

# Growth Factor Data Sheet

GoldBio growth factors are manufactured for **RESEARCH USE ONLY** and cannot be sold for human consumption!

Leukemia Inhibitory Factor (LIF) is a lymphoid factor which promotes long-term maintenance of embryonic stem cells by suppressing spontaneous differentiation. LIF binds to the specific LIFR- $\alpha$ , which forms a heterodimer containing a GP130 signal transducing subunit. LIF is normally expressed in the trophectoderm of the developing embryo and 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*. While LIF is not required for human embryonic stem cell cultures, it is commonly used for mouse embryonic stem cell cultures.

<b>Catalog Number</b>	<b>1330-07</b>
<b>Product Name</b>	<b>LIF, Murine</b> Recombinant Murine Leukemia Inhibitory Factor LIF
<b>Source</b>	<i>Escherichia coli</i>
<b>MW</b>	~19.9 kDa (180 amino acid)
<b>Sequence</b>	SPLPITPVNA TCAIRHPCHG NLMNQIKNQL AQLNGSANAL FISYYTAQGE PFPNNVEKLC APNMTDFPSF HGNGTEKTKL VELYRMVAYL SASLTNITRD QKVLNPTAVS LQVKLNATID VMRGLLSNVL CRLCNKYRVG HVDVPPVPDH SDKEAFQRKK LGCQLLGTYK QVISVVVQAF
<b>Accession Number</b>	<a href="#">P09056</a>
<b>Purity</b>	>98% by SDS-PAGE and HPLC analyses
<b>Biological Activity</b>	Fully biologically active when compared to standard. The specific activity is determined by inducing differentiation of murine M1 myeloid leukemic cells. The minimum detectable concentration of rMuLIF in this assay is 0.01 ng/ml. The specific activity of $> 1.0 \times 10^8$ IU/mg, where 50 units is defined as the amount of rMuLIF required to induce differentiation in 50 % of the M1 colonies in 1 ml agar cultures.
<b>Formulation</b>	Sterile filtered white lyophilized powder. Purified and tested for use in cell culture.
<b>Storage/Handling</b>	This lyophilized preparation is stable at 2-8°C, but should be kept at -20°C for long term storage. The reconstituted sample can be apportioned into working aliquots and stored at -80 °C for up to 6 months. Avoid repeated freeze/thaw cycles.
<b>Reconstitution</b>	The sample should be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute in a siliconized tube using PBS that contains a 0.1% BSA to a concentration of 0.1-1.0 mg/mL. Reconstituted solutions are stable for up to one week at 2-8°C. Stock solutions should be aliquoted and stored at -80°C. Further dilutions should be made in appropriate buffered solutions containing BSA or serum.