Data Sheet (Cat.No.TMPY-01597)

TargetMol

LIFR Protein, Mouse, Recombinant (His)

General Information

Synonyms:	LIF;A230075M04Rik;AW061234;leukemia inhibitory factor receptor α;leukemia inhibitory factor receptor alpha
Protein Construction:	A DNA sequence encoding the extracellular domain of mouse LIFR (NP_038612.1) (Met 1-Ser 828) was expressed, with a polyhistidine tag at the C-terminus. Predicted N terminal: Leu 44
Species:	Mouse
Expression Host:	HEK293 Cells
Accession:	P42703-1
Molecular Weight:	90 kDa (predicted); 110-120 kDa (reducing condition, due to glycosylation)

QC Testing

Biological Activity:	1. Measured by its ability to bind mouse LIF-Fc in a functional ELISA. 2. Measured by its ability to inhibit the recombinant human LIF mediated inhibition in the M1 mouse myeloid leukemia cells. The ED50 for this effect is typically 5-20 ng/mL in the presence of 2 ng/mL recombinant human LIF.
Purity:	> 95 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing PBS, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

LIFR (leukemia inhibitory factor receptor) belongs to the family of cytokine receptors. LIFR forms a high-affinity receptor complex with gp130, which mediates the activity of LIF (leukemia inhibitory factor) and thus affects the

differentiation, proliferation, and survival of a wide variety of cells in the adult and the embryo. Besides LIF, LIFR can also bind to and activate CNTF (ciliary neurotrophic factor) and CLC (Cardiotrophin Like Cytokine). Evidence showed that in the retina, LIFR activating LIF, CT-1, and Cardiotrophin Like Cytokine (CLC) are strongly upregulated in response to preconditioning with bright cyclic light leading to robust activation of signal transducer and activator of transcription-3 (STAT3) in a time-dependent manner. Further, blocking LIFR activation during preconditioning using a LIFR antagonist (LIF05) attenuated the induced STAT3 activation and also resulted in reduced preconditioning-induced protection of the retinal photoreceptors. These data demonstrate that LIFR and its ligands play an essential role in endogenous neuroprotective mechanisms triggered by preconditioning-induced stress. LIFR was newly found to be a suppressor of hepatocellular carcinoma (HCC), one of the world's top five causes of cancer-related deaths.

Reference

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