

Recombinant human IL4, Active, His-tagged

Cat. No. IL4-1557H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant human Interleukin-4 is a polypeptide chain containing 137 amino acids (25 – 153 of P05112 IL4_HUMAN) and 8 aa Histidine-based tag. It has a predicted molecular mass of 16kDa, however as result of potential glycosylation, the recombinant protein could migrate with an apparent molecular mass of 16-18 kDa in SDS-PAGE gel.
Species	Human
Source	Nicotiana Benthamiana
ProteinLength	25-153 a.a.
Description	Interleukin-4 (IL-4) is a pleiotropic cytokine that regulates diverse T and B cell responses including differentiation of naive T cells into the TH2 phenotype, promoting B cell proliferation, antibody isotype switching, and expression of other TH2 cytokines including IL-5 and IL-9. IL-4 plays a critical role in the development of allergic inflammation and asthma. It enhances both secretion and cell surface expression of IgE and IgG1. It also regulates the expression of the low affinity Fc receptor for IgE (CD23) on both lymphocytes and monocytes. IL-4 is produced primarily by activated CD4+ T-lymphocytes, NK 1.1+ T-cells (NKT), mast cells and basophils. One major role of IL-4 is priming the differentiation of precursor CD4+ T-cells into Th2 effector cells by altering their cytokine expression during activation. IL-4 has also been shown to have other stimulatory effects on B-cells including increased expression of CD23, IL-4R, IgM and MHC class II molecules on their surface.

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Form	Recombinant human IL-4 is lyophilized from 10mM Phosphate Potassium buffer pH 7.5 and 100 mM NaCl.
Molecular Mass	16kDa, apparent molecular mass of 16-18 kDa in SDS-PAGE gel.
AA Sequence	HHHHHHHHHKCDITLQEIIKTLNSLTEQKTLCTELTVTDIFAASKNTTEKETFCRAATV LRQFYSHHEKDTRCLG ATAQQFHRHKQLIRFLKRLDRNLWGLAGLNSCPVKEANQ STLENFLERLKTIMREKYSKCSS
Endotoxin	< 0.04 EU/μg protein (LAL=)
Purity	>97% by SDS-PAGE gel
Storage	This lyophilized preparation is stable at 2-8o C for short term, long storage it should be kept at -20oC. Reconstituted protein should be stored in working aliquots at –20°C. Repeated freezing and thawing is not recommended.
Reconstitution	Centrifuge vial before opening. Lyophilized protein should be reconstituted in water to a concentration of 100 ng/μl. When reconstituting the product, gently pipet and wash down the sides of the vial to ensure full recovery of the protein into solution. Optimal concentration should be determined for specific application and cell lines.

GENE INFORMATION

Gene Name	IL4 interleukin 4 [Homo sapiens]
Official Symbol	IL4
Synonyms	IL4; interleukin 4; interleukin-4; B cell growth factor 1; B_cell stimulatory factor 1; BCGF 1; BCGF1; BSF1; IL 4; lymphocyte stimulatory factor 1; MGC79402; binetrakin; pitrakinra; IL-4; BSF-1; BCGF-1;

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Gene ID	3565
mRNA Refseq	NM_000589
Protein Refseq	NP_000580
MIM	147780
UniProt ID	P05112
Chromosome Location	5q23-q31
Pathway	Allograft rejection, organism-specific biosystem; Allograft rejection, conserved biosystem; Asthma, organism-specific biosystem; Asthma, conserved biosystem; Autoimmune thyroid disease, organism-specific biosystem; Autoimmune thyroid disease, conserved biosystem; CD40/CD40L signaling, organism-specific biosystem;
Function	cytokine activity; growth factor activity; interleukin-4 receptor binding; protein binding;