Data Sheet (Cat.No.TMPY-05493)

TargetMol

LIFR Protein, Human, Recombinant (hFc)

General Information

Synonyms:	LIF-R;CD118;leukemia inhibitory factor receptor alpha;SWS;STWS;SJS2;leukemia inhibitory factor receptor α
Protein Construction:	A DNA sequence encoding the human LIFR (NP_002301.1) (Met1-Ser833) was expressed with the Fc region of human IgG1 at the C-terminus. Predicted N terminal: Gln 45
Species:	Human
Expression Host:	HEK293 Cells
Accession:	P42702-1
Molecular Weight:	116.1 kDa (predicted)

QC Testing

Biological Activity:	Immobilized Recombinant Human LIF Protein (Cat#TMPY-04104) at 2 μg/mL (100 μL/well) can bind Recombinant Human LIFR Protein (Fc Tag) (Cat#TMPY-05493), the EC50 is 7-21 ng/mL. (Routinely tested)
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:

Reconstituted with sterile deionized water to 0.25 mg/mL. Reconstitution conditions may vary depending on the lot.

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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