

## IL-2R $\alpha$ (IL2R.1): sc-57297

### 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. Paterson, D.J., et al. 1987. Antigens of activated rat T lymphocytes including a molecule of 50,000 M<sub>r</sub> detected only on CD4 positive T blasts. *Mol. Immunol.* 24: 1281-1290.
2. Mosley, B., et al. 1989. The murine interleukin-4 receptor: molecular cloning and characterization of secreted and membrane bound forms. *Cell* 59: 335-348.
3. 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.
4. Takeshita, T., et al. 1992. Cloning of the  $\gamma$  chain of the human IL-2 receptor. *Science* 257: 379-382.
5. 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.
6. 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.
7. Russell, S.M., et al. 1993. Interleukin-2 receptor  $\gamma$  chain: a functional component of the interleukin-4 receptor. *Science* 262: 1880-1883.
8. Minami, Y., et al. 1993. The IL-2 receptor complex: its structure, function and target genes. *Annu. Rev. Immunol.* 11: 245-268.

### CHROMOSOMAL LOCATION

Genetic locus: IL2RA (human) mapping to 10p15.1.

### SOURCE

IL-2R $\alpha$  (IL2R.1) is a mouse monoclonal antibody raised against recombinant IL-2R $\alpha$  of human origin.

### PRODUCT

Each vial contains 50  $\mu$ g IgG<sub>1</sub> in 0.5 ml of PBS with < 0.1% sodium azide, 0.1% gelatin and < 0.1% stabilizer protein

### APPLICATIONS

IL-2R $\alpha$  (IL2R.1) is recommended for detection of IL-2R $\alpha$  of human origin by immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for IL-2R $\alpha$  siRNA (h): sc-29367, IL-2R $\alpha$  shRNA Plasmid (h): sc-29367-SH and IL-2R $\alpha$  shRNA (h) Lentiviral Particles: sc-29367-V.

Molecular Weight of IL-2R $\alpha$ : 55 kDa.

### SELECT PRODUCT CITATIONS

1. Bedoya, A.M., et al. 2013. Location and density of immune cells in precursor lesions and cervical cancer. *Cancer Microenviron.* 6: 69-77.

### 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.