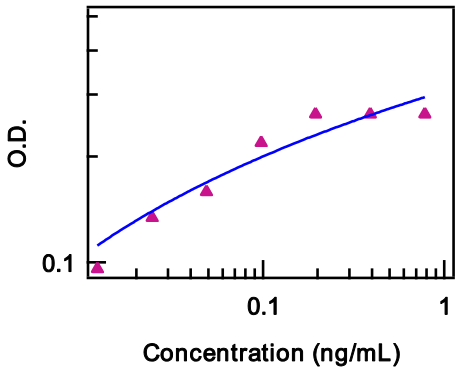
Mouse LIF Recombinant Protein

Catalog Number: 14-8521
Also known as: leukocyte inhibitory factor, Leukemia inhibitory factor
RUO: For Research Use Only. Not for use in diagnostic procedures.



Standard four-parameter fit to induction of mIL-6 in M1 cells by Mouse LIF Recombinant Protein.

Product Information

Contents: Mouse LIF Recombinant Protein
REF **Catalog Number:** 14-8521
Concentration: 0.1 mg/mL
Handling Conditions: For best recovery, quick-spin vial prior to opening. Use in a sterile environment
Source: E. coli derived Ser24-Phe203 accession number NM_008501
Molecular Mass: 20 kDa
Purity: > 98%, as determined by SDS-PAGE
Endotoxin: Less than 0.01 ng/ug cytokine as determined by the LAL assay
Bioactivity: Recombinant mouse LIF has been tested for induction of mIL-6 in the M1 cell line. The ED50 in this assay is 0.75-0.4 ng/mL, which corresponds to a specific activity of 1.3 x 10e6 - 2.5 x 10e6 Units/mg. When used at 10 ng/mL, this recombinant protein has also been found to support mouse embryonic stem cells in an undifferentiated state at same concentration.

Formulation: Sterile liquid; phosphate-buffered saline with 0.05% Tween-20 and 1% BSA, 0.22 um filtered.
Temperature Limitation: Store at less than or equal to -70°C.
LOT **Batch Code:** Refer to vial
Use By: Refer to vial

Description

Leukemia inhibitory factor (LIF) is a 20 kDa protein that belongs to the IL-6 receptor family. It binds to a heterodimeric membrane receptor made up of a LIF-specific subunit, gp190 or LIFR, and the subunit gp130, which is shared with the other members of the IL-6 family. LIF expression has been observed in various tissues including thymus, lung, and neuronal tissue. LIF can be up-regulated by pro-inflammatory cytokines such as TNFα and IL-17, and elevated levels of LIF have been found in cases of rheumatoid arthritis, neural injury, systemic inflammation, and tuberculosis. LIF displays diverse biological effects, but is best known for its ability to inhibit the differentiation of embryonic stem cells in mice and contribute to stem cell self-renewal.Human and mouse LIF share 79% sequence homology and exhibit cross-species activity. However, LIF inhibition of stem cell differentiation appears to be mouse-specific.

Applications Reported

Recombinant mouse LIF is biologically active.

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Applications Tested
Recombinant mouse LIF has been tested for induction of mIL-6 in the M1 cell line. The ED_{50} in this assay is 0.75-0.4 ng/ml, which corresponds to a specific activity of 1.3×10^6 - 2.5×10^6 Units/mg.

References
Mullen EM, Gu P, Cooney AJ. Nuclear receptors in regulation of mouse ES pluripotency and differentiation. PPAR Res. 2007;2007:61563

Metcalf D. The unsolved enigmas of leukemia inhibitory factor. Stem Cells. 2003;21(1):5-14

Gadient RA, Patterson PH. Leukemia inhibitory factor, interleukin 6, and other cytokines using the GP130 transducing receptor: roles in inflammation and injury. Stem Cells. 1999;17(3):127-137

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