

DATASHEET

Version 20181206

IL-12, Human(HEK 293-expressed)

Cat. No.: Z03023-1

Size: 1.0 mg

Synonyms: NKSF, CTL maturation factor (TCMF), Cytotoxic lymphocyte maturation factor (CLMF), TSF

Description:

Interleukin 12 (IL-12), also known as natural killer cell stimulatory factor (NKSF) or cytotoxic lymphocyte maturation factor (CLMF), is a pleiotropic cytokine originally identified in the medium of activated human B lymphoblastoid cell lines. The p40 subunit of IL-12 has been shown to have extensive amino acid sequence homology to the extracellular domain of the human IL-6 receptor while the p35 subunit shows distant but significant sequence similarity to IL-6, G-CSF, and chicken MGF. These observations have led to the suggestion that IL-12 might have evolved from a cytokine/soluble receptor complex. Human and mouse IL-12 share 70% and 60% amino acid sequence homology in their p40 and p35 subunits, respectively. IL-12 apparently shows species specificity with human IL-12 reportedly showing minimal activity in the mouse system.

Amino Acid Sequence:

p35 Subunit:p40 Subunit:

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00001 RNLVPVATPD GMFPCLLHHSQ NLLRAVSNML QKARQTLEFY
00041 PCTSEEIDHE DITKDKTSTV EACLPLELTK NESCLNSRET
00081 SFITNGSCLA SRKTSFMAL CLSSIYEDLK MYQVEFKTMN
00121 AKLLMDPKRQ IFLDQNLAV IDELMQALNF NSETVPQKSS
00161 LEEPDFYKTK IKLCILLHAF RIRAVTIDRV MSYLNASIWE
00201 LKKDVMVVEL DWYPDAPGEM VVLTCDTPEE DGITWTLQDS
00241 SEVLGSGKTL TIQVKEFGDA GQYCHKGGE VLSHSLLLH
00281 KKEDGIWSTD ILKDQKEPKN KTFRLCEAKN YSGRFTCWLL
00321 TTISTDLTFS VKSSRGSSDP QGVTCGAATL SAERVGRDNK
00361 EYEYSVEECQE DSACPAAEES LPIEVMVDAV HKLKYENYTS
00401 SFFIRDIKPK DPPKNLQLKP LKNSRQVEVS WEYPDTWSTP
00441 HSYFSLTFCV QVQGSKREK KDRVFTDKTS ATVICRKNAS
00481 ISVRAQDRYY SSSWSEWASV PCS
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Source: HEK 293

Species: Human

Biological Activity: $EC_{50} < 2$ ng/ml, measured by the induction of IFN- γ from NK cells co-stimulated with IL-18, corresponding to a specific activity of $> 5 \times 10^5$ units/mg.

Molecular Weight: Approximately 75 kDa, consisting of a 306 amino acid residue p40 subunit and a 197 amino acid residue p35 subunit.

Formulation: Lyophilized after extensive dialysis against PBS.

Reconstitution: Reconstituted in ddH₂O or PBS at 100 μ g/ml.

Purity: $> 95\%$ as analyzed by SDS-PAGE and HPLC.

Endotoxin Level: < 0.2 EU/ μ g, determined by LAL method.

Storage: Lyophilized recombinant Human Interleukin 12(IL-12) remains stable up to 6 months at lower than -70°C from date of receipt. Upon reconstitution, rh-IL12 should be stable up to 1 week at 4°C or up to 2 months at -20°C.