

# PRODUCT DATA SHEET



Bioworld Technology, Inc.

## Recombinant LIF, Human

Catalog Number: BK0121-50µg

Source: Escherichia coli.

Quantity: 50µg

### 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.

### Molecular Weight:

19.7 kDa, observed by reducing SDS-PAGE.

### Purity:

> 95% by SDS-PAGE analysis.

### Biological Activity:

ED50 < 0.2 ng/mL, measured by a cell differentiation assay using TF-I cells, corresponding to a specific activity of > 5 × 10<sup>6</sup> units/mg.

### Physical Appearance:

Sterile Filtered White lyophilized (freeze-dried) powder.

### Formulation:

Lyophilized after extensive dialysis against PBS.

### AA Sequence:

```
SPLPITPVNATCAIRHPCHNNLM-  
NQIRSQLAQLNGSANALFI-  
FILYYTAQGEPPNNDKLCGPNVTDFFPFHANG-  
LYYYTAQGEPPNNDKLCGPNVTDFFPFHANG-  
TEKAKLVELYRIVVYLGTS LGNI-  
TRDQKILNPSALSLSHKLNATADILRGLLS-  
NVLCLCSKYHVGHVDVITYGPDTS GKDFVQKK  
KLCQLLGKYKQIIAVLAQAF
```

### Endotoxin:

< 0.2 EU/µg, determined by LAL method.

### Reconstitution:

Reconstituted in ddH<sub>2</sub>O at 100 µg/mL.

### Storage:

Lyophilized recombinant human Leukemia Inhibitory Factor (rhLIF) remains stable up to 6 months at -80 °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.

### Usage:

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