Recombinant mouse LIF

Catalog No: #AG0053

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Description

Product Name	Recombinant mouse LIF
Host Species	HEK293
Purification	> 95% by Tris-Bis PAGE;> 95% by SEC-HPLC
Immunogen Description	Ser24-Phe203
Target Name	LIF
Other Names	Mouse leukemia inhibitory factor
Accession No.	Uniprot:P09056Gene ID:16878
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GeneID	16878
Target Species	mouse
Calculated MW	19.9 KDa
Tag Info	addtional amino acid free
Formulation	0.22 μm filtered solution of PBS, pH 7.4.
Storage	Aliquot and store at -80°C. Avoid repeated freeze/thaw cycles.

Background

Recombinant mouse LIF (leukemia inhibitory factor) is commonly used in cell culture to maintain the pluripotency of stem cells. LIF is a widely expressed pleiotropic member of the IL-6 family of cytokines (1-3). Mature mouse LIF is expressed as a highly and variably glycosylated 32-62 kDa monomer that shares 78%, 91%, 80%, 76%, and 78% aa sequence identity with human, rat, canine, bovine, and porcine LIF, respectively (4). LIF functions through a heterodimeric receptor complex containing a ligand-binding subunit, LIF R alpha /CD118, and a signal transducing subunit, gp130 (2,?4,?5). gp130 also serves as a subunit of the receptor complexes for Oncostatin?M, Cardiotrophin-1, CNTF, IL-6, IL-11, and IL-27 (2,?5). A soluble form of mouse LIF R alpha can be generated by alternative splicing (6). Depending on the cells and their context, LIF either opposes or favors differentiation (2,?7). LIF produced by the uterine endometrium supports successful implantation of the embryo, promotes proliferation and maintenance of pluripotency in embryonic stem cells, and favors proliferation of progenitor cell types such as hematopoietic stem cells (2,?5,?7). However, excess LIF blocks differentiation of embryoid bodies, indicating the importance of LIF regulation (2, 5). LIF is produced by activated CD4+?T?cells and is required by the thymic epithelium to support T?cell maturation (2, 3). Its expression is upregulated by neuronal injury, and it promotes motor neuron survival and oligodendrocyte myelination (2,?3,?8). It is produced by the adrenal cortex and likely enhances adrenal production of cortisol and aldosterone (9). LIF can also function as an autocrine growth factor in some pancreatic cancers, but it induces differentiation in the myeloid leukemic cell line M1 (1,?10). Tumor cell-derived LIF can also induce formation of immunosuppressive tumor-associated macrophages (11). LIF promotes endometrial remodeling and differentiation of adipocytes and cardiac smooth muscle cells (2,?3,?12). It promotes regulatory T cell and inhibits Th17 cell differentiation, thus down-regulating inflammation and contributing to immune tolerance during pregnancy and in the nervous system (2,?3,?5,?7).

Note: This product is for in vitro research use only