

# Active GMP Recombinant Human LIF protein

**Cat. No.** LIF-4343HG    **Lot. No.** (See product label)

## SPECIFICATION

|                         |                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Product Overview</b> | Recombinant Human LIF was produced in E. coli using non-animal reagents in an animal-free facility under cGMP guidelines.                                                                                                                                                                                                                                                                                           |
| <b>Species</b>          | Human                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Source</b>           | E.coli                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Description</b>      | Leukemia Inhibitory Factor (LIF) is a lymphoid factor which promotes long-term maintenance of embryonic stem cells by suppressing spontaneous differentiation. LIF has a number of other activities including cholinergic neuron differentiation, control of stem cell pluripotency, bone and fat metabolism, mitogenesis of certain factor dependent cell lines and promotion of megakaryocyte production in vivo. |
| <b>Form</b>             | Lyophilized from a 0.2 µm filtered concentrated solution in PBS, pH 7.4                                                                                                                                                                                                                                                                                                                                             |
| <b>Bio-activity</b>     | Fully biologically active when compared to standard. The ED50 as determined by the dose-dependent proliferation of human TF-1 cells is less than 0.1 ng/ml, corresponding to a specific activity of $> 1.0 \times 10^7$ IU/mg.                                                                                                                                                                                      |
| <b>Molecular Mass</b>   | Approximately 19.7 kDa, a single non-glycosylated polypeptide chain containing 180 amino acids.                                                                                                                                                                                                                                                                                                                     |
| <b>AA Sequence</b>      | SPLPITPVNATCAIRHPCHNNLMNQIRSQLAQLNGSANALFILYYTAQGEPFPNNLDK<br>LCGPNVTDFPPFHANGTEKAKLVELYRIVVYLGTS LGNITRDQKILNPSALSLSKLN<br>ATADILRGLLSNVLCRLCSKYHVGHVDTVYGPDTSGKDV FQKKKLGCQLLGKYKQII                                                                                                                                                                                                                              |

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|                          |                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                          | AVLAQAF                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Endotoxin</b>         | Less than 1 EU/μg of the protein by LAL method.                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Purity</b>            | >98% by SDS-PAGE and HPLC analyses.                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Storage</b>           | This lyophilized preparation is stable at 2-8 centigrade, but should be kept at -20 centigrade for long term storage, preferably des centigradecated. Upon reconstitution, the preparation is stable for up to one week at 2-8 centigrade. For maximal stability, apportion the reconstituted preparation into working aliquots and store at -20 centigrade to -70 centigrade. Avoid repeated freeze/thaw centigrade centigradeles. |
| <b>Reconstitution</b>    | Reconstitute in sterile distilled water or aqueous buffer containing 0.1 % BSA to a concentration of 0.1-1.0 mg/mL. Stock solutions should be apportioned into working aliquots and stored at ≤ -20 centigrade. Further dilutions should be made in appropriate buffered solutions.                                                                                                                                                 |
| <b>Quality Statement</b> | Our GMP proteins are produced according to relevant sections of the following documents: WHO TRS, No. 822, 1992 Annex 1, Good Manufacturing Practices for Biological Products; USP Chapter 1043, Ancillary Materials for Cell, Gene and Tissue-Engineered Products and USP Chapter 92, Growth Factors and Cytokines Used in Cell Therapy Manufacturing.                                                                             |
| <b>Shipping</b>          | The product is shipped at ambient temperature. Upon receipt, store it immediately at the recommended temperature.                                                                                                                                                                                                                                                                                                                   |

## GENE INFORMATION

|                        |                                                 |
|------------------------|-------------------------------------------------|
| <b>Gene Name</b>       | LIF leukemia inhibitory factor [ Homo sapiens ] |
| <b>Official Symbol</b> | LIF                                             |

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**Synonyms** LIF; leukemia inhibitory factor; CDF; cholinergic differentiation factor; DIA; differentiation inhibitory activity; differentiation inducing factor; hepatocyte stimulating factor III; HILDA; human interleukin in DA cells; D factor; melanoma-derived LPL inhibitor; differentiation-inducing factor; hepatocyte-stimulating factor III; differentiation-stimulating factor; MLPLI;

**Gene ID** [3976](#)

**mRNA Refseq** [NM\\_001257135](#)

**Protein Refseq** [NP\\_001244064](#)

**MIM** [159540](#)

**UniProt ID** [P15018](#)

