

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 α -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 α /IL-10R1 chains, resulting in recruitment of two IL-10 R β /IL-10R2 chains and activation of a signaling cascade involving JAK1, TYK2, and STAT3. IL-10R β 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:

```
00001 SPGQGTQSEN SCTHFPGNLP NMLRDLRDAF SRVKTFQMK
00041 DQLDNLLKE SLLEDFKGYL GCQALSEMIQ FYLEEVMPQA
00081 ENQDPDIKAH VNSLGENLKT LRLRLRCHR FLPCENKSKA
00121 VEQVKNAFNK LQEKGIYKAM SEFDIFINYI EAYMTMKIRN
00161
```

Source: *E. coli*

Species: Human

Biological Activity: Fully biologically active when compared to standard. The ED₅₀ 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 μ 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 ≤ -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/ μ 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.