



### Synonym

LIF,CDF,DIA,HILDA,MLPLI

### Source

Human LIF Protein, premium grade(LIF-H5215) is expressed from human 293 cells (HEK293). It contains AA Ser 23 - Phe 202 (Accession # [P15018-1](#)).

Predicted N-terminus: Ser 23

*It is produced under our rigorous quality control system that incorporates a comprehensive set of tests including sterility and endotoxin tests. Product performance is carefully validated and tested for compatibility for cell culture use or any other applications in the early preclinical stage. When ready to transition into later clinical phases, we also offer a custom GMP protein service that tailors to your needs. We will work with you to customize and develop a GMP-grade product in accordance with your requests that also meets the requirements for raw and ancillary materials use in cell manufacturing of cell-based therapies.*

### Molecular Characterization

LIF(Ser 23 - Phe 202)  
P15018-1

This protein carries no "tag".

The protein has a calculated MW of 19.7 kDa. The protein migrates as 37 kDa±3 kDa under reducing (R) condition, and 39 kDa when calibrated against [Star Ribbon Pre-stained Protein Marker](#) under non-reducing (NR) condition (SDS-PAGE) due to glycosylation.

### Endotoxin

Less than 0.01 EU per µg by the LAL method.

### Host Cell Protein

<0.5 ng/µg of protein tested by ELISA.

### Host Cell DNA

<0.02 ng/µg of protein tested by qPCR.

### Sterility

Negative

### Mycoplasma

Negative.

### Purity

>95% as determined by SDS-PAGE.

>90% as determined by SEC-MALS.

### Formulation

Lyophilized from 0.22 µm filtered solution in PBS, pH7.4 with trehalose as protectant.

Contact us for customized product form or formulation.

### Reconstitution

Please see Certificate of Analysis for specific instructions.

*For best performance, we strongly recommend you to follow the reconstitution protocol provided in the CoA.*

### Storage

For long term storage, the product should be stored at lyophilized state at -20°C or lower.

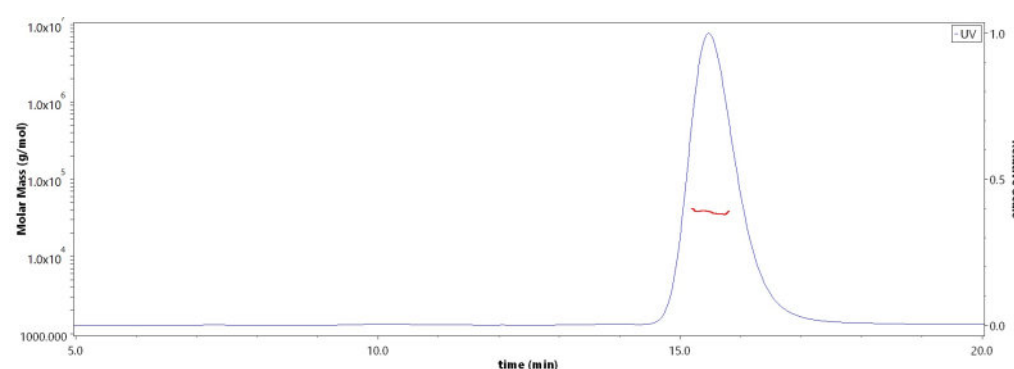
*Please avoid repeated freeze-thaw cycles.*

This product is stable after storage at:

- -20°C to -70°C for 24 months in lyophilized state;
- -70°C for 3 months under sterile conditions after reconstitution.

### SDS-PAGE

### SEC-MALS



Discounts, Gifts,  
and more!

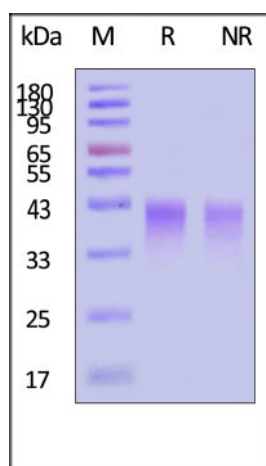


# Human LIF Protein, premium grade

Catalog # LIF-H5215



BIOSYSTEMS  
**Acro**  
Surprise Inside!

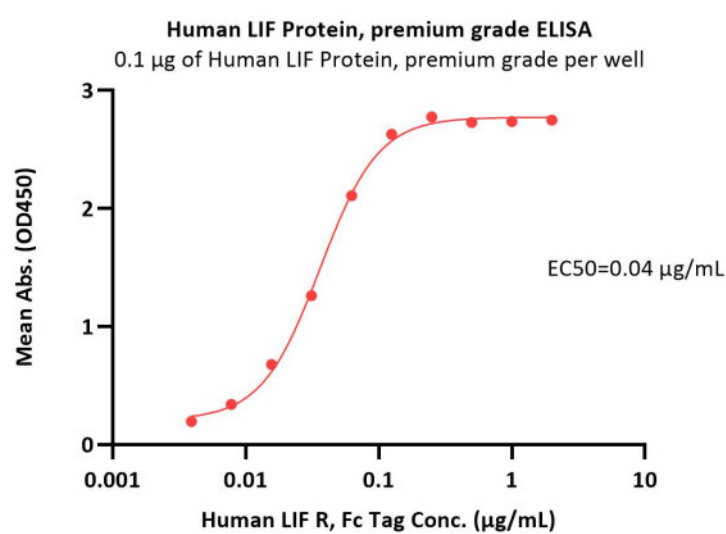


The purity of Human LIF Protein, premium grade (Cat. No. LIF-H5215) is more than 90% and the molecular weight of this protein is around 30-40 kDa verified by SEC-MALS.

[Report](#)

Human LIF Protein, premium grade on SDS-PAGE under reducing (R) and non-reducing (NR) conditions. The gel was stained with Coomassie Blue. The purity of the protein is greater than 95% (With [Star Ribbon Pre-stained Protein Marker](#)).

## Bioactivity-ELISA



Immobilized Human LIF Protein, premium grade (Cat. No. LIF-H5215) at 1 µg/mL (100 µL/well) can bind Human LIF R, Fc Tag (Cat. No. LIR-H4252) with a linear range of 0.004-0.125 µg/mL (QC tested).

## Background

Leukemia inhibitory factor, or LIF, an interleukin 6 class cytokine, is a protein in cells that affects cell growth and development. Leukemia Inhibitory Factor has several functions such as cholinergic neuron differentiation, control of stem cell pluripotency, bone & fat metabolism, mitogenesis of factor dependent cell lines & promotion of megakaryocyte production in vivo.

Removal of LIF pushes stem cells toward differentiation, but they retain their proliferative potential or pluripotency. Therefore LIF is used in mouse embryonic stem cell culture. It is necessary to maintain the stem cells in an undifferentiated state, however genetic manipulation of embryonic stem cells allows for LIF independent growth, notably overexpression of the gene Nanog. LIF is not required for culture of human embryonic stem cells.

## Clinical and Translational Updates

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12/6/2024