

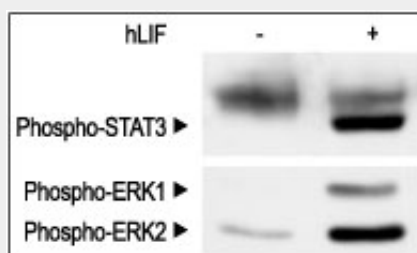
hLIF Protein**Human Leukemia Inhibitory Factor, Recombinant, E. coli****Catalog # PG10023****Specification****hLIF Protein - Product Information****hLIF Protein - Additional Information****Storage****-20°C****Precautions**

hLIF Protein is for research use only and not for use in diagnostic or therapeutic procedures.

hLIF Protein - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

hLIF Protein - Images

human_LIF - Abgent human LIF activates ERK1 2 MAPK and STAT3 in 3T3-L1 cells. Cells were serum starved for 2 h and stimulated with 100 ng/ml of humanLIF(#PG10023) for 10 min. Cell proteins were resolved by SDS-PAGE and probed with anti-phospho-STAT3 and anti-phospho-ERK1/2.

hLIF Protein - Background

Leukemia inhibitory factor (LIF) was identified by its ability to induce terminal differentiation in leukemic cells.^{1,2} LIF is a pleiotrophic factor with known actions in the immune system, the nervous

system and the reproductive system.^{3,4} In the nervous system it acts on cultured sympathetic neurons to direct a change in neurotransmitter expression from a noradrenergic to a cholinergic phenotype and regulates the expression of neuropeptide transmitters in these cells.^{5,6} In the immune system LIF plays a key role in inflammation,^{7,8} with a pro-inflammatory role in rheumatoid arthritis,⁹ but also with proposed anti-inflammatory properties in lung inflammatory processes. In the reproductive system, LIF appears to play an important role in implantation and in the establishment of pregnancy.^{10,12} LIF acts as a trophic factor for oligodendrocytes and promotes astrocytic survival and differentiation.^{13,14} It exhibits activity towards spinal motor neurons and stimulate the biosynthesis of acetylcholine.⁶ LIF also functions as a trophic factor for peripheral sensory neurons supporting their survival.^{15,16} LIF appears to be essential for injury-induced neuropeptide synthesis¹⁷ and can also stimulate the hypothalamic-pituitary-adrenal axis in response to stress and disease.¹⁸ LIF is used extensively in experimental biology because of its ability to induce embryonic stem cells to retain their totipotentiality.

hLIF Protein - References

1 . Brach, M.A.et al.(1990)Leukemia4,646.2 . Estrov, Z.et al.(1992)Leuk. Lymphoma 8,1.3 . Gough, N.M.et al.(1989)Cancer Cells. 1,77.4 . Metcalf, D. (2003)Stem Cells 21,5.5 . Zurn, A.D. and Werren, F.(1994)Dev. Biol. 163,309.6 . Martinou, J.C.et al.(1992)Neuron8,737.7 . Gadiant, R.A. and Patterson, P.H.(1999)Stem Cells 17,127.8 . Patterson, P.H.(1994)Proc. Natl. Acad. Sci. U.S.A. 91,7833.9 . Gabay, C.et al.(1996)Clin. Exp. Immunol. 105, 260.10 . Lass, A.et al.(2001)Fertil. Steril. 76,1091.11 . Robb, L.et al.(2002)J. Reprod. Immunol. 57,129.12 . Ledee Bataille, N.et al.(2002)Hum. Reprod. 17,213.13 . Vos, J.P. et al.(1996)Perspect. Dev. Neurobiol. 4,39.14 . Butzkueven, H. et al.(2002)Nat. Med. 8,613.15 . Horton, A.R. et al.(1996)Perspect. Dev. Neurobiol. 4,35.16 . Murphy, M. et al.(1997)Prog. Neurobiol. 52,355.17 . Rajan, P.et al.(1995)Neuroreport6,2240.18 . Akita, S.et al.(1996)J. Clin. Endocrinol. Metab. 81,4170.