

Active Recombinant mouse LIF

Cat. No. Lif-10M **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant mouse LIF is produced in the endosperm tissue of barley grain (<i>Hordeum vulgare</i>), that exhibits up to 50 times less protease activity than <i>E.coli</i> or mammalian cells. Barley seed is void of any human or animal viral contaminants that could jeopardize your cell culture.
Species	Mouse
Source	<i>Hordeum Vulgare</i>
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.
Form	Lyophilized . PBS, pH 7.2, sterile filtered.
Bio-activity	Each batch is tested for bioactivity and verified to have comparable activity to a commercial source. The bioactivity of ISOkine™ murine LIF was determined by its ability to induce differentiation of murine M1 myeloid leukemia cells. The ED50 value for this effect is typically < 1 ng/ml, corresponding to a specific activity of > 5 x 10 ⁷ U/mg (where 50 U is defined as the amount of mLIF required to induce differentiation of 50% of M1 cells). The activity is comparable to

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	mLIF from other commercial sources. We recommend that the optimal concentration for each specific application be determined by an initial dose-response assay.
Molecular Mass	Recombinant mouse LIF contains 188 amino acids and a 16 a.a. Histidine-based tag for a total length of 204 a.a. and has a predicted molecular mass of 22.8 kDa. As a result of glycosylation, the recombinant protein migrates with an apparent molecular mass of 28-30 kDa in SDS-PAGE.
Endotoxin	Endotoxin level is less than 0.005ng per µg(0.05EU/µg) as measured by turbidimetric kinetic assay.
Purity	Greater than 95% by SDS-PAGE gel analysis
Usage	FOR RESEARCH USE ONLY
Quality Control Test	12 months from date of receipt, -20 to 70 centigrade as supplied. 1 month, 2 to 8 centigrade under sterile conditions after reconstitution. 3 months, -20 to 70 centigrade under sterile conditions after reconstitution.
Reconstitution	Always centrifuge the vial before opening. It is recommended to reconstitute the lyophilized protein in sterile water to a concentration of no less than 100 µg/ml. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).
Warning	Avoid repeated freeze-thaw cycles.

GENE INFORMATION

Gene Name	Lif leukemia inhibitory factor [<i>Mus musculus</i>]
Official Symbol	Lif

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Synonyms	LIF; leukemia inhibitory factor; d factor; differentiation-stimulating factor;
Gene ID	16878
mRNA Refseq	NM_001039537
Protein Refseq	NP_001034626
UniProt ID	P09056
Chromosome Location	11 A1-A2; 11 2.94 cM
Pathway	Adipogenesis, organism-specific biosystem; Cytokine-cytokine receptor interaction, organism-specific biosystem; Cytokine-cytokine receptor interaction, conserved biosystem; ESC Pluripotency Pathways, 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; cytokine activity; growth factor activity; growth factor activity; leukemia inhibitory factor receptor binding; receptor binding;