

IL-2R β (TM- β 1): sc-19583

BACKGROUND

The IL-2 receptor is a multicomponent complex consisting of three subunits, α , β and γ , each of which is required for high-affinity binding of IL-2. The α chain functions primarily in binding IL-2, whereas the β and γ 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 γ 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 α and IL-7R α , respectively, while the common subunit is referred to as γ c. Although the common γ 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 γ 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 β -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) γ chain: chromosomal mapping and tissue specificity of IL-2R γ 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 γ chain between receptors for IL-2 and IL-4. *Science* 262: 1874-1877.
- Russell, S.M., et al. 1993. Interleukin-2 receptor γ chain: a functional component of the interleukin-4 receptor. *Science* 262: 1880-1883.
- 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 β (TM- β 1) is a rat monoclonal antibody raised against HTLV-1-transformed T cell line TART-1 of rat origin transfected with mouse IL-2R β .

PRODUCT

Each vial contains 200 μ g IgG_{2b} 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 μ g/0.1 ml.

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

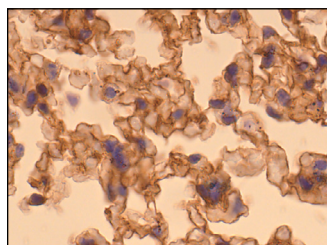
APPLICATIONS

IL-2R β (TM- β 1) is recommended for detection of IL-2R β of mouse origin by immunoprecipitation [1-2 μ g per 100-500 μ 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 μ g per 1 x 10⁶ cells).

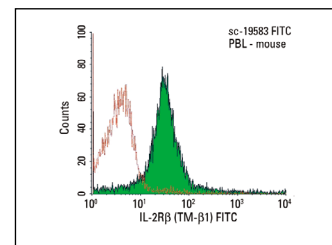
Suitable for use as control antibody for IL-2R β siRNA (m): sc-35655, IL-2R β shRNA Plasmid (m): sc-35655-SH and IL-2R β shRNA (m) Lentiviral Particles: sc-35655-V.

Molecular Weight of IL-2R β : 70-75 kDa.

DATA



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



IL-2R β (TM- β 1) FITC: sc-19583 FITC. FCM analysis of PMA-stimulated mouse peripheral blood leukocytes. Black line histogram represents the isotype control, normal rat IgG_{2b}-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 for detailed protocols and support products.