

# Human IL2Ra / CD25 Protein (His Tag)

Catalog Number: 10165-H08H



Sino Biological  
Biological Solution Specialist

## General Information

### Gene Name Synonym:

CD25; IDDM10; IL-2RA; IL2R; p55; TCGFR

### Protein Construction:

A DNA sequence encoding the extracellular domain of human IL2 receptor  $\alpha$  (NP\_000408.1) (Met 1-Cys 213) was expressed with a C-terminal polyhistidine tag.

**Source:** Human

**Expression Host:** HEK293 Cells

## QC Testing

**Purity:** > 97 % as determined by SDS-PAGE

### Bio Activity:

Measured by its ability to inhibit IL2-induced proliferation of CTLL2 cells. The  $ED_{50}$  for this effect is 5-20  $\mu\text{g/mL}$  in the presence of 1 ng/mL of recombinant human IL-2.

### Endotoxin:

< 1.0 EU per  $\mu\text{g}$  of the protein as determined by the LAL method

### Stability:

Samples are stable for up to twelve months from date of receipt at  $-70^\circ\text{C}$

**Predicted N terminal:** Glu 22

### Molecular Mass:

The recombinant human IL2R $\alpha$  consists of 203 amino acids and has a predicted molecular mass of 23.3 kDa. In SDS-PAGE under reducing conditions, the apparent molecular mass of rhIL2R $\alpha$  is approximately 44 kDa due to glycosylation.

### Formulation:

Lyophilized from sterile PBS, pH 7.4

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

## Usage Guide

### Storage:

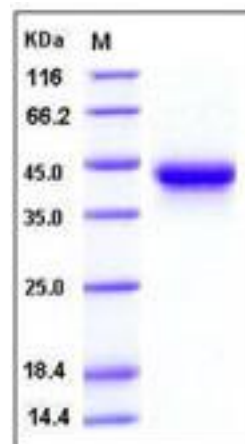
Store it under sterile conditions at  $-20^\circ\text{C}$  to  $-80^\circ\text{C}$  upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

**Avoid repeated freeze-thaw cycles.**

### Reconstitution:

Detailed reconstitution instructions are sent along with the products.

## SDS-PAGE:



## Protein Description

CD25 (alpha-chain of IL-2 receptor, or IL2RA), is a type I transmembrane glycoprotein with a signal peptide, an extracellular region, a transmembrane region, and a cytoplasmic domain. IL2RA is expressed on activated T cells and regulatory T cells, and is capable of binding IL2 with low affinity by itself. However, a ligand-induced high affinity heterotrimeric receptor complex is produced when IL2RA is associated non-covalently with the IL2 receptor beta and gamma chain, and subsequently initiates the intracellular signal pathways such as MAPK or JAK/STAT. On dendritic cells (DC), CD25 has been previously regarded as an activation marker, while both murine and human DC can express CD25, they do not express the beta-chain of the IL-2 receptor, which is indispensable for the execution of IL-2 signaling. The IL2RA (CD25) gene is a substantial component of the high-affinity receptor molecule highly expressed by activated T lymphocytes. Recently, a strong evidence was obtained for the involvement of IL-2RA in conferring susceptibility to type 1 diabetes (T1D). Cancer growth and development is associated with the stimulation of the innate immune system, including enhanced interleukin 2 receptor (IL-2R) expression in immune cells and its shedding into the circulation in a soluble form of sIL-2Ralpha. In most haematological malignancies, including different types of leukaemias and lymphomas, sIL-2Ralpha has been found to be released directly from the surface of neoplastic cells thus reflecting the tumour bulk, turnover and activity. Several studies have proved that not only lymphoid cancer cells, but also some non-lymphoid cancer cells, express IL-2R on their surface. They include malignant melanoma and carcinomas of the kidney, head and neck, oesophagus and lung. Thus, sIL-2Ralpha is elevated in most proliferative disturbances of the hematopoietic system and in many solid tumors.

## References

1. Driesen J, *et al.* (2008) CD25 as an immune regulatory molecule expressed on myeloid dendritic cells. *Immunobiology*. 213(9-10): 849-58.
2. Olejniczak K, *et al.* (2008) Biological properties of interleukin 2 and its role in pathogenesis of selected diseases--a review. *Med Sci Monit*. 14(10): RA179-89.
3. Chistiakov DA, *et al.* (2008) The crucial role of IL-2/IL-2RA-mediated immune regulation in the pathogenesis of type 1 diabetes, an evidence coming from genetic and animal model studies. *Immunol Lett*. 118(1): 1-5.

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