

**BACKGROUND:**

Mouse 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. The application of mouse LIF to long-term culture systems promotes mouse embryonic stem (ES) cell self-renewal and pluripotency, similar to the functional activity of bFGF (FGF2) in human ES cell culture systems.

Recombinant Mouse leukemia inhibitory factor is a non-glycosylated protein monomer, containing 181 amino acids and having a molecular mass of 20.0 kDa.

**Cat. No.:**  
 RP2033AF

**Alternate Names:**  
 Leukocyte Inhibitory Factor

**AA Sequence:**

MSPLPITPVN	ATCAIRHPCH	GNLMNQIKNQ
LAQLNGSANA	LFISYYTAQG	EPFPNNVEKL
CAPNMTDFPS	FHGNGTEKTK	LVELYRMVAY
LSASLTNITR	DQKVLNPTAV	SLQVKLNATI
DVMRGLLSNV	LCRLCNKYRV	GHVDVPPVPD
HSDKEAFQRK	KLGCQLLGTY	KQVISVVVQA
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**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 the dose-dependent ability to Induce IL-6 production from M1 cells, with Bioactivity Acceptance Criteria ED50 at 1 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.

