

Recombinant Human LIF Protein

Product Name

Recombinant Human LIF Protein

Size / Catalog Number

50µg / GMP-TL633-0050

Product Information

Synonyms: CDF, DIA, HILDA, Leukemia Inhibitory Factor, MLPLI

Accession: UniProt P15018

Expressed Region: Ser23-Phe202

Tag: C-terminal 6×His-tag

Expression system: HEK293 cells

Predicted Molecular weight: 20.5 kDa

Purity: > 95% as determined by SDS-PAGE and HPLC

Endotoxin: < 0.01 EU per 1 µg of protein (LAL method)

Form: Lyophilized from sterile PBS (pH7.4), typically supplemented with 6% mannitol as a protectant.

Background

The recombinant human leukemia inhibitory factor (LIF) protein is transiently expressed in HEK-293 cells and features a C-terminal His-tag for purification. As a pleiotropic IL-6 family cytokine, LIF signals through the LIFR-α/gp130 receptor complex, activating the JAK/STAT pathway. Its core applications in cell and gene therapy include: maintaining pluripotency and suppressing spontaneous differentiation of mouse embryonic stem cells (mESCs) for *in vitro* expansion culture; and promoting the differentiation of neural progenitor cells into cholinergic neurons. Designed to preserve native bioactivity, this protein is suited for regenerative medicine applications such as stem cell therapy and neural repair.

Stability & Storage

Lyophilized powder: Stable for 12 months at -80°C or 6 months at -20°C when stored in the original sealed container under desiccant.

Reconstitution: Dissolve in sterile water for injection, 0.9% NaCl, or PBS (pH7.4), maintaining a final concentration ≥ 100 µg/mL to prevent adsorption.

Handling: Aliquot to avoid repeated freeze-thaw cycles.

References

1. Sun Y, Kim SK, Kang SH. Fast high-throughput screening of glutathione S-transferase polymorphism by voltage programming-based multi-channel microchip electrophoresis. *J Chromatogr B Analyt Technol Biomed Life Sci.* 2018 Oct 15;1097-1098:10-17.
2. Saada M, Falleh H, Catarino MD, *et al.* Plant Growth Modulates Metabolites and Biological Activities in *Retama raetam* (Forssk.) Webb. *Molecules.* 2018 Aug 29;23(9):2177.
3. Ribeiro MA, Estill MS, Fernandez GJ, *et al.* Integrative transcriptome and microRNome analysis identifies dysregulated pathways in human Sertoli cells exposed to TCDD. *Toxicology.* 2018 Nov 1;409:112-118.
4. Wang J, Chang CY, Yang X, *et al.* Leukemia inhibitory factor, a double-edged sword with therapeutic implications in human diseases. *Mol Ther.* 2023 Feb 1;31(2):331-343.

Intended Use

For research and manufacturing purposes only.