

## IL-2R $\beta$ (G-20): sc-1044

### 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.
- 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.
- Takeshita, T., et al. 1992. Cloning of the  $\gamma$  chain of the human IL-2 receptor. *Science* 57: 379-382.
- 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.
- 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.
- 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: Il2rb (mouse) mapping to 15 E1.

### SOURCE

IL-2R $\beta$  (G-20) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping near the C-terminus of IL-2R $\beta$  of mouse origin.

### STORAGE

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

### 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-1044 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

### APPLICATIONS

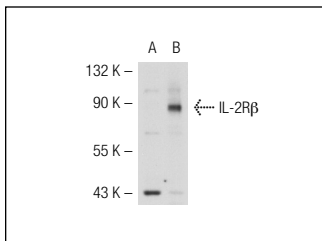
IL-2R $\beta$  (G-20) is recommended for detection of IL-2R $\beta$  of mouse origin by Western Blotting (starting dilution 1:100, dilution range 1:50-1:500), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:25, dilution 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 (m): sc-35655, IL-2R $\beta$  shRNA Plasmid (m): sc-35655-SH 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 or CTLL-2 cell lysate: sc-2242.

### DATA



IL-2R $\beta$  (G-20): sc-1044. 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

- Mohapatra, S., et al. 2001. Interdependence of Cdk2 activation and interleukin-2R  $\alpha$  accumulation in T cells. *J. Biol. Chem.* 276: 21984-21989.
- Takizawa, H., et al. 2010. Lnk regulates integrin  $\alpha$ IIb $\beta$ 3 outside-in signaling in mouse platelets, leading to stabilization of thrombus development *in vivo*. *J. Clin. Invest.* 120: 179-190.

### RESEARCH USE

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



Try **IL-2R $\beta$  (C-10): sc-393093** or **IL-2R $\beta$  (G-1): sc-393092**, our highly recommended monoclonal alternatives to IL-2R $\beta$  (G-20).