

Recombinant Human interleukin 12 Protein, His tagged

Cat. No. IL12-249H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant human IL-12B protein (P29460) (Ile 23-Ser 328) and human IL-12A protein (P29459) (Arg 23-Ser 219) linked by a GSGSSRGGSGSGSGGGGSK linker with a His tag at the C-terminus was expressed in HEK293.
Species	Human
Source	HEK293
ProteinLength	IL-12B: 23-328aa IL-12A: 23-219aa
Description	IL-12 is involved in the differentiation of naive T cells into Th1 cells. It is known as a T cell-stimulating factor, which can stimulate the growth and function of T cells. It stimulates the production of interferon-gamma (IFN- γ) and tumor necrosis factor-alpha (TNF- α) from T cells and natural killer (NK) cells, and reduces IL-4 mediated suppression of IFN- γ . T cells that produce IL-12 have a coreceptor, CD30, which is associated with IL-12 activity. IL-12 plays an important role in the activities of natural killer cells and T lymphocytes. IL-12 mediates enhancement of the cytotoxic activity of NK cells and CD8+ cytotoxic T lymphocytes. There also seems to be a link between IL-2 and the signal transduction of IL-12 in NK cells. IL-2 stimulates the expression of two IL-12 receptors, IL-12R- β 1 and IL-12R- β 2, maintaining the expression of a critical protein involved in IL-12 signaling in NK cells. Enhanced functional response is demonstrated by IFN- γ production and killing of target cells. IL-12 also has anti-angiogenic activity, which means it can block the formation of new blood vessels. It

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does this by increasing production of interferon gamma, which in turn increases the production of a chemokine called inducible protein-10 (IP-10 or CXCL10). IP-10 then mediates this anti-angiogenic effect. Because of its ability to induce immune responses and its anti-angiogenic activity, there has been an interest in testing IL-12 as a possible anti-cancer drug. However, it has not been shown to have substantial activity in the tumors tested to this date. There is a link that may be useful in treatment between IL-12 and the diseases psoriasis & inflammatory bowel disease. There has also been research indicating that interleukin 12 is linked with interleukin 23 and antibodies against these factors have a possible role in creating an anti-inflammatory effect in inflammatory bowel disease.

Tag	C-His
Molecular Mass	59.1 kDa
Endotoxin	Less than 1.0 EU/μg by the LAL method.
Purity	>95% as determined by SDS-PAGE.
Storage	Please avoid repeated freeze-thaw cycles. Samples are stable for up to twelve months from date of receipt at -20 to -80 centigrade. It is recommended that aliquot the reconstituted solution to minimize freeze-thaw cycles.
Storage Buffer	Lyophilized from a 0.2 μm filtered solution of PBS, pH7.4, 5% Trehalose, 5% mannitol.
Reconstitution	Reconstitute at 250 μg/mL in sterile water.
GenelD 2	3592

GENE INFORMATION

Gene Name	IL12B interleukin 12B [Homo sapiens (human)]
Official Symbol	IL12B
Synonyms	IL12B; interleukin 12B (natural killer cell stimulatory factor 2, cytotoxic lymphocyte maturation factor 2, p40); NKSF2; interleukin-12 subunit beta; CLMF; CLMF2; cytotoxic lymphocyte maturation factor 2; p40; IL 12B; IL12; subunit p40; interleukin 12; interleukin 12 beta chain; natural killer cell stimulatory factor; 40 kD subunit; natural killer cell stimulatory factor 2; NKSF; CLMF p40; IL-12 subunit p40; IL12, subunit p40; interleukin 12, p40; interleukin-12 beta chain; NK cell stimulatory factor chain 2; cytotoxic lymphocyte maturation factor 40 kDa subunit; natural killer cell stimulatory factor, 40 kD subunit; IL-12B;
Gene ID	3593
mRNA Refseq	NM_002187
Protein Refseq	NP_002178
MIM	161561
UniProt ID	P29460
Gene Name 2	IL12A interleukin 12A [Homo sapiens (human)]
Official Symbol 2	IL12A
Synonyms 2	IL12A; interleukin 12A; NKSF1; interleukin-12 subunit alpha; CLMF; cytotoxic lymphocyte maturation factor 1; p35; IL 12; subunit p35; IL 12A; IL35 subunit;

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interleukin 12; interleukin 12 alpha chain; natural killer cell stimulatory factor 1; 35 kD subunit; NF cell stimulatory factor chain 1; NFSK; CLMF p35; IL-12 subunit p35; IL-12, subunit p35; interleukin 12, p35; interleukin-12 alpha chain; NK cell stimulatory factor chain 1; cytotoxic lymphocyte maturation factor 1, p35; cytotoxic lymphocyte maturation factor 35 kDa subunit; natural killer cell stimulatory factor 1, 35 kD subunit; P35; IL-12A

mRNA Refseq 2 [NM_000882](#)

Protein Refseq 2 [NP_000873](#)

MIM 2 [161560](#)

UniProt ID 2 [P29459](#)

Protein on SDS-PAGE under reducing (R) condition.

