

# Recombinant Rat IL10 Protein

**For Research Use Only**

## 1. Basic Product Information

Catalog No.: REP52333

Size: 10ug, 100ug

Protein Name: Interleukin-10 (IL-10) (Cytokine synthesis inhibitory factor) (CSIF)

Synonym: Il10, Il-10

UniProt ID: P29456

UniProt Link: [www.uniprot.org/uniprotkb/P29456/entry](http://www.uniprot.org/uniprotkb/P29456/entry)

Species Source: Rat

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 178 AA

Molecular Weight: 20 KD

Protein Tag: C-terminal His6

## 2. Amino Acid Sequence

MPGSALLCCLLLLAGVKTSGHGSIRGDNNCTHFPVSQTHMLRELRAAFSQVKTFQKKDQLDNILLT  
DSLLQDFKGYLGCCQALSEMIKFYLVEMPQAENHGPEIKEHLNSLGEKLTWLWQLRRCHRFLPCEN  
KSKAVEQVKNDNFNKLQDKGVYKAMNEFDIFINCIEAYVTLKMKN

## 3. Buffer Composition

Liquid format: PBS-based buffer containing 50% glycerol. Glycerol concentration can be customized upon customer request; please state special requirements when placing your order.

Lyophilized format: Buffer before lyophilization is PBS supplemented with 6% trehalose.

## 4. Storage Conditions

Upon receipt, store the product at -20 °C or -80 °C. Aliquot the product for on-demand use to preserve protein activity and prevent denaturation and inactivation caused by repeated freeze-thaw cycles.

## 5. Product Description

This product is recombinant Interleukin-10 (IL-10) (Cytokine synthesis inhibitory factor) (CSIF) produced using the HEK293T eukaryotic cell expression system. It is suitable for in-vitro functional assays, protein-protein interaction studies, antibody preparation and other biomedical research applications.

**Protein Function:** Major immune regulatory cytokine that acts on many cells of the immune system where it has profound anti-inflammatory functions, limiting excessive tissue disruption caused by inflammation. Mechanistically, IL10 binds to its heterotetrameric receptor comprising IL10RA and IL10RB leading to JAK1 and STAT2-mediated phosphorylation of STAT3. In turn, STAT3 translocates to the nucleus where it drives expression of anti-inflammatory mediators. Targets antigen-presenting cells (APCs) such as macrophages and monocytes and inhibits their release of pro-inflammatory cytokines including granulocyte-macrophage colony-stimulating factor /GM-CSF, granulocyte colony-stimulating factor/G-CSF, IL-1 alpha, IL-1 beta, IL-6, IL-8 and TNF. Also interferes with antigen presentation by reducing the expression of MHC-class II and co-stimulatory molecules, thereby inhibiting their ability to induce T cell activation (By similarity). In addition, controls the inflammatory response of macrophages by reprogramming essential metabolic pathways including mTOR signaling (By similarity).

**Subcellular Localization:** Secreted .

## 6. Notes

- Avoid repeated freeze-thaw cycles to maintain protein stability and biological activity.
- Please specify special buffer-composition requirements at the time of order placement.
- For research use only. Not intended for clinical diagnosis, therapeutic use or commercial manufacturing.