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LIF

Catalog # PVGS1754

Product Information

Primary Accession	Q27956
Species	Bovine
Sequence	Ser23-Phe202
Purity	≥ 95% as analyzed by SDS-PAGE
Endotoxin Level	
Expression System	E.coli
Theoretical Molecular Weight	19.9 kDa
Formulation	Lyophilized from a 0.2 μm filtered solution in 1×PBS, pH 7.4
Reconstitution	Before opening, centrifuge the vial briefly to bring the contents to the bottom. Reconstitute the lyophilized powder in ddH_2O up to 100 μg/ml
Storage & Stability	Upon receiving, this product remains stable up to 6 months at -20 °C or below. Upon reconstitution, the product should be stable up to 1 week at 4 °C or up to 3 months at -20 °C. Avoid repeated freeze-thaw cycles.

Additional Information

Gene ID	280840
Other Names	Leukemia inhibitory factor, LIF, bLIF, LIF
Target Background	LIF has the capacity to induce terminal differentiation in leukemic cells. Its activities include the induction of hematopoietic differentiation in normal and myeloid leukemia cells, the induction of neuronal cell differentiation, and the stimulation of acute-phase protein synthesis in hepatocytes (By similarity).

Protein Information

Name	LIF
Function	Functions as a cytokine that binds to the LIF receptor complex. The LIF receptor complex indeed consists of two signaling receptor subunits IL6ST/gp130 and LIFR that transduce the signal into the cell (By similarity). Functionally, regulates cell self-renewal, differentiation and survival of embryonic stem cells (ESCs) and is crucial for embryonic implantation (By similarity). Mechanistically, ligand binding to LIFR, induces heterodimerization with IL6ST/gp130 activating JAK tyrosine kinases (JAK1 or JAK2 and to a lesser

extent TYK2) bound to their intracellular domains. These kinases subsequently phosphorylate IL6ST/gp130 and LIFR. The tyrosine phosphorylated signaling receptors serve in turn as docking sites for recruitment and activation of signal transducers and activators of transcription (STAT3 and to lesser extent STAT1). In parallel to the activation of the STAT3-pathway, the binding of LIF to the LIF receptor complex leads to the activation of the mitogen-activated protein kinase (MAPK) and the phosphatidylinositol 3-kinase (PI(3)K) pathways. Tyrosine phosphorylation of the p85 subunit of PI(3)K by JAK1 leads to activation of the serine/ threonine kinase AKT (protein kinase B) (By similarity). PI(3)K-dependent signaling is required for efficient self- renewal of murine ES cells, and regulation of ERK activity is functionally important in this response (By similarity). Moreover, induces tyrosine phosphorylation of PTPN11, that associates with IL6ST/gp130-LIFR, which in turn recruits the p85 regulatory subunit of PI(3)K protein kinase, promoting PI3K-AKT activation, and GRB2-RAS-MAPK signaling (By similarity).

Cellular Location Secreted {ECO:0000250|UniProtKB:P15018}.

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