

Overview

Synonyms	D factor, MLPLI
Description	<p>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 <i>in vivo</i> 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 <i>in vivo</i> 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.</p> <p>Recombinant human Leukemia Inhibitory Factor (rhLIF) produced in <i>E. coli</i> is a single non-glycosylated polypeptide chain containing 180 amino acids. A fully biologically active molecule, rhLIF has a molecular mass of 19.7 kDa analyzed by reducing SDS-PAGE and is obtained by proprietary chromatographic techniques.</p>
Accession No	P15018
Species	Human
Source	<i>E. coli</i>
Biological Activity	ED ₅₀ < 0.2 ng/mL, measured by a cell differentiation assay using TF-1 cells, corresponding to a specific activity of > 5 × 10 ⁶ units/mg.
Sequence	<p>SPLPITPVNA TCAIRHPCHN NLMNQIRSQL AQLNGSANAL FILYYTAQGE PFPNNLDKLC GPNVTDFFPF HANGTEKAKL VELYRIVVYL GTSLGNITRD QKILNPSALS LHSKLNATAD ILRGLLSNVL CRLCSKYHVG HVDVTYGPDY SGKDVVFQKKK LGCQLLGKYYK QIIAVLAQAF</p>

Properties

Measured Molecular Weight	19.7 kDa, observed by reducing SDS-PAGE.
Purity	> 95% by SDS-PAGE analysis.
Formulation	Lyophilized after extensive dialysis against PBS.
Reconstitution	Reconstituted in ddH ₂ O at 100 µg/mL.
Endotoxin Level	< 0.2 EU/µg, determined by LAL method.
Storage	Lyophilized recombinant human Leukemia Inhibitory Factor (rhLIF) remains stable up to 6 months at lower than -70°C from date of receipt. Upon reconstitution, rhLIF remains stable up to 2 weeks at 4°C or up to 3 months at -20°C.
Note	For research use only

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