



## User Manual

**Interleukin-10 (IL-10) (Human)**

**Cat. No. HEILP-10013**

**Description:**

Interleukin-10 (IL-10), also known as cytokine synthesis inhibitory factor (CSIF), is the charter member of the IL-10 family of  $\alpha$ -helical cytokines that also includes IL-19, IL-20, IL-22, IL-24, and IL-26/AK155. IL-10 is secreted by many activated hematopoietic cell types as well as hepatic stellate cells, keratinocytes, and placental cytotrophoblasts. Whereas human IL-10 is active on mouse cells, mouse IL-10 does not act on human cells. IL-10 is a 178 amino acid molecule that contains two intrachain disulfide bridges and is expressed as a 36 kDa noncovalently associated homodimer. The IL-10 dimer binds to two IL-10 R $\alpha$ /IL-10R1 chains, resulting in recruitment of two IL-10 R $\beta$ /IL-10R2 chains and activation of a signaling cascade involving JAK1, TYK2, and STAT3. IL-10R $\beta$  does not bind IL-10 by itself but is required for signal transduction. IL-10 is a critical molecule in the control of viral infections and allergic and autoimmune inflammation. It promotes phagocytic uptake and Th2 responses but suppresses antigen presentation and Th1 proinflammatory responses.

**Source:**

*Escherichia coli*

**Unit:**

1 mg

**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  $< -20^{\circ}\text{C}$ . Further dilutions should be made in appropriate buffered solutions.

**Formulation:**

Lyophilized from a 0.2  $\mu\text{m}$  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 18.6 kDa, a single non-glycosylated polypeptide chain containing 160 amino acids.

**Endotoxin:**

Less than 1 EU/μg of IL-10 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 murine MC/9-2 cells is less than 1 ng/mL, corresponding to a specific activity of  $> 1.0 \times 10^6$  IU/mg.

**Physical Appearance:**

Sterile filtered white lyophilized (freeze-dried) powder.

**AA Sequence:**

SPGQGTQSEN SCTHFPGNLP NMLRDLRDAF SRVKTFFQMK DQLDNLLLKE  
SLLEDFKGYL GCQALSEMIQ FYLEEVMPQA ENQDPDIKAH VNSLGENLKT  
LRLRLRRCHR FLPCENKSKA VEQVKNAFNK LQEKGIYKAM SEFDIFINYI  
EAYMTMKIRN

**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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