

Recombinant Human IL-10

Information

Accession #	P22301
Alternate Names	CSIF; CSIFMGC126450; Cytokine synthesis inhibitory factor; GVHDS; IL10; IL-10; IL10A
Source	Human embryonic kidney cell, HEK293-derived human IL-10 protein
Protein sequence	Ser19-Asn178
M.Wt	18.6 kDa
Appearance	Solution protein.
Stability & Storage	Avoid repeated freeze-thaw cycles. It is recommended that the protein be aliquoted for optimal storage. 3 years from date of receipt, -20 to -70 °C as supplied.
Concentration	0.2 mg/mL
Formulation	Dissolved in sterile PBS buffer.
Reconstitution	We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. This solution can be diluted into other aqueous buffers.
Biological Activity	Measured in a cell proliferation assay using MC/9-2 mouse mast cells. The EC50 for this effect is 50-150 pg/mL.
Shipping Condition	Shipping with dry ice.
Handling	Centrifuge the vial prior to opening.
Usage	For Research Use Only! Not to be used in humans.

Quality Control

Purity	> 95%, determined by SDS-PAGE.
Endotoxin	<0.010 EU per 1 ug of the protein by the LAL method.

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 [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 R alpha /IL-10 R1 chains, resulting in recruitment of two IL-10 R beta /IL-10 R2 chains

and activation of a signaling cascade involving JAK1, TYK2, and STAT3 ^[10]. IL-10 R beta does not bind IL-10 by itself but is required for signal transduction ^[1]. IL-10 R beta also associates with IL-20 R alpha, IL-22R alpha, or IL-28 R alpha 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].

Reference

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