

Recombinant Human IL-2 Protein (high-efficiency)

Size / Cat.No.: 100µg /GMP-TL906-0100

Product Name

Generic Name	Recombinant Human IL-2 Protein
Synonym	TCGF, lymphokine, Interleukin 2

Product Information

Expression Host	E.coli
QC Testing Purity	> 90 % as determined by SDS-PAGE.
Activity	Determined by the dose-dependent stimulation of the proliferation of CTLL-2 cells ,corresponding to a activity of $\geq 1 \times 10^7$ U/mg.
Endotoxin	< 0.1EU per 1 µg of the protein by the LAL method.
Molecular Mass	The recombinant human IL-2 protein predicts a molecular mass of 15.4 kD.
Formulation	Lyophilized from sterile PBS, pH 7.4. Normally 6 % mannitol are added as protectants before lyophilization.
Stability & Storage	Lyophilized preparation can be stored at 2-8 °C. 6 months at -20°C under sterile conditions after reconstitution. 12 months at -80°C under sterile conditions after reconstitution. Recommend to aliquot the protein into smaller quantities after reconstituting with water for injection, normal saline or PBS, and keep the diluted concentration above 100µg/mL. Avoid repeated freeze-thaw cycles.

Background

Activated T cells generally cannot survive for a long time in vitro culture, and the addition of IL-2 can promote their long-term and sustained proliferation. The surface of stationary T cells does not express IL-2R and does not respond to IL-2; T cells activated by mitogen or other stimuli can express IL-2R and become target cells of IL-2; IL-2 can also induce increased IL-2R expression in target cells. The expression of IL-2R on T cells is transient, generally reaching its peak 2-3 days after activation and disappearing around 6-10 days. With the disappearance of IL-2R, T cells lose their ability to respond to IL-2. Therefore, in order to maintain the long-term growth of normal T cells in vitro, it is necessary to constantly stimulate T cells with mitogen or other stimulators to maintain the expression of IL-2R. NK cells are the only lymphoid cells that normally express IL-2R, and therefore always maintain reactivity to IL-2. However, only IL-2R is expressed on stationary NK cells β Chain and γ Chains have a low affinity for IL-2 and can only react with high concentrations of IL-2. Once NK cells are activated, they express IL-2R α Chain, becoming a high affinity receptor.

References

1. Yao Wang, Hanren Dai, Hong Li, Haiyan Lv, Tao Wang, Xiaobing Fu, and Weidong Han. Growth of Human Colorectal Cancer SW1116 Cells Is Inhibited by Cytokine-Induced Killer Cells Clinical and Developmental Immunology Volume 2011, Article ID 621414, 9 pages doi:10.1155/2011/621414.
2. D Sangiolo†, G Mesiano, F Carnevale-Schianca, W Piacibello, M Aglietta & A Cignetti . Cytokine induced killer cells as adoptive immunotherapy strategy to augment graft versus tumor after hematopoietic cell transplantation. Expert Opin. Biol. Ther. (2009) 9(7):831-840.