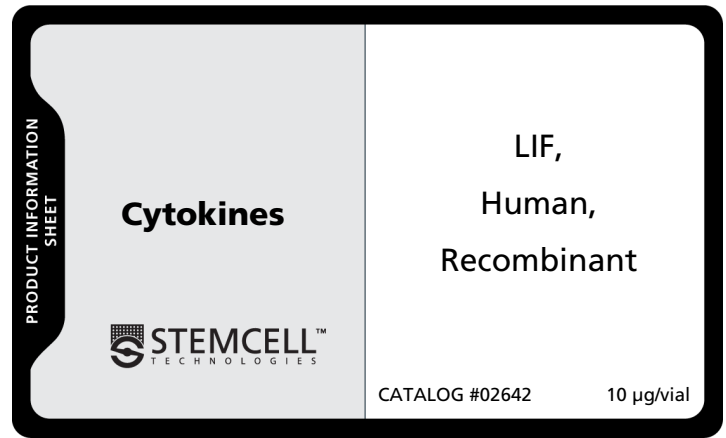


PRODUCT DESCRIPTION

Leukemia inhibitory factor (LIF) is a pleiotropic cytokine produced by many different cell and tissue types including T cells, myelomonocytic lineages, fibroblasts, liver, heart and melanomas. LIF stimulates the differentiation of the macrophage cell line M1, and the proliferation of hematopoietic stem cells. *In vivo*, it has profound effects on hematopoiesis, particularly in combination with other cytokines such as IL-3, causing increased platelet formation. LIF allows embryonic stem cells to remain in an undifferentiated state and can maintain their proliferation in culture. LIF stimulates synthesis of acute phase proteins by liver cells, increases bone resorption, stimulates differentiation of cholinergic nerves and loss of body fat. The mature protein contains 180 amino acid residues, several potential glycosylation sites and three disulfide bonds. LIF binds to a heterodimeric receptor formed by an α binding chain and gp130.



SOURCE

Human LIF* was expressed in *E. coli* as a fusion protein with GST. The GST moiety was cleaved with thrombin and human LIF was purified by HPLC.

PURITY

Greater than 95% by analytical HPLC and SDS-PAGE. Endotoxin level is less than 0.1 ng/mg of human LIF as determined by the Limulus Amoebocyte Lysate (LAL) method.

ACTIVITY

The biological activity of recombinant human LIF was measured by the ability to induce differentiation of murine M1 myeloid leukemic cells. The minimal detectable concentration of human LIF in this assay is 0.5 ng/mL. The specific activity is $\geq 1 \times 10^8$ units/mg, where 50 units is defined as the amount of human LIF required to induce differentiation in 50% of the M1 colonies in 1 ml agar cultures.

FORMULATION

Supplied at a concentration of 10 μ g/mL in phosphate-buffered saline (PBS), pH 7.4 and 0.02% Tween 20. Further dilutions should be made into buffer or medium to which protein (e.g. 1% bovine serum albumin) or Tween 20 has been added.

STABILITY AND STORAGE

Product stable at 2 - 8°C until expiry date as indicated on the label.

* This product was manufactured under US Patent Nos. 5,187,077; 5,427,925; 5,443,825; 5,750,654, and European Patent No. 0285 448.

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