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# User Manual

**Interleukin-6 (IL-6) (Human)**

**Cat. No. HEILP-06012**

## Description:

Interleukin-6 (IL-6) is a multifunctional protein that plays important roles in host defense, acute phase reactions, immune responses, and hematopoiesis. According to the type of biological responses being studied, IL-6 was previously named interferon-β2, 26-kDa protein, B cell stimulatory factor-2 (BSF-2), hybridoma/plasmacytoma growth factor, hepatocyte stimulating factor, cytotoxic T cell differentiation factor, and macrophage-granulocyte inducing factor 2A (MGI-2A). The IL-6 designation was adopted after these variously named proteins were found to be identical on the basis of their amino acid and/or nucleotide sequences. IL-6 is expressed by a variety of normal and transformed cells including T cells, B cells, monocytes/macrophages, fibroblasts, hepatocytes, keratinocytes, astrocytes, vascular endothelial cells, and various tumor cells. The production of IL-6 is upregulated by numerous signals including mitogenic or antigenic stimulation, LPS, calcium ionophore, IL-1, IL-2, IFN, TNF, PDGF, and viruses. IL-6 expression in monocytes is inhibited by IL-4 and IL-13.

## Source:

*Escherichia coli*

## Unit:

20 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 20.7 kDa, a single non-glycosylated polypeptide chain containing 183 amino acids.

## Endotoxin:

Less than 1 EU/µg of IL-6 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 IL-6-dependent murine 7TD1 cells is less than 0.1 ng/mL, corresponding to a specific activity of > $1.0 \times 10^7$ IU/mg.

## Physical Appearance:

Sterile filtered white lyophilized (freeze-dried) powder.

## AA Sequence:

VPPGEDSKDV AAPHRQPLTS SERIDKQIRY ILDGISALRK ETCNKSNMCE SSKEALAENN LNLPKMAEKD GCFQSGFNEE TCLVKIITGL LEFEVYLEYL QNRFESSEEQ ARAVQMSTKV LIQFLQKKAK NLDAITTPDP TTNASLLTKL QAQNQWLQDM TTHLILRSFK EFLQSSLRAL RQM

## Purity:

> 96% 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.