



## Product Specification Sheet

<b>Product Name</b>	Stemfactor™ LIF, Mouse Recombinant
<b>Description</b>	Recombinant Mouse LIF is a lymphoid factor that promotes long-term maintenance of the pluripotency of mouse embryonic stem cells by suppressing spontaneous differentiation <sup>1,2</sup> . Leukemia Inhibitory Factor (LIF) has additional functions such as cholinergic neuron differentiation, bone and fat metabolism, mitogenesis of certain factor dependent cell lines and promotion of megakaryocyte production <i>in vivo</i> . Mouse LIF is an approximate 20 kDa protein containing 202 amino acid residues.
<b>Catalog Number</b>	03-0011-100
<b>Quantity</b>	1 ml
<b>Concentration</b>	100 µg/ml
<b>Source</b>	<i>E. coli</i>
<b>Purity</b>	Greater than 98% by SDS-PAGE analysis.
<b>Formulation</b>	LIF is supplied as a 0.22 µm sterile filtered liquid in PBS containing 1% w/v BSA as carrier.
<b>Endotoxin Level</b>	Less than 1 EU/µg of LIF as determined by the LAL method.
<b>Biologic Activity</b>	Mouse LIF activity is assessed by its ability to induce differentiation of M1 myeloid leukemia cells. The specific activity is greater than or equal to $1 \times 10^7$ units/ml, where 50 units is defined as the amount of mouse LIF required to induce differentiation in 50% of the M1 colonies in 1 ml of medium.
<b>Recommended Usage</b>	1 ml of mouse LIF with the specific activity of $1 \times 10^7$ units/ml is sufficient to treat 10 L of embryonic stem cell culture media.
<b>Sterility</b>	Tested to be negative for mycoplasma by PCR and microbial contamination by a sterility test.
<b>Storage and Stability</b>	LIF is shipped at room temperature. Concentrated LIF is stable for up to 6 months from date of receipt when stored at 4°C. Prior to use dilute LIF in sterile tissue culture media, aliquot to a convenient concentration, and store at 4°C. Avoid freeze-thaw cycles as it can result in loss of activity.
<b>References</b>	<ol style="list-style-type: none"><li>Williams, R.L., Hilton, D.J., Pease, S., Willson, T.A., Stewart, C.L., Gearing, D.P., Wagner, E.F., Metcalf, D., Nicola, N.A., and Gough, N.M. (1988) Myeloid leukemia inhibitory factor maintains the developmental potential of embryonic stem cells. <i>Nature</i> 336: 684-687.</li><li>Metcalf, D., Hilton, D.J., and Nicola, N.A. (1988) Clonal analysis of the actions of the murine leukemia inhibitory factor on leukemic and normal murine hemopoietic cells. <i>Leukemia</i> 2: 216-221.</li></ol>

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