

# Human LIF Protein (Fc Tag)

Catalog Number: 14890-H02H



Sino Biological  
Biological Solution Specialist

## General Information

### Gene Name Synonym:

CDF; DIA; HILDA; Leukemia Inhibitory Factor; MLPLI

### Protein Construction:

A DNA sequence encoding the human LIF (P15018)(Met1-Phe202) was expressed with the Fc region of human IgG1 at the C-terminus.

**Source:** Human

**Expression Host:** HEK293 Cells

## QC Testing

**Purity:** > 95 % as determined by SDS-PAGE

### Bio Activity:

**Measured by its ability to inhibit the proliferation of M1 mouse myeloid leukemia cells. The  $ED_{50}$  for this effect is typically 2-12 ng/mL.**

### Endotoxin:

< 1.0 EU per  $\mu$ g of the protein as determined by the LAL method

### Stability:

Samples are stable for up to twelve months from date of receipt at -70 °C

**Predicted N terminal:** Ser 23

### Molecular Mass:

The recombinant human LIF/Fc is a disulfide-linked homodimer. The reduced monomer comprises 421 amino acids and has a predicted molecular mass of 46.7 kDa. The apparent molecular mass of the protein is approximately 63 kDa in SDS-PAGE under reducing conditions.

### Formulation:

Lyophilized from sterile PBS, pH 7.4.

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

## Usage Guide

### Storage:

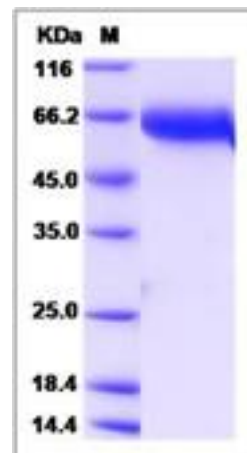
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

**Avoid repeated freeze-thaw cycles.**

### Reconstitution:

Detailed reconstitution instructions are sent along with the products.

## SDS-PAGE:



## Protein Description

Leukemia inhibitory factor (LIF) is a pleiotropic glycoprotein belonging to the IL-6 family of cytokines. It's involved in growth promotion and cell differentiation of different types of target cells, influence on bone metabolism, cachexia, neural development, embryogenesis and inflammation. LIF has potent proinflammatory property, being the inducer of the acute phase protein synthesis and affecting the cell recruitment into the area of damage or inflammation. LIF is also one of the cytokines that are capable to regulate the differentiation of embryonic stem cells, hematopoietic and neuronal cells. LIF binds to the specific LIF receptor (LIFR- $\alpha$ ) which forms a heterodimer with a specific subunit common to all members of that family of receptors, the GP13 signal transducing subunit. This leads to activation of the JAK/STAT and MAPK cascades. Due to its polyfunctional activities, LIF is involved in the pathogenic events and development of many diseases of various origin.

## References

- 1.Salas EM, *et al.* (2011) LIF, a Novel STAT5-Regulated Gene, Is Aberrantly Expressed in Myeloproliferative Neoplasms. *Genes Cancer*. 2 (5): 593-6.
- 2.Chodorowska G, *et al.* (2004) Leukemia inhibitory factor (LIF) and its biological activity. *Ann Univ Mariae Curie Skłodowska Med*. 59 (2): 189-93.
- 3.Garcia-Campana AM, *et al.* (2007) LIF detection of peptides and proteins in CE. *Electrophoresis*. 28 (1-2): 208-32.

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