

Recombinant Mouse Leukemia Inhibitory Factor (rm LIF)

Synonyms: CDF, HILDA, D-FACTOR, Differentiation-stimulating factor, Melanoma-derived LPL inhibitor, MLPLI, Emfilermin, DIA

Introduction: Leukemia Inhibitory Factor is a lymphoid factor that promotes long-term maintenance of embryonic stem cells by suppressing spontaneous differentiation. LIF has several functions such as cholinergic neuron differentiation, control of stem cell pluripotency, bone & fat metabolism, mitogenesis of factor dependent cell lines & promotion of megakaryocyte production in vivo. Human and mouse LIF exhibit a 78% identity in its amino acid sequence.

Human LIF is as active on human cells as it is on mouse cells, though mouse LIF is about 1000 fold less active on human cells than human LIF.

Description: Recombinant mouse LIF produced in E.Coli is a single, non-glycosylated, polypeptide chain containing 181 amino acids and having a molecular mass of 20 kDa. The mouse LIF is purified by proprietary chromatographic techniques.

Source: *Escherichia Coli*.

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

Formulation: lyophilized from a 0.22 µm filtered solution in 25 mM Sodiumphosphate, 200 mM NaCl, pH 7.0. The aliquots of 1µg and 2µg contain Trehalose 5% (w/vol) for better recovery

Solubility: It is recommended to reconstitute the lyophilized rm LIF in sterile H₂O not less than 0.1mg/ml, which can then be further diluted to other aqueous solutions.

Stability: Lyophilized rm LIF although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution rm LIF should be stored at 4°C between 2-7 days and for future use below -18°C. For long term storage it is recommended to add a carrier protein (0.1% HSS or BSA). Please prevent freeze-thaw cycles.

Purity: Greater than 95.0% as determined by SDS-PAGE silver stained gel.

Endotoxicity: The endotoxin level is less than 1 EU / µg determined by LAL method

Amino acid sequence: MSPLPITPVN ATCAIRHPCH GNLNMQIKNQ LAQLNGSANA LFISYYTAQG
EPFPNNVEKL CAPNMTDFPS FHGNGTEKTK LVELYRMVAY LSASLTNITR DQKVLNPTAV SLQVKLNATI
DVMRGLLSNV LCRLCNKYRV GHVDVPPVPD HSDKEAFQRK KLGCQLLGTY KQVISVVVQA F.

Biological Activity: Determined by its ability to activate STAT following receptor ligand interaction - analysis of mLIF receptor driven STAT activation in murine cell line C2C12 the specific activity is 100MIU/mg

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|----------------|--------|--------|----------|
| <i>small</i> | 2 µg | Cat.N° | 12344252 |
| <i>medium</i> | 10 µg | Cat.N° | 12344253 |
| <i>large</i> | 50 µg | Cat.N° | 12344255 |
| <i>x-large</i> | 250 µg | Cat.N° | 12344257 |

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