Catalog Number: HZ-1292-GMP

Data Sheet

GMP HumanKine® LIF (Recombinant Human)

Animal Component-Free	Human cell expressed	Tag-Free	Endotoxin Free

Product Description

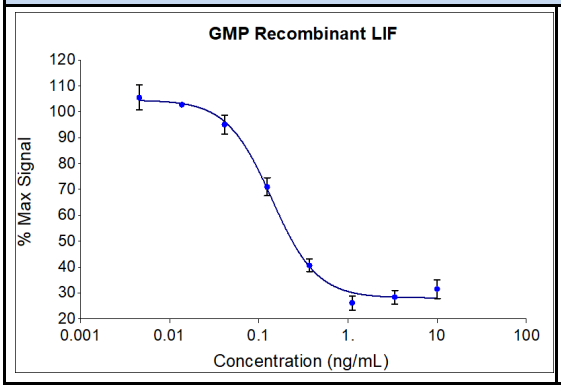
Recombinant Human LIF is a pleiotropic factor produced by numerous cell types which includes myelomonocytic lineages, T cells, fibroblasts, melanoma, liver, and heart. LIF promotes long-term maintenance of embryonic stem cells by suppressing spontaneous differentiation. Other activities include the stimulation of acute phase protein synthesis by hepatocytes, stimulation of differentiation of cholinergic nerves, and suppression of adipogenesis by inhibiting the lipoprotein lipase in adipocytes. Mature human LIF (180 aa) shares 78%, 82%, 91%, 88 and 87% aa sequence identity with mouse, rat, canine, bovine, and porcine LIF, respectively. To reduce spontaneous differentiation, LIF is typically added to stem cell culture medium.

Alternative Names	CDF, D factor, DIA, Emfilermin, HILDA, Leukemia inhibitory factor, LIF, Melanoma derived LPL inhibitor, MLPLI
Accession Number	P15018
Source	Human Embryonic Kidney cells (HEK293). HEK293-derived LIF protein
Species Reactivity	human
Adventitious Virus	Master Cell Bank tested Negative for Adventitious Viruses

Specifications

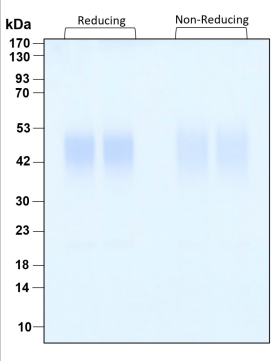
Test	Method	Specification
Activity	Dose-dependent inhibition of proliferation in the M1 cell line (Mouse myloid leukemia myeloblast cells)	0.045-0.25 ng/mL
Molecular Mass	SDS-PAGE	35-55 kDa reduced and non-reduced, glycosylated
Purity	SDS-PAGE	>95%
Endotoxin	LAL	<0.1 EU/μg
Mycoplasma	PCR	Not Detected

Activity Data



Recombinant human LIF (HZ-1292-GMP) dose-dependently inhibits growth of the M1 cell line. Cell number was quantitatively assessed by PrestoBlue® Cell Viability Reagent. M1 cells were treated with increasing concentrations of recombinant LIF for 96 hours. The EC50 was determined using a 4-parameter non-linear regression model. Activity determination was

SDS-PAGE



Purity of recombinant human LIF was determined by SDS-polyacrylamide gel electrophoresis. The protein was resolved in an SDS- polyacrylamide gel in reducing and non-reducing conditions and stained using Coomassie blue.

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Preparation	
Shipping Temperature	ambient temperature
Formulation	1x PBS, See Certificate of Analysis for details
Reconstitution	Briefly centrifuge the vial before opening. It is recommended to reconstitute the protein to 0.2 mg/mL in sterile 1x PBS pH 7.4 containing 0.1% endotoxin-free recombinant human serum albumin (HSA). Gently swirl or tap vial to mix.

	Product Form	Temperature Conditions	Storage Time (From Date of Receipt)
Stability and Storage	Lyophilized	-20°C to -80°C	Until Expiry Date
	Lyophilized	Room Temperature	2 weeks
	Reconstituted as per CofA	-20°C to -80°C	6 months
	Reconstituted as per CofA	4°C	1 week
	Avoid repeated freeze-thaw cycles.		

Proteintech GMP Quality Policy
HumanKine® GMP Proteins

Invitro recombinant protein production can be prone to variability due to various reasons ranging from quality of raw materials to inconsistency in the process. Therefore, HumanKine®, a proteintech brand's GMP proteins are produced and tested under an ISO 13485 certified quality management system in a clean room facility. Proteintech manufactures the GMP HumanKine® products according to the applicable sections in the following documents: USP Chapter 1043 (Ancillary Materials for Cell, Gene, and Tissue-Engineered Products, USP Chapter 92 (Growth Factors and Cytokines Used in Cell Therapy Manufacturing), WHO TRS, No. 822, 1992 Annex 1 (Good Manufacturing Practices for Biological Products), Ph. Eur. General Chapter 5.2.12, and EudraLex – Volume 4 – Part IV (Guidelines on GMP specific to ATMPs). Proteintech strives to achieve the utmost quality GMP raw material ensuring all applicable guidelines are taken into consideration.

The QMS is built to provide our customers with consistent and pure product delivered by documented processes, qualified personnel, validated processes, qualified equipment, qualified vendors, and a stringent final product release process. Although the final product release process is important, Proteintech performs in-process QC steps after each major manufacturing stage. Production records and facilities may be available for an inspection by approved personnel.

Our GMP policy covers all the aspects of production; from raw materials, facility, equipment, and Instruments to training and personal hygiene of staff. It also guarantees that the process is explicit, validated and well documented for transparency and traceability.

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