

Recombinant Human LIF

Information

Gene ID	3976
Accession #	P15018
Alternate Names	Differentiation-stimulating Factor, D Factor, Melanoma-derived LPL Inhibitor, MLPLI, HILDA
Source	<i>Escherichia coli</i> .
M.Wt	Approximately 19.7 kDa, a single non-glycosylated polypeptide chain containing 180 amino acids.
AA Sequence	SPLPITPVNA TCAIRHPCHN NLMNQIRSQL AQLNGSANAL FILYYTAQGE PFPNNLDKLC GPNVTDPPF HANGTEKAKL VELYRIVVYL GTSLGNITRD QKILNPSALS LHSKLNATAD ILRGLLSNVL CRLCSKYHVG HVDVTYGPDT SGKDVFQKKK LGCQLLGKYK QIIAVLAQAF
Appearance	Sterile Filtered White lyophilized (freeze-dried) powder.
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.
Formulation	Lyophilized from a 0.2 µm filtered concentrated solution in PBS, pH 7.4.
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.
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 > 1.0×10 ⁷ IU/mg.
Shipping Condition	Gel pack.
Handling	Centrifuge the vial prior to opening.
Usage	For Research Use Only! Not to be used in humans.

Components and Storage

Components	5 µg	100 µg	500 µg
Recombinant Human LIF	5 µg	100 µg	500 µg

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Quality Control

Purity	>98% by SDS-PAGE and HPLC analyses.
Endotoxin	Less than 1 EU/ μ g of rHuLIF as determined by LAL method.

Description

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.

Reference

1. Eswari S, Sai Kumar G, Sharma GT. 2012. Zygote: 1-11.
2. Mathieu ME, Saucourt C, Mournetas V, et al. 2012. Stem Cell Rev, 8: 1-15.
3. Thomson AJ, Pierart H, Meek S, et al. 2012. Cell Reprogram, 14: 112-22.
4. Li HandGrumet M. 2007. Glia, 55: 24-35.

APEx BIO Technology

www.apexbt.com

7505 Fannin street, Suite 410, Houston, TX 77054.

Tel: +1-832-696-8203 | Fax: +1-832-641-3177 | Email: info@apexbt.com

