SANTA CRUZ BIOTECHNOLOGY, INC.

IL-2Rβ (TM-β1): sc-19583

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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-2Rγ 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-4Rα and IL-7Rα, respectively, while the common subunit is referred to as γc. 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 γc 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 β-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) γ chain: chromosomal mapping and tissue specificity of IL-2R γ 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 γ chain between receptors for IL-2 and IL-4. Science 262: 1874-1877.
6. Russell, S.M., et al. 1993. Interleukin-2 receptor γ 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-2Rβ (TM-β1) is a rat monoclonal antibody raised against HTLV-1-transformed T cell line TART-1 of rat origin transfected with mouse IL-2Rβ.

PRODUCT

Each vial contains 200 µg 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 µg/0.1 ml.

IL-2Rβ (TM-β1) is available conjugated to either phycoerythrin (sc-19583 PE) or fluorescein (sc-19583 FITC), 200 µg/ml, for IF, IHC(P) and FCM.

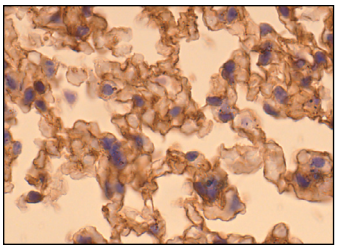
APPLICATIONS

IL-2Rβ (TM-β1) is recommended for detection of IL-2Rβ of mouse origin by immunoprecipitation [1-2 µg per 100-500 µg 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 µg per 1 x 10^6 cells).

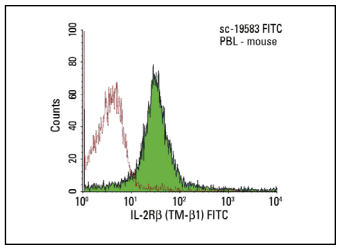
Suitable for use as control antibody for IL-2Rβ siRNA (m): sc-35655, IL-2Rβ shRNA Plasmid (m): sc-35655-SH and IL-2Rβ shRNA (m) Lentiviral Particles: sc-35655-V.

Molecular Weight of IL-2Rβ: 70-75 kDa.

DATA



IL-2Rβ (TM- β1): sc-19583. Immunoperoxidase staining of formalin fixed, paraffin-embedded mouse lung tissue showing membrane localization.



IL-2Rβ (TM-β1) FITC: sc-19583 FITC. FCM analysis of PMA-stimulated mouse peripheral blood leukocytes. Black line histogram represents the isotype control, normal rat IgG_{2b}: 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.