



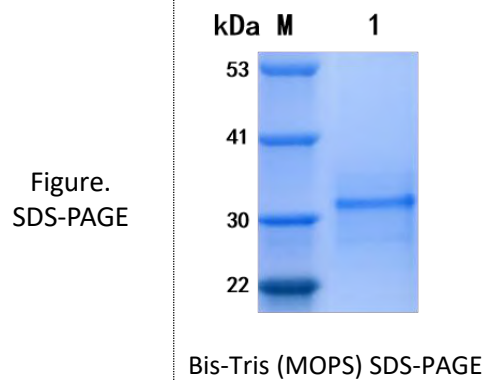
Human Interleukin 4 (IL-4) Protein, Recombinant

I. For sale

Product name	Catalog #	Size
Human Interleukin 4 (IL-4) Protein, Recombinant	P01I0069	10ug
		50ug
		100ug
		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	1-153aa
Protein Length	Total length of the protein (including Tag)
Protein Sequence	MGLTSQLLPPLFFLLACAGNFVHGHKCDITLQEIHKTLNSLTEQ KTLCTELTVTDIFAASKNTEKETFCRAATVLRQFYSHHEKDTRCLGATAQQFHRHKQ LIRFLKRLDRNLWGLAGLNSCPVKEANQSTLENFLERLKTIMREKYSKCSS
Molecular Weight	about 17.5kDa
Fusion Tag	6×His-SUMO (N-terminus)
Purity	≥95% SDS-PAGE
Physical Property	liquid or lyophilized powder
Reconstitution	Storage solution: We recommend using PBS or a suitable solvent according to the experimental requirements to prepare 1mg/mL storage solution, aliquot and store at -20 °C. Working solution: According to the experimental requirement, dilute Storage solution. The working solution can be stored at 4°C for 2-3 weeks after dilution.
Storage & Stability	The shelf life of liquid form is 6 months stored at -20 °C /-80 °C. The shelf life of lyophilized form is 12 months stored at -20 °C /-80 °C.
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



III. Storage and Transportation

Product is stable for up to twelve months from date of receipt under sterile conditions at -20°C to -80°C . For optimal storage the lyophilized powder and protein stock solution should be aliquoted, and avoid freeze-thaw cycles.

IV. 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 IL-13, 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 upregulates the CXCR3 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.

V. References



1. Jinqun 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. 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.

