



## User Manual

**Interleukin-12 (IL-12) (Human)**

**Cat. No. HCILP-12011**

**Description:**

Interleukin-12 (IL-12), also known as NKSF or 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 murine 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 murine system.

**Source:**

CHO

**Unit:**

2 µg

**Reconstitution:**

We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute in sterile distilled water or aqueous buffer containing 0.1% BSA to a concentration of 0.1-1.0 mg/mL. Stock solutions should be apportioned into working aliquots and stored at < -20°C. Further dilutions should be made in appropriate buffered solutions.

**Formulation:**

Lyophilized from a 0.2 µm filtered concentrated solution in PBS, pH 7.4.

**Storage:**

This lyophilized preparation is stable at 2-8°C, but should be kept at -20°C for long term

storage, preferably desiccated. Upon reconstitution, the preparation is stable for up to one week at 2-8°C. For maximal stability, apportion the reconstituted preparation into working aliquots and store at -20°C to -70°C. Avoid repeated freeze/thaw cycles.

### **Molecular Weight:**

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

### **Endotoxin:**

Less than 1 EU/μg of IL-12 as determined by LAL method.

### **Usage:**

This material is offered by Cyagen Biosciences for research, laboratory or further evaluation purposes. FOR RESEARCH USE ONLY. NOT INTENDED FOR ANY ANIMAL OR HUMAN THERAP EUTIC OR DIAGNOSTIC USE.

### **Biological Activity:**

The ED50 determined by a cell proliferation assay using PHA-activated human T lymphoblasts is less than 0.2 ng/mL, corresponding to a specific activity of  $> 5.0 \times 10^6$  IU/mg.

### **Physical Appearance:**

Sterile filtered white lyophilized (freeze-dried) powder.

### **AA Sequence:**

p35 Subunit: RNLPVATPDP GMFPCLHHSQ NLLRAVSNML QKARQTLEFY  
PCTSEEIDHE DITKDKTSTV EACLPLELTK NESCLNSRET SFITNGSCLA

SRKTSFMMAL CLSSIYEDLK MYQVEFKTMN AKLLMDPKRQ IFLDQNMLAV  
IDELMQALNF NSETVPQKSS LEEPDFYKTK IKLCILLHAF RIRAVTIDRV MSYLNAS p40  
Subunit: IWELKKDVYV VELDWYPDAP GEMVLTCDT PEEDGITWTL DQSSEVLGSG  
KTLTIQVKEF GDAGQYTCHK GGEVLSHSL LLHKKEDGIW STDILKDQKE  
PKNKTFLRCE AKNYSGRFTC WWLTTISTDL TFSVKSSRGS SDPQGVTCGA  
ATLSAERVRG DNKEYEYSVE CQEDSACPAA EESLPIEVMV DAVHKLKYEN  
YTSSFFIRDI IKPDPPKNLQ LKPLKNSRQV EVSWEYPDTW STPHSYFSLT  
FCVQVQGKSK REKKDRVFTD KTSATVICRK NASISVRAQD RYYSSSWSEW ASVPCS

**Purity:**

> 95% by SDS-PAGE and HPLC analyses.

Material Safety Data Sheets (MSDSs) are available upon request.

The Certificate of Analysis (COA), which provides detailed quality control information for each product, is also available at the Cyagen website.

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