

Recombinant Mouse Lif protein

Cat. No. Lif-556M **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Mouse Lif protein was expressed in Escherichia coli.
Species	Mouse
Source	E.coli
ProteinLength	180
Description	Leukemia inhibitory factor (LIF) is a member of Interleukin 6 family. This protein is mainly expressed in the trophectoderm of the developing embryo, with its receptor LIFR expressed throughout the inner cell mass. LIF has the capacity to induce terminal differentiation in leukemic cells. Its activities include the induction of hematopoietic differentiation in normal and myeloid leukemia cells, the induction of neuronal cell differentiation, and the stimulation of acute-phase protein synthesis in hepatocytes. LIF is used in mouse embryonic stem cell culture, because that removal of LIF pushes stem cells toward differentiation, but they retain their proliferative potential or pluripotency. It is also used in phase II clinical trial, which can assist embryo implantation in women who have failed to become pregnant despite assisted reproductive technologies (ART). Mature mouse LIF shares 78 % a.a. sequence identity with Human LIF.
Form	Lyophilized from a 0.2µm filtered concentrated solution in 20 mM PB, pH 7.4, with 0.02 % TWEEN 20.
Bio-activity	Fully biologically active when compared to standard. The specific activity is

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determined by inducing differentiation of murine M1 myeloid leukemic cells. The minimum detectable concentration of rMuLIF in this assay is 0.01 ng/ml. The specific activity of $> 1.0 \times 10^8$ IU/mg, where 50 units is defined as the amount of rMuLIF required to induce differentiation in 50 % of the M1 colonies in 1 ml agar cultures.

Molecular Mass

Approximately 19.9 kDa, a single non-glycosylated polypeptide chain containing 180 amino acids.

AA Sequence

SPLPITPVNATCAIRHPCHGNLMNQIKNQLAQLNGSANALFISYYTAQGEPFPNNVEK
LCAPNMTDFPSFHGNGTEKTKLVELYRMVAYLSASLTNITRDQKVLNPTAVSLQVKL
NATIDVMRGLLSNVLCRLCNKYRVGHVDVPPVPDHSDEAFQRKKLGCQLLGTYKQ
VISVVVQAF

Endotoxin

Less than 1 EU/μg of rMuLIF as determined by LAL method.

Purity

>98% by SDS-PAGE and HPLC analysis.

Storage

Use a manual defrost freezer and avoid repeated freeze-thaw cycles. 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

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

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Gene Name	Lif
Official Symbol	Lif
Synonyms	LIF; leukemia inhibitory factor; d factor; differentiation-stimulating factor;
Gene ID	16878
mRNA Refseq	NM_001039537
Protein Refseq	NP_001034626
UniProt ID	P09056

SDS-PAGE of Lif-556M

