

# IL-2R $\beta$ (TM- $\beta$ 1): sc-19583

## 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.
3. 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.
4. Minami, Y., et al. 1993. The IL-2 receptor complex: its structure, function and target genes. *Annu. Rev. Immunol.* 11: 245-268.
5. 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.
6. Russell, S.M., et al. 1993. Interleukin-2 receptor  $\gamma$  chain: a functional component of the interleukin-4 receptor. *Science* 262: 1880-1883.
7. Taniguchi, T. and Minami, Y. 1993. The IL-2/IL-2 receptor system: a current overview. *Cell* 73: 5-8.

## CHROMOSOMAL LOCATION

Genetic locus: Il2rb (mouse) mapping to 15 E1.

## SOURCE

IL-2R $\beta$  (TM- $\beta$ 1) is a rat monoclonal antibody raised against HTLV-1-transformed T cell line TART-1 of rat origin transfected with mouse IL-2R $\beta$ .

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>2b</sub> in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available azide-free for blocking, sc-19583 L, 200  $\mu$ g/0.1 ml.

IL-2R $\beta$  (TM- $\beta$ 1) is available conjugated to either phycoerythrin (sc-19583 PE) or fluorescein (sc-19583 FITC), 200  $\mu$ g/ml, for IF, IHC(P) and FCM.

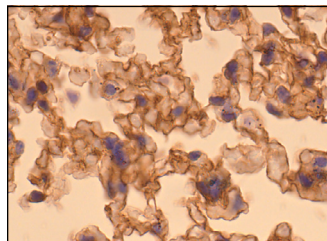
## APPLICATIONS

IL-2R $\beta$  (TM- $\beta$ 1) is recommended for detection of IL-2R $\beta$  of mouse origin by 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1  $\mu$ g per 1 x 10<sup>6</sup> cells).

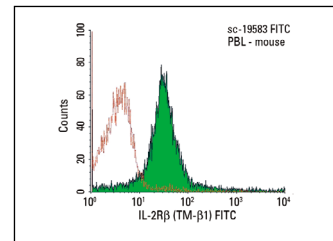
Suitable for use as control antibody for IL-2R $\beta$  siRNA (m): sc-35655, IL-2R $\beta$  shRNA Plasmid (m): sc-35655-SH and IL-2R $\beta$  shRNA (m) Lentiviral Particles: sc-35655-V.

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

## DATA



IL-2R $\beta$  (TM- $\beta$ 1): sc-19583. Immunoperoxidase staining of formalin fixed, paraffin-embedded mouse lung tissue showing membrane localization.



IL-2R $\beta$  (TM- $\beta$ 1) FITC: sc-19583 FITC. FCM analysis of PMA-stimulated mouse peripheral blood leukocytes. Black line histogram represents the isotype control, normal rat IgG<sub>2b</sub>-FITC: sc-2835.

## 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.

## PROTOCOLS

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