

## Product Information

# Leukemia Inhibitory Factor, human recombinant, expressed in *Escherichia coli*

**L5283**

Storage Temperature 2-8 °C

Synonyms: LIF, D factor, Differentiation-stimulating factor, differentiation-inhibitory activity (DIA), human interleukin for DA cells (HILDA), cholinergic neuronal differentiation factor

## Product Description

Human Leukemia Inhibitory Factor (LIF), a 20 kDa protein containing 180 amino acid residues, is a multifunctional glycoprotein that induces macrophage differentiation.<sup>1</sup> LIF is produced by T cells, fibroblasts, liver, and heart. It stimulates the differentiation of the macrophage cell line M1,<sup>1</sup> and allows embryonic stem cells to remain in an undifferentiated state and can maintain their proliferation in culture.<sup>2</sup>

There is 78% homology between mouse and human LIF.<sup>3</sup> Human LIF is active on human and mouse cells, while mouse LIF is active on mouse cells.

This product is expressed as a glutathione S-transferase (GST) fusion protein. The GST is cleaved and removed from the purified product,<sup>4</sup> which is supplied as a solution in phosphate buffered saline, pH 7.4, with 0.02% TWEEN® 20.

Specific activity:  $\geq 1 \times 10^8$  units/mg.

The biological activity of recombinant human LIF is measured by its ability to induce cell growth arrest of the M1 mouse myeloid leukemic cell line. 50 units is defined as the amount of human LIF required to induce 50% growth inhibition of the M1 cells in 1 mL culture.

## Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

## Storage/Stability

Store the product at 2-8 °C.

## References

1. Gearing, D.P. et al., EMBO J., 6, 3995-4002 (1987).
2. Williams, R.L. et al., Nature, 336, 684-687 (1988).
3. Gough, N.M. et al., Proc. Natl. Acad. Sci. USA, 85, 2623-2627 (1988).
4. Smit, D.B., and Johnson, K.S., Gene, 67, 31-40 (1988).

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