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# Product Information

**Leukemia Inhibitory Factor, human recombinant, expressed in HEK 293 cells**

Catalog Number **SRP9001**
Storage Temperature –20 °C

Synonyms: LIF, Differentiation-stimulating factor, Melanoma-derived LPL inhibitor, Emfilermin

## Product Description

Leukemia Inhibitory Factor (LIF) is a pleiotropic glycoprotein belonging to the IL-6 family of cytokines.[1] The mature LIF consists of 180 amino acids and contains six potential N-glycosylation sites as well as three intrachain disulfide bonds.[2]

LIF induces terminal differentiation in leukemic cells.[3] LIF activities include the induction of hematopoietic differentiation in normal and myeloid leukemia cells,[4,5] and involvement in the release of calcium from bone tissue.[6]

One of the main uses of LIF in research is in embryonic stem cell culture maintenance. LIF is necessary to maintain the stem cells in an undifferentiated state while retaining their proliferative potential or pluripotency.[7] Removal of LIF pushes stem cells toward differentiation.[7]

This recombinant, human LIF product is expressed in human HEK cells as a 180 amino acid, glycosylated protein, with a calculated molecular mass of 20 kDa. It is supplied as a solution in 0.2 μm filtered phosphate buffered saline with no additives or carrier proteins. It is aseptically filled.

$EC_{50}$: ≤0.5 ng/mL

The $EC_{50}$ is defined as the effective concentration of LIF that elicits a 50% suppression of cell growth. The biological activity of recombinant human LIF is measured by its ability to suppress the proliferation of the M1 mouse myeloid leukemic cell line.

Purity: ≥95% (SDS-PAGE)

Endotoxin level: ≤1 EU/μg of LIF

## Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

## Preparation Instructions

Briefly centrifuge the vial before opening. After initial thawing it is recommended to store the protein in working aliquots at –20 °C. The product can be diluted in PBS.

## Storage/Stability

Store the product at –20 °C. The product retains activity for at least 2 years as supplied.

**References**


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4. Lord, K.A. et al., Leukemia inhibitory factor and interleukin-6 trigger the same immediate early response, including tyrosine phosphorylation, upon induction of myeloid leukemia differentiation. *Mol. Cell Biol.*, **11**, 4371-4379 (1991).
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