

## IL-10, Human

**Cat. No.:** Z02707-1

**Size:** 1.0 mg

**Synonyms:** Interleukin-10 (IL-10), Human;

### Description:

Interleukin 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.

### Amino Acid Sequence:

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00001 SPGQGTQSEN SCTHFGNLP NMLRDLRDAF SRVKTFQMK
00041 DQLDNLLKE SLLEDFKGYL GCQALSEMIQ FYLEEVMPQA
00081 ENQDPDIKAH VNSLGENLKT LRLRLRCHR FLPCENKSKA
00121 VEQVKNAFNK LQEKGIYKAM SEFDIFINYI EAYMTMKIRN
00161
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**Source:** *E. coli*

**Species:** Human

**Biological Activity:** Fully biologically active when compared to standard. The ED<sub>50</sub> as 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.

**Molecular Weight:** Approximately 18.6 kDa, a single non-glycosylated polypeptide chain containing 160 amino acids.

**Formulation:** Lyophilized from a 0.2  $\mu$ m filtered concentrated solution in PBS, pH 7.4.

**Appearance:** Sterile Filtered White lyophilized (freeze-dried) powder.

**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  $\leq -20$  °C. Further dilutions should be made in appropriate buffered solutions.

**Purity:**  $> 95$  % by SDS-PAGE and HPLC analyses.

**Endotoxin Level:** Less than 1 EU/ $\mu$ g of rHuIL-10 as determined by LAL method.

**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.