

Rev03  
Update: Dec,14,2021

**DATASHEET**

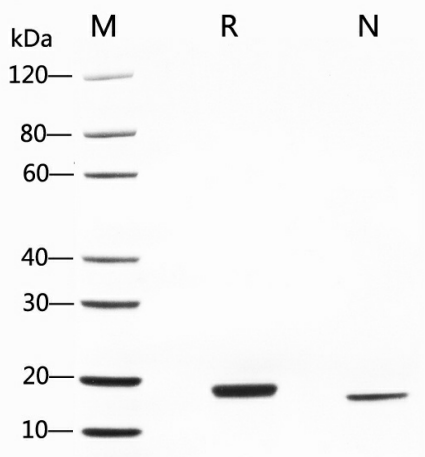
# LIF, Human

Cat. No.: Z02681

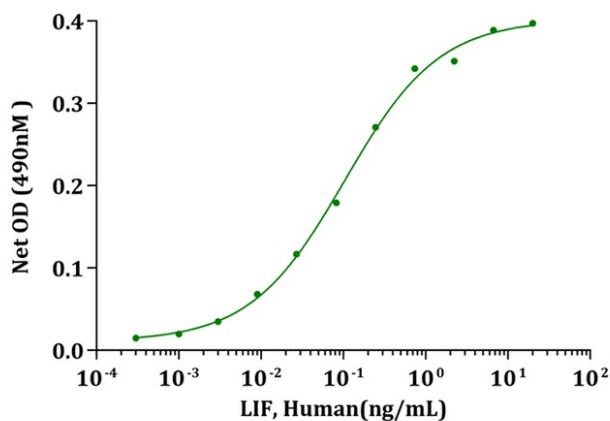
## Product Introduction

<b>Species</b>	Human
<b>Protein Construction</b>	LIF (Ser23-Phe202) Accession # P15018
<b>Purity</b>	> 95% as analyzed by SDS-PAGE
<b>Endotoxin Level</b>	< 0.2 EU/μg of protein by gel clotting method
<b>Biological Activity</b>	ED <sub>50</sub> < 0.2 ng/ml, measured by a cell differentiation assay using TF-I cells, corresponding to a specific activity of > 5.0 × 10 <sup>6</sup> units/mg.
<b>Expression System</b>	E. coli
<b>Apparent Molecular Weight</b>	~19.7 kDa, on SDS-PAGE under reducing conditions.
<b>Formulation</b>	Lyophilized after extensive dialysis against PBS.
<b>Reconstitution</b>	It is recommended that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute the lyophilized powder in ddH <sub>2</sub> O up to 100 μg/ml.
<b>Storage &amp; Stability</b>	Upon receiving, this product remains stable for up to 6 months at lower than -70°C. Upon reconstitution, the product should be stable for up to 1 week at 4°C or up to 3 months at -20°C. For long term storage it is recommended that a carrier protein (example 0.1% BSA) be added. Avoid repeated freeze-thaw cycles.

## Examples



2  $\mu\text{g}$  of LIF, Human (Cat. No. Z02681) was resolved with SDS-PAGE under reducing (R) and non-reducing (N) conditions and visualized by Coomassie Blue staining



### Biological Activity

LIF, Human (Cat. No. Z02681) stimulates cell proliferation of R&D TF-1 cells. The  $\text{ED}_{50}$  for this effect is less than 0.2ng/mL.

## Background

**Target Background :** 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.

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

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