

Recombinant Human LIF Protein

Size / Cat.No.: 50µg / GMP-TL633-0050

Product Name

Generic Name	Recombinant Human LIF Protein
Synonym	CDF,DIA,HILDA,Leukemia Inhibitory Factor,MLPLI

Product Information

Protein sequence	DNA sequence encoding human LIF(NP_002300.1) expressed with His tag at the C-terminus.
Expression Host	HEK293 cells
QC Testing Purity	> 90 % as determined by SDS-PAGE.
Activity	Determined by the expansion level of TF-1 cells. The expected ED ₅₀ for this effect is ≤ 0.1ng/mL, corresponding to a specific activity of ≥1 × 10 ⁷ U/mg.
Endotoxin	≤0.01EU/ug (gel method).
Molecular Mass	The recombinant human LIF protein contains 186 amino acids and has a predicted molecular weight of 20.5kD.
Purification method	chromatographic purification
Stability & Storage	24 months at 4°C in lyophilized state. 6 months-12 months at -20°C under sterile conditions after reconstitution. Avoid repeated freeze-thaw cycles.

Background

LIF is a polytrophic factor produced by a variety of cell types, (including T cells, myeloid cell lines, fibroblasts, liver, heart, and melanoma). LIF promotes the long-term maintenance of embryonic stem cells by inhibiting their spontaneous differentiation. Other activities include hepatocyte stimulation of acute phase protein synthesis, stimulation of cholinergic nerve differentiation, and inhibition of lipogenesis by inhibiting lipoprotein lipase in adipocytes. Human LIF is active on mouse cells and is widely used to maintain the spontaneous differentiation of mouse ESC, while mouse LIF cannot function on human cells because it cannot bind to human LIF receptors. Recombinant Human LIF is a 19.6kDa protein with 180 amino acid residues and contains 3 disulfide bonds.

References

1. Fast high-throughput screening of glutathione S-transferase polymorphism by voltage programming-based multi-channel microchip electrophoresis. Sun Y, Kim SK, Kang SH. *J Chromatogr B Analyt Technol Biomed Life Sci.* 2018 Sep 1;1097-1098:10-17. doi: 10.1016/j.jchromb.2018.08.034.
2. Plant Growth Modulates Metabolites and Biological Activities in *Retama raetam* (Forssk.) Webb. Saada M, Falleh H, Catarino MD, Cardoso SM, Ksouri R. *Molecules.* 2018 Aug 29;23(9). pii: E2177. doi: 10.3390/molecules23092177.
3. A Zombie LIF Gene in Elephants Is Upregulated by TP53 to Induce Apoptosis in Response to DNA Damage. Vazquez JM, Sulak M, Chigurupati S, Lynch VJ. *Cell Rep.* 2018 Aug 14;24(7):1765-1776. doi: 10.1016/j.celrep.2018.07.042.
4. Integrative transcriptome and microRNome analysis identifies dysregulated pathways in human Sertoli cells exposed to TCDD. Ribeiro MA, Estill MS, Fernandez GJ, Moraes LN, Krawetz SA, Scarano WR. *Toxicology.* 2018 Aug 7;409:112-118. doi: 10.1016/j.tox.2018.08.001.