

Animal-Free | Endotoxin-Free | Carrier-Free

LIF, human, recombinant

Catalog Number: IK0700

DESCRIPTION

Leukemia inhibitory factor (LIF) is a pleiotropic lymphoid factor belonging to the interleukin-6 family of cytokines. It was initially described as a factor inhibiting the proliferation of myeloid leukemia cells and inducing their differentiation into macrophages. Other activities of LIF include inhibition of adipogenesis and roles in cholinergic neuron differentiation, hematopoiesis, inflammation and bone metabolism. LIF inhibits the differentiation of embryonic stem cells, it is therefore important in ES cell culture. Human and mouse LIF share 78% amino acid homology, the human version is equally active on human and mouse cells but mouse LIF is not active on human cells.

SOURCE

Produced in the endosperm tissue of barley grain (*Hordeum vulgare*). ISOkin® growth factors and cytokines are animal-free and serum-free and void of antibiotics, endotoxins, viruses, and prions.

FORMULATION

2xPBS pH 7.2, sterile filtered through 0.22 µm filter.

PURITY

≥90% by SDS-PAGE gel analysis.

SHELF LIFE

The lyophilized protein has a shelf life for 3 years when stored at < 20°C.

RECONSTITUTION

Always centrifuge the vial before opening. It is recommended to reconstitute the lyophilized protein in sterile buffered saline to a concentration of no less than 100 µg/ml. For long term storage of the reconstituted solution, it is recommended to add a carrier protein (0.1% HSA or BSA).

STABILITY

The lyophilized protein, though stable at room temperature for a few weeks, is best stored at -20°C. Reconstituted protein should be used immediately or stored in working aliquots at -20°C. Avoid repeated freeze-thaw cycles.

BIOLOGICAL ACTIVITY

Each batch of ISOkin® growth factors is tested for bioactivity and verified to have comparable activity to a commercial source. The bioactivity of ISOkin® recombinant human LIF is assayed by measuring its dose-dependent effect on the proliferation of TF-1 cells. The ED50 for this effect using LIF is typically <0.4 ng/ml. Optimal concentration should be determined for specific applications and cell lines.

ENDOTOXIN LEVEL

Endotoxin level is <0.0100 EU/µg of ISOkin® product by LAL method.

MAT ASSAY

Purified ISOkin® product carries no pyrogenic or pro-inflammatory contaminants, as assayed with monocyte activation test using Human 10-plex Cytokine Assay measuring IL-6, TNF-alpha and IL-1beta induction. (Ref. The Blood Bank, University Hospital of Iceland, Reykjavik, Iceland.)

MOLECULAR WEIGHT

Recombinant human LIF contains 180 amino acids and an N-terminal 16 amino acid histidine tag for a total length of 196 amino acids and has a predicted molecular mass of 21.83 kDa.

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