Recombinant Human IL12B

Cat. No. IL12B-220H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Human interleukin 12B DNA sequences encoding the p40 subunit of the human IL-12 protein was expressed in*Sf 21 insect cells.*
Species	Human
Source	Sf21 Cells
Description	Interleukin 12 (IL-12, NK cell stimulatory factor, cytotoxic lymphocyte maturation factor) is a heterodimeric cytokine that is naturally produced by dendritic cells , macrophages and human B-lymphoblastoid cells (NC-37) in response to antigenic stimulation. IL-12 is involved in the differentiation of naive T cells into Th1 cells, which is important in resistance against pathogens. It is known as a T cell stimulating factor, which can stimulate the growth and function of T cells. It stimulates the production of IFN-γ and TNF-α from T and natural killer (NK) cells, and reduces IL-4 mediated suppression of IFN-γ. IL-12 also has anti-angiogenic activity, which can block the formation of new blood vessels. IL-12 binds to the IL-12 receptor and upon binding, IL-12R-β2 becomes tyrosine phosphorylated and provides binding sites for kinases, Tyk2 and Jak2. These are important in activating critical transcription factor proteins such as STAT4 which are implicated in IL-12 signaling in T cells and NK cells.
Molecular Weight	The predicted molecular weight of Recombinant Human IL-12 is Mr 40 kDa.
State Of Matter	Lyophilized.

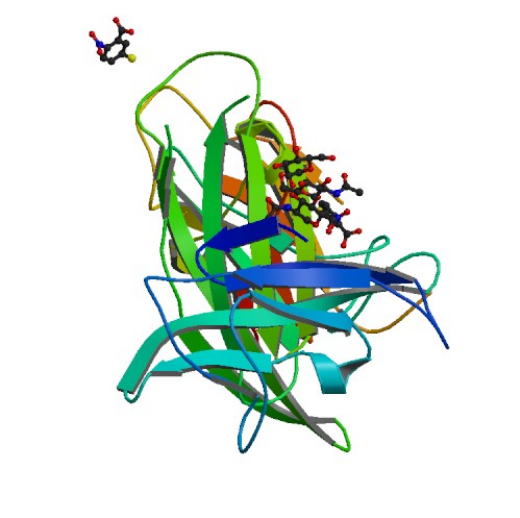
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Formulation	This recombinant protein solution was 0.2 μm filtered and formulated in modified Dulbecco's phosphate buffered saline (1X PBS) pH 7.2 – 7.3 containing 50 μg of bovine serum albumin per 1 μg of cytokine with no calcium, magnesium, or preservatives.
Purity	> 90% by SDS Page and analyzed by silver stain.
Endotoxin	< 1.0 EU/μg as determined by the LAL method.
Biological Activity	The monomeric human IL-12 p40 monomer exhibits no IL-12 antagonist activity. rhIL-12 p40 is intended for use as a control for anti-human IL-12 p40 antibodies.
Storage And Stability	This lyophilized protein is stable for six to twelve months when stored desiccated at -20°C to -70°C. After aseptic reconstitution, this protein may be stored at 2°C to 8°C for one month or at -20°C to -70°C in a manual defrost freezer. Avoid Repeated Freeze Thaw Cycles. See Product Insert for exact lot specific storage instructions.

GENE INFORMATION

Gene Name	IL12B interleukin 12B (natural killer cell stimulatory factor 2, cytotoxic lymphocyte maturation factor 2, p40) [Homo sapiens]
Synonyms	OTTHUMP00000160820; CLMF; CLMF2; IL-12B; NKSF; NKSF2; CLMF p40; Cytotoxic lymphocyte maturation factor 40 kDa subunit; IL-12 subunit p40; IL12, subunit p40; NK cell stimulatory factor chain 2; cytotoxic lymphocyte maturation factor 2, p40; interleukin 12, p40; interleukin 12B; interleukin 12B (natural killer cell stimulatory factor 2, cytotoxic; interleukin 12B (natural killer cell stimulatory factor 2, cytotoxic lymphocyte maturation factor 2, p40); IL12B
Gene ID	3593

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mRNA Refseq	NM_002187
Protein Refseq	NP_002178
UniProt ID	P29460
Chromosome Location	5q31.1-q33.1
MIM	161561
Pathway	Cytokine-cytokine receptor interaction; Jak-STAT signaling pathway; Toll-like receptor signaling pathway; Type I diabetes mellitus
Function	contributes_to cytokine activity; hematopoietin/interferon-class (D200-domain) cytokine receptor activity; interleukin-12 alpha subunit binding; interleukin-12 receptor binding; protein binding; protein homodimerization activity; signal transducer activity
PDB rendering based on 1f42.	

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