

GFM200 Recombinant Mouse LIF

Description

Leukemia Inhibitory Factor (LIF) is a member of the interleukin-6 (IL-6) family that is made by a variety of adult and embryonic tissues. LIF signals through the glycoprotein 130 (gp130)/LIF receptor (LIFR) heterodimer to activate STAT3 and MAPK signaling. LIF functions during hematopoietic differentiation, neuronal cell differentiation, kidney development, and inflammatory processes. The application of mouse LIF to long-term culture systems promotes mouse embryonic stem cell (ESC) self-renewal and pluripotency, similar to the functional activity of FGF-2 in human ESC cell culture systems.

Length	181 aa
Molecular Weight	20 kDa
Source	E. coli
Accession Number	P09056
Purity	≥95% determined by reducing and non-reducing SDS-PAGE

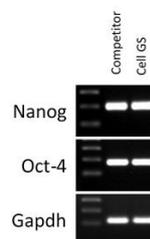
Specifications

Alternative Names	Leukocyte Inhibitory Factor, leukemia inhibitory factor, cholinergic differentiation factor
Biological Activity	Mouse LIF is fully biologically active when compared to standard. The specific activity of the sample is approximately 1×10^8 units/mg, in which 10^6 units are identical of 10 µg of pure protein sufficient to treat 1 L of stem cells including human embryonic stem cells, neural stem cells, hematopoietic stem cells, mesenchymal stem cells and induced pluripotent stem cells.
Endotoxin Level	≤1.00 EU/µg as measured by kinetic LAL
Formulation	Lyophilized from a sterile (0.2 micron) filtered aqueous solution containing 0.1% Trifluoroacetic Acid (TFA)
AA Sequence	MSPLPITPVN ATCAIRHPCH GNLMNQIKNQ LAQLNGSANA LFISYYTAQG EFPFNNVEKL CAPNMTDFPS FHGNGTEKTK LVELYRMVAY LSASLTNITR DQKVLNPTAV SLQVKLNATI DVMRGLLSNV LCRLCNKYRV GHVDVPPVPD HSDKEAFQRK KLGQCQLLGTY KQVISVVVQA F

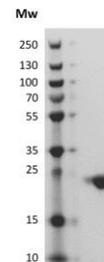
Preparation and Storage

Reconstitution	Centrifuge vial before opening. When reconstituting the product, gently pipet and wash down the sides of the vial to ensure full recovery of the protein into solution. It is recommended to reconstitute the lyophilized product with sterile 10 mM acetic acid at 0.1 mg/ml, which can be further diluted into other aqueous solutions.
Stability and Storage	12 months from date of receipt when stored at -20°C to -80°C as supplied. 1 month when stored at 4°C after reconstituting as directed. 3 months when stored at -20°C to -80°C after reconstituting as directed.

Data



Expression of the two common pluripotency markers Nanog and Oct-4 in the presence of mouse LIF was assessed with RT-PCR. Gapdh is the loading control.



Non-reducing (-) and reducing (+) conditions in a 4 - 20% Tris-Glycine gel stained with Coomassie Blue. 1 µg of protein was loaded in each lane. Human MCP-1 has a predicted Mw of 8.7 kDa.