

Leukemia inhibitory factor

Mouse, Recombinant (rmLIF)

Expressed in *E. coli*

Cat. No. CRP0899

Lot. No. (See product label)

PRODUCT INFORMATION

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*. Mouse LIF is a 20 kDa protein containing 181 amino acid Residues.

Amino-Acid Sequence: 181 aa, non-glycosylated.

M. W. : 20,000Da.

Recombinant: Expressed in *E. coli*.

Purity: >98% by SDS-PAGE and HPLC analyses.

Formulation: Lyophilized from a 0.2µm filtered concentrated (1.0mg/ml) solution in PBS, pH 7.4.

Specific Activity: The activity of mouse LIF is determined by the ability to induce differentiation of murine M1 myeloid leukemic cells. The minimum detectable concentration of mouse LIF in this assay is 0.5 ng/mL. The specific activity is $>1 \times 10^8$ units/mg, where 50 units is defined as the amount of mouse LIF required to induce differentiation in 50% of the M1 colonies in 1 mL agar cultures.

Endotoxin: Less than 1EU/mg of rmLIF as determined by LAL method.

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 $\leq 20^\circ\text{C}$. Further dilutions should be made in appropriate buffered solutions.

Storage: This lyophilized preparation is stable at 2-8°C, but should be kept at -20°C for long term storage, preferably desiccated. Upon reconstitution, the preparation is stable for up to one week at 2-8°C. For maximal stability, apportion the reconstituted preparation into working aliquots and store at -20°C to -70°C . Avoid repeated freeze/thaw cycles. Storage it is recommended to add a carrier protein (0.1% HAS or BSA). Aliquot to avoid repeated freeze-thaw cycles.

FOR RESEARCH USE ONLY



[PDB](#) rendering based on 1LKI. Available structures: [1emr](#), [1lki](#), [1pvh](#)

GENE INFORMATION

Gene Name: [Lif](#)

Synonyms: OTTMUSP00000005253; CDF; D-FACTOR; Emflermin; HILDA; MLPLI; D factor; Differentiation-stimulating factor; Leukemia inhibitory factor precursor; Melanoma-derived LPL inhibitor; Cholinergic differentiation factor

mRNA Refseq: [NM_001039537](#)

Protein Refseq: [NP_001034626](#)

MIM: [147570](#)

GeneID: [16878](#)

UniProt ID: [Q3U1H5](#); P09056

Chromosome Location: Chr 11: 4.16 - 4.17 Mb

Pathway: Cytokine-cytokine receptor interaction; Jak-STAT signaling pathway

Function: cytokine activity; growth factor activity; leukemia inhibitory factor receptor binding

REFERENCES

- Patterson PH (1994). "Leukemia inhibitory factor, a cytokine at the interface between neurobiology and immunology.". *Proc. Natl. Acad. Sci. U.S.A.* 91 (17): 7833-5.
- Aghajanova L (2005). "Leukemia inhibitory factor and human embryo implantation.". *Ann. N. Y. Acad. Sci.* 1034: 176-83.
- Králícková M, Síma P, Rokyta Z (2005). "Role of the leukemia-inhibitory factor gene mutations in infertile women: the embryo-endometrial cytokine cross talk during implantation—a delicate homeostatic equilibrium.". *Folia Microbiol. (Praha)* 50 (3): 179-86.