Recombinant Human LIF Rα

Catalog Number: 249-LR/CF

DESCRIPTION

Source	*Spodoptera frugiperda*, *Sf* 21 (baculovirus)-derived Gln45-Ser833 Accession # P42702
N-terminal Sequence Analysis	No results obtained: Gln45 predicted
Predicted Molecular Mass	89 kDa

SPECIFICATIONS

SDS-PAGE	100-110 kDa, reducing conditions
Activity	Measured by its ability to inhibit LIF-dependent proliferation of TF-1 human erythroleukemic cells. Kitamura, T. *et al.* (1989) J. Cell Physiol. **140**:323. The ED_{50} for this effect is 3-10 µg/mL in the presence of 0.3 ng/mL of recombinant human LIF.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>90%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 100 µg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 3 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

The activities of the pleiotropic cytokine LIF are mediated through a high-affinity heterodimeric receptor complex consisting of two membrane glycoproteins: an α subunit (LIF Rα, also known as LIF Rβ and CD118) that binds LIF with low affinity and the 130 kDa (gp130) subunit that does not bind LIF by itself, but is required for high-affinity binding of LIF by the complex. The gp130 subunit was first described as the signal transducing subunit of the high-affinity IL-6 receptor complex. Besides LIF, the high-affinity heterodimeric LIF receptor complex has been shown to mediate the activities of oncostatin M (OSM), cardiotrophin-1 and ciliary neurotrophic factor (CNTF).

Human LIF Rα cDNA encodes a 1097 amino acid (aa) residue precursor type I membrane protein with a 44 aa residue signal peptide, a 789 aa residue extracellular domain, a 26 aa residue transmembrane domain, and a 238 aa residue cytoplasmic domain. LIF Rα is a member of the cytokine receptor family and has extensive homology to gp130. The extracellular domain of LIF Rα has two cytokine receptor domains and three fibronectin type III repeats. In mouse, mRNAs encoding a soluble LIF Rα and lacking transmembrane and intracellular domains, have been isolated. Soluble LIF Rα has been shown to bind LIF and has LIF antagonistic activity.

References:

1. Bazan, J.F. (1990) Proc. Natl. Acad. Sci. USA **87**:6934.
2. Gearing, D.P. (1994) *Guidebook to Cytokines and Their Receptors*, Academic Press, p130.
3. Pennica D. *et al.* (1995) J. Biol. Chem. **270**:10915.

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