

Recombinant Human Interleukin-12

Cat. No. IL12-21H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant human interleukin 12 is a heterodimeric cytokine composed of covalently disulfide linked a light chain of p35 (P35, IL-12 α) and a heavy chain of p40 (P40, IL-12 β) with PI 4.5-5.5. Specifically, the heavy chain (P40) is consisted of 306 amino acids, while the light chain (P35) compounds 197 amino acids. It is approximately 75 kDa, containing 503 amino acids, non-glycosylated.
Species	Human
Source	E.coli
Description	Interleukin-12 (IL-12), as a potent factor, plays an important role in the networks of immune system. It is a multifunctional cytokine, the properties of which bridge innate and adaptive immunity, acting as a key regulator of cell-mediated immune responses through the induction of T helper 1 differentiation. By promoting IFN- γ production, proliferation, and cytolytic activity of natural killer and T cells, IL-12 induces cellular immunity. IL-12 not only can facilitate the maturation of antigen presenting cells (APC), especially for dendritic cells (DC), but also can be the third signal to change properties of CD8 T cells and increase generation of effector and memory cells. Treatment with IL-12 can inhibit bacterial, virus and intracellular parasites, produce an effect of anti-tumor, and enhance autoimmunity.
Purity	Greater than 98% by SDS-PAGE gel and HPLC analyses.
Specification	10 μ g/bottle. Any other specifications, please feel free to contact us.

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Formulation	Sterile filtered through 0.2 micron filter, added the human serum albumin and mannitol and then lyophilized from 10mMPBS, pH=7.2.
Specific Activity	the ED ₅₀ was determined by the stimulation of IFN- γ production by human peripheral blood mononuclear cells co-stimulated with IL-12 is ≤ 5 ng/ml, corresponding to a specific activity of ≥ 8000 units/ μ g.
Endotoxin	Endotoxin level is less than 1 EU/ μ g.
Reconstitution	Centrifuge the vial prior to opening. Reconstitute in water to a concentration of 1ml. This solution can then be diluted into other aqueous buffers and stored at 4°C for 1 day or -20°C for future use.
Storage	The lyophilized is stable for 3 months at room temperature, can be stored for 2 years at 4°C, but best stored at -20°C. Reconstituted IL-12 should be stored in working aliquots at -20°C.

GENE INFORMATION

Gene Name	IL12A
Synonyms	interleukin12A(natural killer cell stimulatory factor 1, cytotoxic lymphocyte maturation factor 1, p35); P35; CLMF; NFSK; NKSF1; IL-12A; natural killer cell stimulatory factor 1, 35 kD subunit; cytotoxic lymphocyte maturation factor 1, p35; interleukin 12 p35; IL-12 subunit p35; NF cell stimulatory factor chain 1; interleukin-12 alpha chain; IL12A_HUMAN; Interleukin-12 subunit alpha [Precursor]; IL-12 subunit p35; Cytotoxic lymphocyte maturation factor 35 kDa subunit; CLMF p35; IL12A
mRNA Refseq	NM_000882

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Protein Refseq	NP_000873
MIM	161560
UniProt ID	P29459
Chromosome Location	3q25.33-q26
Gene ID	3593
Pathway	Cytokine-cytokine receptor interaction; Jak-STAT signaling pathway; Toll-like receptor signaling pathway; Type I diabetes mellitus.
Function	Contributes to cytokine activity; interleukin-12 beta subunit binding; interleukin-12 receptor binding; interleukin-27 binding; protein binding; protein heterodimerization activity.
Crystal structure of human IL-12 FromPDB1F455	