

**BACKGROUND:**

Leukemia inhibitory factor (LIF) is a member of the interleukin 6 (IL-6) family that is made by a variety of adult and embryonic tissues. LIF signals through the glycoprotein 130 (gp130)/LIF receptor (LIFR) heterodimer to activate STAT3 and MAPK signaling. LIF functions during hematopoietic differentiation, neuronal cell differentiation, kidney development, and inflammatory processes. Human LIF may also be an important factor during human embryonic stem cell (hESC) self-renewal, pluripotency, and embryonic implantation.

Recombinant human Leukemia inhibitory factor is a non-glycosylated protein monomer, containing 181 amino acids and having a molecular mass of 19.8 kDa.

**Cat. No.:**  
RP1047AF

**Alternate Names:**  
Leukocyte Inhibitory Factor

**AA Sequence:**

MSPLPITPVNA	TCAIRHPCHN	NLMNQIRSQL
AQLNGSANAL	FILYYTAQGE	PFPNNLDKLC
GPNVTDFFPF	HANGTEKAKL	VELYRIVVYL
GTSLGNITRD	QKILNPSALS	LHSKLNATAD
ILRGLLSNVL	CRLCSKYHVG	HVDVTYGPDT
SGKDVFQKKK	LGCQLLGKYY	QIIAVLAQAF

**TECHNICAL INFO**

**Source:**  
*E. coli*

**Physical Appearance:**  
Sterile Filtered white lyophilized (freeze-dried) powder.

**Formulation:**  
0.1% Trifluoroacetic Acid (TFA)

**Stability:**  
Lyophilized product is very stable at -20°C. Reconstituted material should be aliquoted and frozen at -20°C. It is recommended that a carrier protein (0.1% HSA or BSA) is added for long term storage.

**Reconstitution:**  
Centrifuge vial before opening. When reconstituting the product, gently pipet and wash down the sides of the vial to ensure full recovery of the protein into solution. It is recommended to reconstitute the lyophilized product with sterile 10 mM Acetic acid at 0.1 mg/mL, which can be further diluted into other aqueous solutions.

**Protein Content and Purity determined by:**

- UV spectroscopy at 280 nm.
- RP-HPLC calibrated against a known standard.
- Quantitation against a known standard via reducing and non-reducing SDS-PAGE gels.

**Endotoxin Level:**  
Endotoxin level, as measured by LAL analysis, is <0.01ng/ug or <0.1EU/ug.

**Biological Activity:**  
The activity is measured by dose-dependent T11 cell proliferation, with Bioactivity Acceptance Criteria ED50 at 200 ng/mL.

**Animal Component-Free**  
This product is produced with no animal derived raw products. All processing and handling employs animal free equipment and animal free protocols.

