

Recombinant Human Leukemia Inhibitory Factor

#R00084

Size: 5 µg/100 µg/500 µg

Stability & Storage

- Use a manual defrost freezer and avoid repeated freeze-thaw cycles.
- 12 months from date of receipt, -20 to -70 °C as supplied.
 - 1 month, 2 to 8 °C under sterile conditions after reconstitution.
 - 3 months, -20 to -70 °C under sterile conditions after reconstitution.



Warning: This product is intended for scientific research only. It is not to be used for medical or diagnostic procedures in humans or animals, nor as a food, cosmetic, or household product.

Background

Leukemia inhibitory factor (LIF) is a member of Interleukin 6 family. This protein is mainly expressed in the trophectoderm of the developing embryo, with its receptor LIFR expressed throughout the inner cell mass. LIF has the capacity to induce terminal differentiation in leukemic cells. Its activities include the induction of hematopoietic differentiation in normal and myeloid leukemia cells, the induction of neuronal cell differentiation, and the stimulation of acute-phase protein synthesis in hepatocytes. LIF is used in mouse embryonic stem cell culture, because that removal of LIF pushes stem cells toward differentiation, but they retain their proliferative potential or pluripotency. It is also used in phase II clinical trial, which can assist embryo implantation in women who have failed to become pregnant despite assisted reproductive technologies (ART). Mature human LIF (180 a.a.) shares 78 %, 82 %, 91 %, 88 % and 87 % a.a.

sequence identity with mouse, rat, canine, bovine, and porcine LIF, respectively.

AA Sequence

SPLPITPVNATCAIRHPCHNNLMNQIRSQLAQLNGSA
NALFILYYTAQGEPFPNNLDKLCGPNVTDFFPFHANG
TEKAKLVELYRIVVYLGTS LGNITRDQKILNPSALSLSHS
KLNATADILRGLLSNVLCRLCSKYHVGHV DVTYGPDT
SGKDVFQKKKLGCQLLGKYKQIIAVLAQAF

Reconstitution

We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute in sterile distilled water or aqueous buffer containing 0.1 % BSA to a concentration of 0.1-0.2 mg/mL. Stock solutions should be apportioned into working aliquots and stored at ≤ -20 °C. Further dilutions should be made in appropriate buffered solutions.

Product Specification

Synonyms	Differentiation-stimulating Factor, D Factor, Melanoma-derived LPL Inhibitor, MLPLI
Accession	P15018
GeneID	3976
Species	Human
Source	Escherichia coli.
Molecular Weight	Approximately 19.7 kDa, a single non-glycosylated polypeptide chain containing 180 amino acids.
Purity	> 98 % by SDS-PAGE and HPLC analyses.
Biological Activity	Fully biologically active when compared to standard. The ED ₅₀ 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.

Physical Appearance	Sterile Filtered White lyophilized (freeze-dried) powder.
Formulation	Lyophilized from a 0.2 μ m filtered concentrated solution in PBS, pH 7.4.
Endotoxin	Less than 1 EU/ μ g of rHuLIF as determined by LAL method.
