SANTA CRUZ BIOTECHNOLOGY, INC.

IL-2Rα (M-19): sc-666

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. 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.
3. Takeshita, T., et al. 1992. Cloning of the γ chain of the human IL-2 receptor. Science 57: 379-382.
4. Minami, Y., et al. 1993. The IL-2 receptor complex: its structure, function and target genes. Annu. Rev. Immunol. 11: 245-268.
5. 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.
6. 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.

CHROMOSOMAL LOCATION

Genetic locus: IL2RA (human) mapping to 10p15.1; Il2ra (mouse) mapping to 2 A1.

SOURCE

IL-2Rα (M-19) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the N-terminus of IL-2Rα of mouse origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-666 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

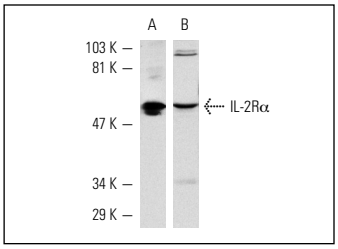
IL-2Rα (M-19) is recommended for detection of IL-2Rα of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for IL-2Rα siRNA (h): sc-29367, IL-2Rα siRNA (m): sc-35657, IL-2Rα shRNA Plasmid (h): sc-29367-SH, IL-2Rα shRNA Plasmid (m): sc-35657-SH, IL-2Rα shRNA (h) Lentiviral Particles: sc-29367-V and IL-2Rα shRNA (m) Lentiviral Particles: sc-35657-V.

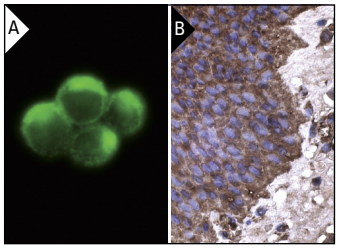
Molecular Weight of IL-2Rα: 55 kDa.

Positive Controls: HuT 78 whole cell lysate: sc-2208, WEHI-231 whole cell lysate: sc-2213 or mouse activated PBL.

DATA



Western blot analysis of IL-2Rα expression in HuT 78 (**A**) and WEHI-231 (**B**) whole cell lysates. Antibodies tested include IL-2Rα (C-20): sc-664 (**A**) and IL-2Rα (M-19): sc-666 (**B**).



IL-2Rα (M-19): sc-666. Immunofluorescence staining of methanol-fixed WEHI-231 cells showing membrane staining (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human urinary bladder tissue showing cytoplasmic staining of urithelial cells (**B**).

SELECT PRODUCT CITATIONS

1. Cauvi, D.M., et al. 2006. Transport of the IgE receptor α-chain is controlled by a multicomponent intracellular retention signal. J. Biol. Chem. 281: 10448-10460.
2. Abdulamir, A.S., et al. 2009. Severity of asthma: the role of $CD25^+$, $CD30^+$, NFκB, and apoptotic markers. J. Investig. Allergol. Clin. Immunol. 19: 218-224.
3. Isayama, K., et al. 2010. Effects of hypertonic saline on $CD4^+CD25^+Foxp3^+$ regulatory T cells after hemorrhagic shock in relation to iNOS and cytokines. J. Surg. Res. 172: 137-145.

RESEARCH USE

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