**DESCRIPTION**

Source: Spodoptera frugiperda, Sf 21 (baculovirus)-derived human IL-10 protein
Ser19-Asn178
Accession # P22301

N-terminal Sequence Analysis
Ser19

Structure / Form: Noncovalently-linked homodimer

Predicted Molecular Mass: 18.6 kDa

**SPECIFICATIONS**

Activity: Measured in a cell proliferation assay using MC/9-2 mouse mast cells. Thompson-Snipes, L. et al. (1991) J. Exp. Med. 173:507. The ED50 for this effect is 0.075-0.750 ng/mL.

Endotoxin Level: <0.10 EU per 1 μg of the protein by the LAL method.

Purity: >97%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.

Formulation: Lyophilized from a 0.2 μm filtered solution in PBS with BSA as a carrier protein. See Certificate of Analysis for details.

**PREPARATION AND STORAGE**

Reconstitution: Reconstitute at 50 μg/mL in sterile PBS containing at least 0.1% human or bovine serum albumin.

Shipping: The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

Stability & Storage:
- 12 months from date of receipt, -20 to -70 °C as supplied.
- 1 month, 2 to 8 °C under sterile conditions after reconstitution.
- 3 months, -20 to -70 °C under sterile conditions after reconstitution.

**DATA**

**SEC-MALS**

Recombinant Human IL-10 Protein SEC-MALS
Recombinant human IL-10 (Catalog # 217-IL) has a molecular weight (MW) of 40.4 kDa as analyzed by SEC-MALS, suggesting that this protein is a homodimer. MW may differ from predicted MW due to post-translational modifications (PTMs) present (i.e. Glycosylation).

**Bioactivity**

Recombinant Human IL-10 Protein Bioactivity (Recombinant Human IL-10 (Catalog # 217-IL) stimulates cell proliferation of MC/9-2 mouse mast cells. The activity is approximately 2-fold greater than the top competitor's Recombinant Human IL-10.
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 (1, 2). IL-10 is secreted by many activated hematopoietic cell types as well as hepatic stellate cells, keratinocytes, and placental cytotrophoblasts (2-5). Mature human IL-10 shares 72%-86% amino acid sequence identity with bovine, canine, equine, feline, mouse, ovine, porcine, and rat IL-10. Whereas human IL-10 is active on mouse cells, mouse IL-10 does not act on human cells (6, 7). IL-10 is a 178 amino acid molecule that contains two intrachain disulfide bridges and is expressed as a 36 kDa noncovalently associated homodimer (6, 8, 9). The IL-10 dimer binds to two IL-10 Rα/IL-10 R1 chains, resulting in recruitment of two IL-10 Rβ/IL-10 R2 chains and activation of a signaling cascade involving JAK1, TYK2, and STAT3 (10). IL-10 Rβ does not bind IL-10 by itself but is required for signal transduction (1). IL-10 Rβ also associates with IL-20 Rα, IL-22Rα, or IL-28 Rα to form the receptor complexes for IL-22, IL-26, IL-28, and IL-29 (11-13). IL-10 is a critical molecule in the control of viral infections and allergic and autoimmune inflammation (14-16). It promotes phagocytic uptake and Th2 responses but suppresses antigen presentation and Th1 proinflammatory responses (2).

References: