

Rat LIFR Protein (His Tag)



Sino Biological
Biological Solution Specialist

Catalog Number: 80322-R08H

General Information

Gene Name Synonym:

LIFR

Protein Construction:

A DNA sequence encoding the rat LIFR (G3V7K2) (Met1-Ser829) was expressed with a polyhistidine tag at the C-terminus.

Source: Rat

Expression Host: HEK293 Cells

QC Testing

Purity: > 95 % as determined by SDS-PAGE

Bio Activity:

1. Measured by its binding ability in a functional ELISA. Immobilized Mouse LIF hFc (Cat: 50755-M02H) at 2 µg/ml (100 µl/well) can bind Rat LIFR His (Cat: 80322-R08H), the EC₅₀ of Rat LIFR His is 300-700 ng/mL.

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 8-40 ng/mL in the presence of 2 ng/mL recombinant human LIF.

Endotoxin:

< 1.0 EU per µg of the protein as determined by the LAL method

Predicted N terminal: Leu 44

Molecular Mass:

The recombinant rat LIFR comprises 797 amino acids and predicts a molecular mass of 90 kDa. The apparent molecular mass of the recombinant protein is approximately 116 kDa in SDS-PAGE under reducing conditions due to glycosylation.

Formulation:

Lyophilized from sterile PBS, pH 7.4

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

Usage Guide

Stability & Storage:

Samples are stable for twelve months from date of receipt at -20°C to -80°C.

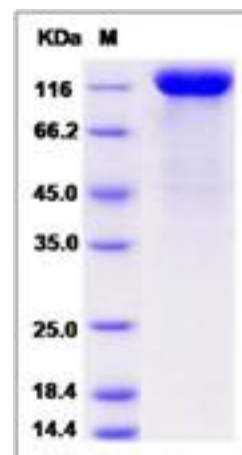
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

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.

References

1. Gearing, D.P. et al., 1991, EMBO J. 10 (10): 2839-2848.
2. Gearing, D.P. et al., 1992, New Biol. 4 (1): 61-65.
3. Mosley, B. et al., 1996, J. Biol. Chem. 271 (51): 32635-32643.