

## Recombinant Human IL12B

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

### SPECIFICATION

<b>Product Overview</b>	Recombinant Human interleukin 12B DNA sequences encoding the p40 subunit of the human IL-12 protein was expressed in <i>Sf 21 insect cells</i> .
<b>Species</b>	Human
<b>Source</b>	Sf21 Cells
<b>Description</b>	<p>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-<math>\gamma</math> and TNF-<math>\alpha</math> from T and natural killer (NK) cells, and reduces IL-4 mediated suppression of IFN-<math>\gamma</math>. 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-<math>\beta</math>2 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.</p>
<b>Molecular Weight</b>	The predicted molecular weight of Recombinant Human IL-12 is Mr 40 kDa.
<b>State Of Matter</b>	Lyophilized.

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<b>Formulation</b>	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.
<b>Purity</b>	> 90% by SDS Page and analyzed by silver stain.
<b>Endotoxin</b>	< 1.0 EU/g as determined by the LAL method.
<b>Biological Activity</b>	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.
<b>Storage And Stability</b>	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.
<b>GENE INFORMATION</b>	
<b>Gene Name</b>	IL12B interleukin 12B (natural killer cell stimulatory factor 2, cytotoxic lymphocyte maturation factor 2, p40) [ Homo sapiens ]
<b>Synonyms</b>	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
<b>Gene ID</b>	3593

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<b>mRNA Refseq</b>	NM_002187
<b>Protein Refseq</b>	NP_002178
<b>UniProt ID</b>	P29460
<b>Chromosome Location</b>	5q31.1-q33.1
<b>MIM</b>	161561
<b>Pathway</b>	Cytokine-cytokine receptor interaction; Jak-STAT signaling pathway; Toll-like receptor signaling pathway; Type I diabetes mellitus
<b>Function</b>	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
<b>PDB rendering based on 1f42.</b>	

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