain signals through association with Syk in human B cells. *J. Immunol.* 167: 6292-6302.
2. Sauce, D., et al. 2006. EBV-associated mononucleosis leads to long-term global deficit in T-cell responsiveness to IL-15. *Blood* 108: 11-18.
3. Giron-Michel, J., et al. 2009. EBV-associated mononucleosis does not induce long-term global deficit in T-cell responsiveness to IL-15. *Blood* 113: 4541-4547.
4. Shuh, M., et al. 2011. Association of SRC-related kinase Lyn with the interleukin-2 receptor and its role in maintaining constitutive phosphorylation of JAK/STAT in human T-cell leukemia virus type 1-transformed T cells. *J. Virol.* 85: 4623-4627.
5. Azzi, S., et al. 2011. Differentiation therapy: targeting human renal cancer stem cells with interleukin 15. *J. Natl. Cancer Inst.* 103: 1884-1898.
6. Giron-Michel, J., et al. 2012. Interleukin-15 plays a central role in human kidney physiology and cancer through the  $\gamma$ c signaling pathway. *PLoS ONE* 7: e31624.

### 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.

**MONOS**  
Satisfaction  
Guaranteed

Try **IL-2R $\beta$  (C-2): sc-166427** or **IL-2R $\beta$  (D-12): sc-376003**, our highly recommended monoclonal alternatives to IL-2R $\beta$  (S-20).