

DESCRIPTION

Source	<i>E. coli</i> -derived Ser19-Asn178 Accession # Q28374
N-terminal Sequence Analysis	Ser19
Structure / Form	Noncovalently-linked homodimer
Predicted Molecular Mass	19 kDa

SPECIFICATIONS

Activity	Measured in a cell proliferation assay using MC/9-2 mouse mast cells. Thompson-Snipes, L. <i>et al.</i> (1991) <i>J. Exp. Med.</i> 173 :507. The ED ₅₀ for this effect is typically 0.25-1.5 ng/mL.
Endotoxin Level	<1.0 EU per 1 µg of the protein by the LAL method.
Purity	>97%, by SDS-PAGE under reducing conditions and visualized by silver stain.
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 10 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	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 3 months, 2 to 8 °C under sterile conditions after reconstitution.

BACKGROUND

Interleukin 10 (IL-10), initially designated cytokine synthesis inhibitory factor (CSIF), was originally identified as a product of mouse T helper 2 (Th2) cells that inhibited the cytokine production by Th1 cells. It is a pleiotropic cytokine that regulates the immune and inflammatory responses of hematopoietic cells (1, 2). IL-10 has immunosuppressive activities and has been shown to inhibit the effector functions of monocyte/macrophage and CD4⁺ T cells. Conversely, IL-10 has immunostimulatory activities and can induce the proliferation and cytotoxic activity of CD8⁺ T cells and NK cells. IL-10 also regulates the growth and differentiation of B cells, mast cells, dendritic cells and neutrophils (1). The biological activities of IL-10 is mediated by the heteromeric IL-10 receptor complex, which is composed of the ligand-binding IL-1 R α and the accessory IL-10 R β subunits. Both subunits belong to the class II cytokine receptor family. IL-10 R β is also utilized as a subunit in the heterodimer receptor complex for IL-22, IL-28 and IL-29. Besides IL-10, five novel cytokines (IL-19, -20, -22, -24, and -26) that share structural and limited sequence homology with IL-10 have been identified. These proteins constitute the IL-10 cytokine family (3).

Equine IL-10 cDNA encodes a 178 amino acid residue (aa) precursor protein with an 18 aa signal peptide and 160 aa mature protein that contains two potential N-linked glycosylation sites. Analogous to human IL-10, equine IL-10 likely exists as nondisulfide-linked homodimers. Equine IL-10 shares 71% and 78% aa sequence homology with mouse and human IL-10, respectively.

References:

1. Moore, K. *et al.* (2001) *Annu. Rev. Immunol.* **19**:683.
2. Mocellin, S. *et al.* (2003) *Trends in Immunol.* **23**:36.
3. Conti, P. *et al.* (2003) *Immunol. Letters* **88**:171.