

# Recombinant mouse leukemia inhibitory factor (mLIF). Animal and Endotoxin free

CATALOGUE NUMBER: AMS-263

AVAILABLE SIZES: 10µg, 50µg, 100µg, 1000µg

## DESCRIPTION

LIF (leukemia inhibitory factor, myeloid leukemia inhibitory factor) a pleiotropic lymphoid factor was initially described as a factor that inhibits the proliferation of myeloid leukemia cells and induces their differentiation into macrophages. Other activities of LIF include inhibition of adipogenesis, cholinergic neuron differentiation and bone metabolism. Human and mouse LIF share 78% homology and activities of LIF are not species-specific. Human LIF is active on mouse cells, but murine LIF is not active on human cells.

## SOURCE

Recombinant mouse LIF is produced in the endosperm tissue of barley grain (*Hordeum vulgare*), that exhibits up to 50 times less protease activity than *E.coli* or mammalian cells. Barley seed is void of any human or animal viral contaminants that could jeopardize your cell culture.

## FORMULATION

PBS, pH 7.2, sterile filtered.

## PURITY

Greater than 95% by SDS-PAGE gel analysis

## RECONSTITUTION

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

## STABILITY

The lyophilized protein, though stable at room temperature for 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 is tested for bioactivity and verified to have comparable activity to a commercial source. The bioactivity of murine LIF was determined by its ability to induce differentiation of murine M1 myeloid leukemia cells. The ED50 value for this effect is typically < 1 ng/ml: 10µg of mLIF protien is equivalent to approximately 10e6 U (where 50 U is defined as the amount of mLIF required to induce differentiation of 50% of M1 cells). The activity is comparable to mLIF from other commercial sources. We recommend that the optimal concentration for each specific application be determined by an initial dose-response assay.

## ENDOTOXIN LEVEL

Endotoxin level is less than 0.005ng per µg of product (0.05EU/µg) as measured by turbidimetric kinetic assay. Ref. Associates of Cape Cod Industries, Deacon Park, Knowsley, Liverpool, UK

## MAT assay

Purified 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 mouse LIF contains 188 amino acids and a 16 a.a. Histidine-based tag for a total length of 204 a.a. and has a predicted molecular mass of 22.8 kDa. As a result of glycosylation, the recombinant protein migrates with an apparent molecular mass of 28-30 kDa in SDS-PAGE.