

DATASHEET
Version 20181206**LIF, Human****Cat. No.:** Z02681-10**Size:** 10.0 ug**Synonyms:** D factor, MLPLI**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 human Leukemia Inhibitory Factor (rhLIF) produced in *E. coli* 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 at GenScript.

Amino Acid Sequence:

```
00001 SPLPITPVNA TCAIRHPCHN NLMNQIRSQL AQLNGSANAL
00041 FILYYTAQGE PFPNNLDKLC GPNVTDFFPF HANGTEKAKL
00081 VELYRIVVYL GTSLGNITRD QKILNPSALS LHSKLNATAD
00121 ILRGLLSNVL CRLCSKYHVG HVDVTYGPDT SGKDVFKKKK
00161 LGCQLLGKYK QIIAVLAQAF
```

Source: *E. coli***Species:** Human**Biological Activity:** ED₅₀ < 0.2 ng/mL, measured by a cell differentiation assay using TF-1 cells, corresponding to a specific activity of > 5 × 10⁶ units/mg.**Molecular Weight:** 19.7 kDa, observed by reducing SDS-PAGE.**Formulation:** Lyophilized after extensive dialysis against PBS.**Reconstitution:** Reconstituted in ddH₂O at 100 µg/mL.**Purity:** > 95% by SDS-PAGE analysis.**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.