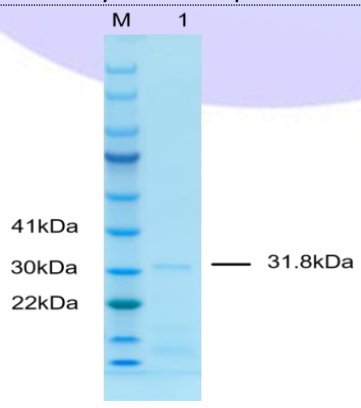
Human Interleukin 4 (IL-4) Protein, Recombinant

I. For sale

Product name	Catalog #	Size
Human Interleukin 4 (IL-4) Protein, Recombinant	P01I0007	10ug
		50ug
		500ug
		1mg

II. Product Description

Other Names	BSF1; IL-4; BCGF1; BSF-1; BCGF-1
Protein & NCBI Number	P05112, NM_000589.4
Host	E.coli
Express Region	Met1-Ser153
Protein Sequence	MGLTSQLLPPLFFLLACAGNFVHGHKCDITLQEIIKTLNSLTEQ KTLCTELTVTDIFAASKNTTEKETFCRAATVLRQFYSHHEKDTRCLGATAQQFHRHKQ LIRFLKRLDRNLWGLAGLNSCPVKEANQSTLENFLERLKTIMREKYSKCSS
Molecular Weight	The protein consists of 153 amino acids (including the fusion tag), with a predicted molecular weight of 31.8kDa, which matches the actual molecular weight.
Fusion Tag	6×His-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**

IL-4 is a pleiotropic cytokine produced by activated T cells. It undergoes N glycosylation sites and different degrees of glycosylation under different conditions. The precursor of IL-4 is 153 peptide, and the mature IL-4 is 129 peptide after removing the signal peptide.The biological effects of IL-4 are mediated by binding to the IL-4 receptor (IL-4R).The Interleukin 4 receptor also binds to IL13, which may result in many overlapping functions of this cytokine and IL-13.STAT6 is a signal transduction and transcriptional activator that has been shown to play a central role in mediating immunomodulatory signaling of this cytokine.

IL-4 is considered to be an important cytokine for tissue repair, counteracting the effects of type 1 proinflammatory cytokines; however, it also promotes allergic airway inflammation.In addition, IL-4, as a characteristic cytokine of Th2 cells, plays a role in promoting the occurrence and development of inflammatory responses characterized by Th2, mediating and regulating a variety of human host responses, such as allergy, anti-parasite, wound healing, and acute inflammation.Il-4 significantly upregates THE CXC chemokine receptor on THE surface of CD4+T cells to mediate the inflammatory response, which may be mediated by cAMP or cGMP signal transduction pathways.

IL-4 has been reported to promote the regression of neutrophil-mediated acute lung injury.In allergic reactions, IL-4 plays an important role in the production of allergen-specific immunoglobulin IgE. An increase in this pro-inflammatory cytokine has been observed in PATIENTS with COVID-19, but is not necessarily associated with severe COVID-19 pathology.Two variable-splice transcripts of this gene encoding different isoforms have been reported.

VI**. References**

1. Jinquan T,Quan S,Jacobi H H,Madsen H O,Glue C,Skov P S,Malling H J,Poulsen L K. CXC chemokine receptor 4 expression and stromal cell-derived factor-1alpha-induced chemotaxis in CD4+ T lymphocytes are regulated by interleukin-4 and interleukin-10. Immunology,2000,99(3):402-10.
2. 邢应如,陈蓓,张荣波.白细胞介素 4 的研究进展.医学综述,2015,21(19):3457-3461.
3. 胡洪慧,王凤山,凌沛学.白细胞介素-4 的研究进展.中国药学杂志,2005(10):721-725.
4. Imani Danyal,Eslami Mohammad Masoud,AnaniSarab Gholamreza,Aliyu Mansur,Razi

Bahman,Rezaei Ramazan. Interleukin-4 gene polymorphism (C33T) and the risk of the asthma: a meta-analysis based on 24 publications. BMC Med Genet. 2020;21(1):232.