Recombinant Human IL12A

Cat. No. IL12A-219H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	
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. IL-12 contributes to the antimycobacterial immune response by enhancing production of interferon-gamma, facilitating development of Th1 cells and augmenting cytotoxicity of antigen-specific T cells and natural killer cells.
Molecular Weight	The predicted molecular weight of Recombinant Human IL-12 is Mr 75 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 with no calcium, magnesium, or preservatives present.
Purity	> 97% by SDS Page and analyzed by silver stain.
Endotoxin	< 1.0 EU/μg as determined by the LAL method.
Biological Activity	The biological activity of Human Interleukin-12 is determined by the stimulation of IFN-gamma from NK cells co-stimulated with IL-18. The expected ED50 for this effect is <1.0 ng/ml, corresponding to a specific activity of >1 x 106 units/mg.
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.

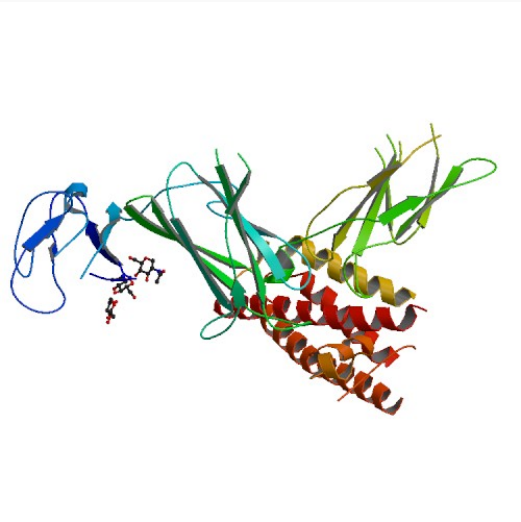
GENE INFORMATION

Gene Name	IL12A interleukin 12A (natural killer cell stimulatory factor 1, cytotoxic lymphocyte maturation factor 1, p35) [Homo sapiens]
Synonyms	NKSF1; CTL maturation factor (TCMF); Cytotoxic lymphocyte maturation factor 35 kDa subunit (CLMF p35); TSF; Edodekin-alpha; IL-12 p35; SGT2; FLJ39002; CLMF; IL-12A; NFSK; P35; Cytotoxic lymphocyte maturation factor 35 kDa subunit; IL-12 subunit p35; IL-12, subunit p35; NF cell stimulatory factor chain 1; cytotoxic lymphocyte maturation factor 1, p35; interleukin 12, p35; interleukin 12A; interleukin 12A (natural killer cell stimulatory factor 1,cytotoxic lymphocytematuration factor 1, p35); interleukin-12 alpha chain; natural killer cell stimulatory factor 1, 35 kD subunit 2; IL12A

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Gene ID	3592
mRNA Refseq	NM_000822
Protein Refseq	NP_000873
UniProt ID	P29459
Chromosome Location	3q25.33-q26
MIM	161560
Pathway	Allograft rejection; Cytokine-cytokine receptor interaction; Jak-STAT signaling pathway; RIG-I-like receptor signaling pathway; Toll-like receptor signaling pathway; Type I diabetes mellitus
Function	contributes_to cytokine activity; contributes_to growth factor activity; interleukin-12 beta subunit binding; interleukin-12 receptor binding; interleukin-27 binding; protein binding; protein heterodimerization activity

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PDB rendering based on 1f45.	

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