

DATASHEET

Version 20181206

LIF, Mouse

Cat. No.: Z03077-10

Size: 10.0 ug

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

Description:

Leukemia Inhibitory Factor (LIF) is a pleiotropic cytokine belonging to the long four-helix bundle cytokine superfamily. LIF shares tertiary structure with several other cytokines, including Interleukin-6 (IL-6), Oncostatin M, ciliary neurotropic factor, and cardiotrophin-1, and their functions in vivo are also redundant to some extent. LIF can bind to the common receptor of IL-6 subfamily, gp130, and then recruit its own receptor LIF Receptor to form a ternary complex. The basal expression of LIF in vivo is low; and its expression is induced by pro-inflammatory factors, including lipopolysaccharide, IL-1, and IL-17, and inhibited by anti-inflammatory agents, including IL-4 and IL-13. The functions of LIF include proliferation of primordial germ cells, regulation in blastocyst implantation and early pregnancy, and maintenance of pluripotent embryonic stem cells.

Recombinant mouse Leukemia Inhibitory Factor (rm-LIF) produced in *E. coli* is a single non-glycosylated polypeptide chain containing 180 amino acids. A fully biologically active molecule, rmLIF has a molecular mass of 19.9 kDa analyzed by reducing SDS-PAGE and is obtained by proprietary chromatographic techniques at GenScript.

Amino Acid Sequence:

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00001 SPLPITPVNA TCAIRHPCGH NLMNQIKNQL AQLNGSANAL
00041 FISYYTAQGE PFPNNVEKLC APNMTDFPSF HGNGTEKTKL
00081 VELYRMVAYL SASLTNITRD QKVLNPTAVS LQVKLNATID
00121 VMRGLLSNVL CRLCNKYRVG HVDVPPVPDH SDKEAFQRKK
00161 LGCQLLGTYK QVISVVVQAF SPLPITPVNA TCAIRHPCGH
00201 NLMNQIKNQL AQLNGSANAL FISYYTAQGE PFPNNVEKLC
00241 APNMTDFPSF HGNGTEKTKL VELYRMVAYL SASLTNITRD
00281 QKVLNPTAVS LQVKLNATID VMRGLLSNVL CRLCNKYRVG
00321 HVDVPPVPDH SDKEAFQRKK LGCQLLGTYK QVISVVVQAF
00361
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Source: *E. coli*

Species: Mouse

Biological Activity: ED₅₀ < 0.01 ng/mL, measured by a cell differentiation assay using M1 cells, corresponding to a specific activity of > 1.0 × 10⁸ units/mg.

Molecular Weight: 19.9 kDa, observed by reducing SDS-PAGE.

Formulation: Lyophilized after extensive dialysis against 50 mM Tris, 150 mM NaCl, pH8.0.

Reconstitution: Reconstituted in ddH₂O at 100 µg/mL.

Purity: > 95% by SDS-PAGE and HPLC analyses.

Endotoxin Level: < 0.2 EU/µg, determined by LAL method.

Storage: Lyophilized recombinant mouse Leukemia Inhibitory Factor (rmLIF) remains stable up to 6 months at lower than -70°C from date of receipt. Upon reconstitution, rmLIF should be stable up to 2 weeks at 4°C or up to 3 months at -20°C.