



User Manual

Leukemia Inhibitory Factor (LIF) (Human)

Cat. No. HEOPP-12021

Description:

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*.

Source:

Escherichia coli

Unit:

5 µg

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 0.1-1.0 mg/mL. Stock solutions should be apportioned into working aliquots and stored at < -20°C. Further dilutions should be made in appropriate buffered solutions.

Formulation:

Lyophilized from a 0.2 µm filtered concentrated solution in PBS, pH 7.4

Storage:

This lyophilized preparation is stable at 2-8°C, but should be kept at -20°C for long term storage, preferably desiccated. Upon reconstitution, the preparation is stable for up to one week at 2-8°C. For maximal stability, apportion the reconstituted preparation into working aliquots and store at -20°C to -70°C. Avoid repeated freeze/thaw cycles.

Molecular Weight:

Approximately 19.7 kDa, a single non-glycosylated polypeptide chain containing 180 amino acids.

Endotoxin:

Less than 1 EU/ μ g of LIF as determined by LAL method.

Usage:

This material is offered by Cyagen Biosciences for research, laboratory or further evaluation purposes. FOR RESEARCH USE ONLY. NOT INTENDED FOR ANY ANIMAL OR HUMAN THERAP EUTIC OR DIAGNOSTIC USE.

Biological Activity:

The activity of LIF is determined by the ability to induce differentiation of human M1 myeloid leukemic cells. The minimum detectable concentration of LIF in this assay is 0.5 ng/mL, corresponding to a specific activity of $> 2.0 \times 10^8$ IU/mg, where 50 units is defined as the amount of LIF required to induce differentiation in 50% of the M1 colonies in 1 mL agar cultures.

Physical Appearance:

Sterile filtered white lyophilized (freeze-dried) powder.

AA Sequence:

SPLPITPVNA TCAIRHPCHN NLMNQIRSQL AQLNGSANAL FILYYTAQGE
PFPNNLDKLC GPNVTDFFPF HANGTEKAKL VELYRIVVYL GTSLGNITRD
QKILNPSALS LHSKLNATAD ILRGLLSNVL CRLCSKYHVG HVDVTYGPDT
SGKDVFQKKK LGCQLLGKYK QIIAVLAQAF

Purity:

$> 98\%$ by SDS-PAGE and HPLC analyses.

Material Safety Data Sheets (MSDSs) are available upon request.

The Certificate of Analysis (COA), which provides detailed quality control information for each product, is also available at the Cyagen website.

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