

Active Recombinant Human LIF

Cat. No. LIF-514H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Human LIF produced in E. coli is approximately 19.7 kDa, a single non-glycosylated polypeptide chain containing 180 amino acids.
Species	Human
Source	E.coli
Description	Leukemia Inhibitory Factor (LIF) is a lymphoid factor which promotes long-term maintenance of embryonic stem cells by suppressing spontaneous differentiation. LIF has a number of other activities including cholinergic neuron differentiation, control of stem cell pluripotency, bone and fat metabolism, mitogenesis of certain factor dependent cell lines and promotion of megakaryocyte production in vivo.
Form	Lyophilized from a 0.2 µm filtered concentrated solution in PBS, pH 7.4.
Bio-activity	Fully biologically active when compared to standard. The specific activity determined by inducing differentiation of murine M1 myeloid leukemic cells. The minimum detectable concentration of rHuLIF in this assay is 0.5 ng/ml. The specific activity of $>2 \times 10^8$ IU/mg, where 50 units is defined as the amount of rHuLIF required to induce differentiation in 50% of the M1 colonies in 1ml agar cultures.
Molecular Mass	19.7 kDa
AA Sequence	SPLPITPVNA TCAIRHPCHN NLMNQIRSQL AQLNGSANAL FILYYTAQGE PFPNNLDKLC GPNVTDFPPF HANGTEKAKL VELYRIVVYL GTSLGNITRD

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	QKILNPSALS LHSKLNATAD ILRGLLSNVL CRLCSKYHVG HVDVTYGPDT SGKDVFQKKK LGCQLLGKYK QIIAVLAQAF
Endotoxin	Less than 1EU/μg of rHuLIF as determined by LAL method.
Purity	>98% by SDS-PAGE and HPLC analyses.
Usage	This material is for research, laboratory or further evaluation purposes. NOT FOR HUMAN USE.
Storage	This lyophilized preparation is stable at 2-8 centigrade, but should be kept at -20 centigrade for long term storage, preferably desiccated. Upon reconstitution, the preparation is stable for up to one week at 2-8 centigrade. For maximal stability, apportion the reconstituted preparation into working aliquots and store at -20 centigrade to -70 centigrade. Avoid repeated freeze/thaw cycles.
Reconstitution	We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute in sterile distilled water or aqueous buffer containing 0.1% BSA to a concentration of 0.1-1.0 mg/mL. Stock solutions should be apportioned into working aliquots and stored at ≤ -20 centigrade. Further dilutions should be made in appropriate buffered solutions.

GENE INFORMATION

Gene Name	LIF leukemia inhibitory factor [Homo sapiens]
Official Symbol	LIF
Synonyms	LIF; leukemia inhibitory factor; CDF; cholinergic differentiation factor; DIA; differentiation inhibitory activity; differentiation inducing factor; hepatocyte stimulating factor III; HILDA; human interleukin in DA cells; D factor; melanoma-derived LPL

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	inhibitor; differentiation-inducing factor; hepatocyte-stimulating factor III; differentiation-stimulating factor; MLPLI;
Gene ID	3976
mRNA Refseq	NM_001257135
Protein Refseq	NP_001244064
MIM	159540
UniProt ID	P15018
Chromosome Location	22q12.2
Pathway	Adipogenesis, organism-specific biosystem; Cytokine-cytokine receptor interaction, organism-specific biosystem; Cytokine-cytokine receptor interaction, conserved biosystem; Direct p53 effectors, organism-specific biosystem; Jak-STAT signaling pathway, organism-specific biosystem; Jak-STAT signaling pathway, conserved biosystem; MicroRNAs in cardiomyocyte hypertrophy, organism-specific biosystem;
Function	cytokine activity; growth factor activity; leukemia inhibitory factor receptor binding; leukemia inhibitory factor receptor binding; receptor binding;