

General Information

Synonyms	CSIF; CSIFMGC126450; Cytokine synthesis inhibitory factor; GVHDS; IL10; IL-10; IL10A
Accession #	P22301
Source	Human embryonic kidney cell, HEK293-derived human IL-10 protein
	Ser19-Asn178
Predicted Molecular weight	18.6 kDa

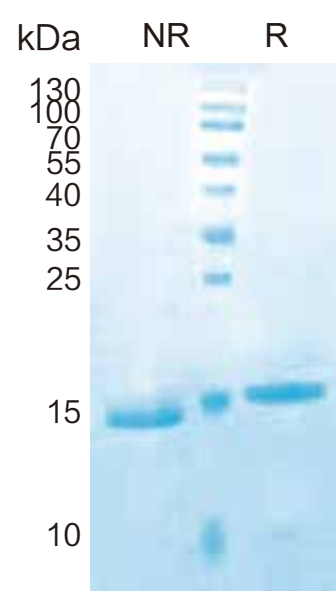
Components and Storage

Formulation	Solution protein. Dissolved in sterile PBS buffer. This solution can be diluted into other aqueous buffers. Centrifuge the vial prior to opening.
Storage and Stability	Avoid repeated freeze-thaw cycles. It is recommended that the protein be aliquoted for optimal storage. 12 months from date of receipt, -20 to -70 °C as supplied.
Shipping	Shipping with dry ice.

Quality

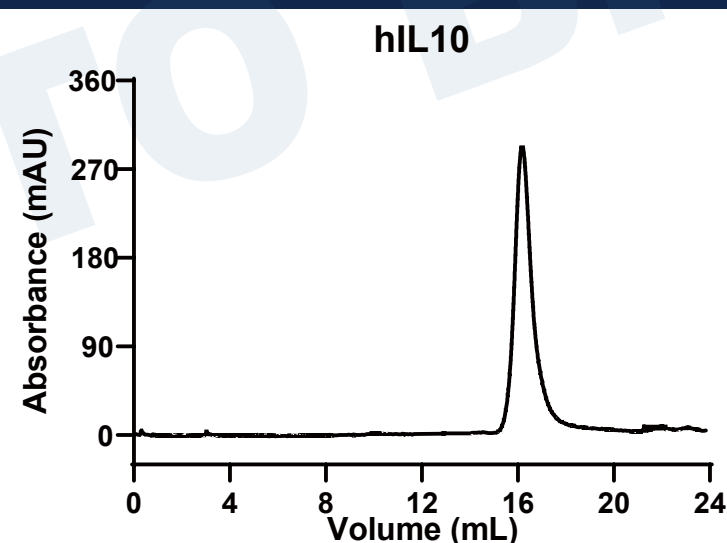
Purity	> 95%, determined by SDS-PAGE.
Endotoxin Level	<0.010 EU per 1 ug of the protein by the LAL method.
Activity	Measured in a cell proliferation assay using MC/9-2 mouse mast cells. The EC50 for this effect is 50-150 pg/mL.

SDS-PAGE



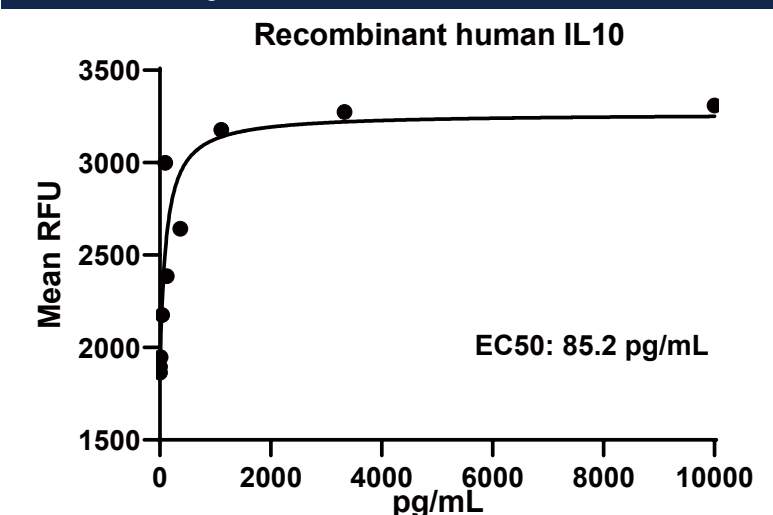
4 ug/lane protein was resolved with SDS-PAGE under non-reducing (NR) and reducing (R) conditions and visualized by Coomassie Blue staining.

Gel filtration



Size-exclusion chromatography of recombinant human IL10 protein (280 nm absorbance)

Bioactivity



Recombinant human IL10 (Catalog # HF-1010) stimulates cell proliferation of the MC/9-2 mouse mast cells.

Background

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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