

# Recombinant Human Leukemia Inhibitory Factor (rh 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 human Leukemia Inhibitory Factor produced in E.Coli is a single, non-glycosylated, polypeptide chain containing 180 amino acids and having a molecular mass of 19.7kDa. The human 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 PBS, pH 7.5  
The aliquots of 1µg and 2µg contain Trehalose 5% (w/vol) for better recovery

**Solubility:** It is recommended to reconstitute the lyophilized rh LIF in sterile H<sub>2</sub>O not less than 1mg/ml, which can then be further diluted to other aqueous solutions.

**Stability:** Lyophilized rh LIF although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution rh 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.

**Amino acid sequence:** SPLPITPVNA TCAIRHPCHN NLMNQIRSQL AQLNGSANAL FIFYTAQGE  
PFPNLDKLC GPNVTDFFPF HANGTEKAKL VELYRIVVYL GTSLGNITRD QKILNPSALS  
LH SKLNATAD ILRGLLSNVL CRLCSKYHVG HVDVTYGPDT SGKDVVFQKKK LGCQLLGKYK QIIAVLAQAF

**Biological Activity:** Determined by LIF induced STAT3 activation in murine C2C12 cells the ED50 is < 0.01 ng/ml, corresponding to a specific activity of 100M IU/mg.

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

This material is offered for **research use only**. Not for use in human. For in vitro use only. ImmunoTools will not be held responsible for patent infringement or other violations that may occur with the use of our products.

<i>small</i>	2 µg	Cat.N°	11344252
<i>medium</i>	10 µg	Cat.N°	11344253
<i>large</i>	50 µg	Cat.N°	11344255
<i>x-large</i>	250 µg	Cat.N°	11344257
<i>xx-large</i>	1000 µg	Cat.N°	11344258

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