

IL-2R (YNRhIL2R): sc-73314

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., Beckmann, M.P., March, C.J., Idzerda, R.L., Gimpel, S.D., VandenBos, T., Friend, D., Alpert, A., Anderson, D. and Jackson, J. 1989. The murine interleukin-4 receptor: molecular cloning and characterization of secreted and membrane bound forms. *Cell* 59: 335-348.
- Tanaka, T., Tsudo, M., Karasuyama, H., Kitamura, F., Kono, T., Hatakeyama, M., Taniguchi, T. and Miyasaka, M. 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., Kozak, C.A., Liu, Y.J., Noguchi, M., O'Connell, E. and Leonard, W.J. 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.
- Kondo, M., Takeshita, T., Ishii, N., Nakamura, M., Watanabe, S., Arai, K. and Sugamura, K. 1993. Sharing of the interleukin-2 (IL-2) receptor γ chain between receptors for IL-2 and IL-4. *Science* 262: 1874-1877.
- Minami, Y., Kono, T., Miyazaki, T. and Taniguchi, T. 1993. The IL-2 receptor complex: its structure, function, and target genes. *Annu. Rev. Immunol.* 11: 245-268.
- Taniguchi, T. and Minami, Y. 1993. The IL-2/IL-2 receptor system: a current overview. *Cell* 73: 5-8.
- Russell, S.M., Keegan, A.D., Harada, N., Nakamura, Y., Noguchi, M., Leland, P., Friedmann, M.C., Miyajima, A., Puri, R.K. and Paul, W.E. 1993. Interleukin-2 receptor γ chain: a functional component of the interleukin-4 receptor. *Science* 262: 1880-1883.
- He, Y.W., Adkins, B., Furse, R.K. and Malek, T.R. 1995. Expression and function of the γ_c subunit of the IL-2, IL-4, and IL-7 receptors. Distinct interaction of γ_c in the IL-4 receptor. *J. Immunol.* 154: 1596-1605.
- Malek, T.R., Furse, R.K., Fleming, M.L., Fadell, A.J. and He, Y.W. 1995. Biochemical identity and characterization of the mouse interleukin-2 receptor β and γ_c subunits. *J. Interferon Cytokine Res.* 15: 447-454.

CHROMOSOMAL LOCATION

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

SOURCE

IL-2R (YNRhIL2R) is a mouse monoclonal antibody raised against Con A-activated T cells of human origin.

PRODUCT

Each vial contains 100 μ g IgG_{2a} in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

IL-2R (YNRhIL2R) is recommended for detection of IL-2R of human origin by flow cytometry (1 μ g per 1 x 10⁶ cells).

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.