Interleukin-4/Il-4 (IL-4) Human Recombinant Protein

PRODUCT OVERVIEW

Product Name	Interleukin-4/IL-4, Recombinant Protein
Full Product Name	Recombinant Human Interleukin-4/IL-4 Protein (C-6His)
Product Gene Name	IL-4 recombinant protein
Product Synonym Names	Interleukin-4; IL-4; B-Cell Stimulatory Factor 1; BSF-1; Binetrakin; Lymphocyte Stimulatory Factor 1; Pitrakinra; IL4
Host	Human Cells
Form/Format	Lyophilized from a 0.2 mum filtered solution of PBS, pH 7.4.
Purity/Purification	>95% as determined by reducing SDS-PAGE.
Preparation and Storage	Lyophilized protein should be stored at < -20 degree C, though stable at room temperature for 3 weeks. Reconstituted protein solution can be stored at 4-7 degree C for 2-7 days. Aliquots of reconstituted samples are stable at < -20 degree C for 3 months.
Molecular Weight	Molecular Mass: 16.0 kDa Actual Protein Molecular Mass: 18 kDa
Sequence Positions	His25-Ser153
3D Structure	ModBase 3D Structure for P05112
Species	Human
Endotoxin	<1.0 EU per ug as determined by LAL test.
Fusion Tag	C-6His
ISO Certification	Manufactured in an ISO 9001:2015 Certified Laboratory.
Related Product Information for IL-4 recombinant protein	Interleukin-4 (IL-4) is a pleiotropic cytokine that regulates diverse T and B cell responses including cell proliferation, survival and gene expression. IL-4 is produced by mast cells, T cells, and bone marrow stromal cells. IL-4 regulates the differentiation of naive CD4+ T cells into helper Th2 cells, characterized by their cytokine-secretion profile that includes secretion of IL-4, IL-5, IL-6, IL-10, and IL-13, which favor a humoral immune response. Another dominant function of IL-4 is the regulation of immunoglobulin class switching to the IgG1 and IgE isotypes. Excessive IL-4 production by Th2 cells has been associated with elevated IgE production and allergic response.
Other Notes	Small volumes of IL-4 recombinant protein vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.
Searchable Terms for IL-4 purchase	MBS2552859 is a recombinant protein targeting IL-4. Also known as Recombinant Human Interleukin-4/IL-4 Protein (C-6His). Host: Human Cells.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for IL-4. It may not necessarily be applicable to this product.

NCBI GI #	4504669
NCBI GeneID	3565
NCBI Accession #	NP_000580.1
UniProt Primary Accession #	P05112
UniProt Secondary Accession #	Q14630; Q6NZ77

UniProt Related Accession #	P05112
GenBank Nucleotide #	NM_000589.3
NCBI Official Full Name	interleukin-4 isoform 1
NCBI Official Synonym Full Names	interleukin 4
NCBI Official Symbol	IL4
NCBI Official Synonym Symbols	BSF1; IL-4; BCGF1; BSF-1; BCGF-1
UniProt Protein Name	Interleukin-4
UniProt Synonym Protein Names	B-cell stimulatory factor 1; BSF-1; Binetrakin; Lymphocyte stimulatory factor 1; Pitrakinra
Protein Family	Interleukin
UniProt Gene Name	IL4
UniProt Synonym Gene Names	IL-4; BSF-1
NCBI Protein Information	interleukin-4
NCBI Summary for IL-4	The protein encoded by this gene is a pleiotropic cytokine produced by activated T cells. This cytokine is a ligand for interleukin 4 receptor. The interleukin 4 receptor also binds to IL13, which may contribute to many overlapping functions of this cytokine and IL13. STAT6, a signal transducer and activator of transcription, has been shown to play a central role in mediating the immune regulatory signal of this cytokine. This gene, IL3, IL5, IL13, and CSF2 form a cytokine gene cluster on chromosome 5q, with this gene particularly close to IL13. This gene, IL13 and IL5 are found to be regulated coordinately by several long-range regulatory elements in an over 120 kilobase range on the chromosome. Two alternatively spliced transcript variants of this gene encoding distinct isoforms have been reported. [provided by RefSeq, Jul 2008]
UniProt Comments for IL-4	Participates in at least several B-cell activation processes as well as of other cell types (PubMed:3016727). It is a costimulator of DNA-synthesis. It induces the expression of class II MHC molecules on resting B-cells. 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. Positively regulates IL31RA expression in macrophages (). Stimulates autophagy in dendritic cells by interfering with mTORC1 signaling and through the induction of RUFY4 ().
Research Articles on IL-4	**1.** By establishing that IL-4 is posttranslationally regulated by TRX-promoted reduction of a disulfide bond, our findings highlight a novel regulatory mechanism of the type 2 immune response that is specific to IL-4 over IL-13.
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