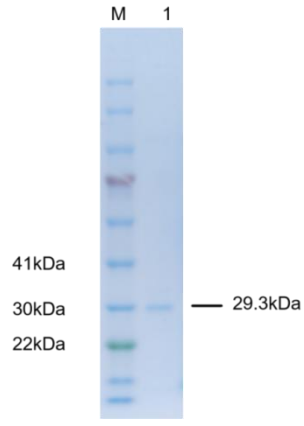
Human Interleukin 2 (IL 2) Protein, Recombinant

I. For sale

Product name	Catalog #	Size
Human Interleukin 2 (IL 2) Protein, Recombinant	P01I0308	10ug
		50ug
		500ug
		1mg

II. Product Description

Other Names	IL-2; TCGF; lymphokine.
Protein & NCBI Number	P60568, NM_000586.4
Host	E.coli
Express Region	Ala21-Thr153
Protein Sequence	APTSSSTKKTQLQLEHLLLDLQMILNGINNYKNPKLTRMLTFKFYMPKKATELKHLQCLEEEL KPLEEVLNLAQSKNFHLRPRDLISNINVIVLELKGSETTFMCEYADETATIVEFLNRWITFCQSI ISTLT
Molecular Weight	The protein consists of 257 amino acids (including the fusion tag), with a predicted molecular weight of 29.3kDa, which matches the actual molecular weight.
Fusion Tag	6xHis-SUMO (N-terminus)
Purity	⩾90% SDS-PAGE
Physical Property	Liquid
Components	0.01M PBS+20% glycerol, sterile solution.
Storage & Stability	After aliquoting, the stability of the samples can be maintained for up to 6 months at -20°C to -80°C, avoiding repeated freeze-thaw cycles.
Applications	Antibody preparation, immunoassay (ELISA, WB), subcellular localization and interaction protein identification, etc.
Lead Time	5 to 10 business days; 2 to 3 days for stock products

Figure. SDS-PAGE	 Bis-Tris (MOPS) SDS-PAGE

III. **Storage and Transportation**

Transport at 2-8℃, product is stable for up to twelve months from date of receipt under sterile conditions at -20℃ to -80℃.

IV. **Notes**

This product is for research use only. Please wear laboratory attire and disposable gloves when handling.

V. **Background**

Interleukin-2 (IL-2) exerts immunosuppressive and immunostimulatory effects on cytotoxic effector cells by activating regulatory T cells (Tregs). These IL-2 effects depend on different expression patterns of IL-2 receptor (IL-2R): CD8+ T cells and natural killer cells carry high levels of the dimeric IL-2Rβ (CD122) and IL-2Rγ (γc); Treg cells express high levels of IL-2Rα (CD25) as well as moderate levels of CD122 and γc. Interleukin-2 (IL-2) was the first cytokine to be molecularly cloned and is essential for T cell proliferation, the generation of effector cells, and the production of memory cells as a T cell growth factor. IL-2 promotes the generation, survival, and functional activity of Treg cells, thus possessing dual and opposing functions: maintaining Treg cells to control immune responses and stimulating conventional T cells to promote immune responses. Literature has demonstrated that certain conformations of IL-2 can selectively target Treg cells by increasing the dependency on CD25 binding at the expense of CD122 binding. Recent therapeutic strategies have emerged, using IL-2, monoclonal antibodies against IL-2, or IL-2 variants to increase the number and function of Treg cells for the treatment of autoimmune diseases, while addressing the ongoing challenge of minimizing the production of effector cells, memory cells, natural killer cells, and other innate lymphoid cells.

VI**. References**

1. T. Taniguchi, H. Matsui, T. Fujita, C. Takaoka, N. Kashima, R. Yoshimoto, J. Hamuro, Structure and expression of a cloned cDNA for human interleukin-2. Nature 302, 305–310 (1983).

2. B. Sadlack, H. Merz, H. Schorle, A. Schimpl, A. C. Feller, I. Horak, Ulcerative colitis-like disease in mice with a disrupted interleukin-2 gene. Cell 75, 253 – 261 (1993).
3. Morgan D.A.et al.Selective in vitro growth of T lymphocytes from normal human bone marrows.Science. 1976; 193: 1007-1008.
4. Robb R.J.Smith K.A.Heterogeneity of human T-cell growth factor(s) due to variable glycosylation.Mol. Immunol. 1981; 18: 1087-1094
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6. K. A. Smith, M. F. Favata, S. Oroszlan, Production and characterization of monoclonal antibodies to human interleukin 2: Strategy and tactics. J. Immunol. 131, 1808 – 1815 (1983)