Data Sheet (Cat.No.TMPY-06952)

TargetMol

LIF Protein, Cynomolgus, Rhesus, Recombinant (His & Avi), Biotinylated

General Information

Synonyms:	leukemia inhibitory factor
Protein Construction:	A DNA sequence encoding the Cynomolgus / Rhesus LIF (A0A2K5UCA6)(Ser27-Phe206) was expressed with a C-terminal polyhistidine tag followed by an AVI tag. The expressed protein was biotinylated in vivo by the Biotin-Protein ligase (BirA enzyme) which is co-expressed. Predicted N terminal: Ser 27
Species:	Cynomolgus,Rhesus
Expression Host:	HEK293 Cells
Accession:	A0A2K5UCA6
Molecular Weight:	22.96 kDa (predicted); 43.7 kDa (reducing conditions)

QC Testing

Biological Activity:	Immobilized Recombinant Rhesus LIFR Protein (His Tag) at 2 μg/mL (100 μL/well) can bind Recombinant Cynomolgus / Rhesus LIF Protein (His & AVI Tag), Biotinylated , the EC50 is 10-30 ng/mL.
Purity:	≥ 95 % as determined by SDS-PAGE. ≥ 95 % as determined by SEC-HPLC.
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

Leukemia inhibitory factor (LIF) is a pleiotropic glycoprotein belonging to the IL-6 family of cytokines. It is involved in growth promotion and cell differentiation of different types of target cells, influence bone metabolism,

cachexia, neural development, embryogenesis, and inflammation. LIF has potent proinflammatory properties, being the inducer of the acute phase protein synthesis and affecting cell recruitment into the area of damage or inflammation. LIF is also one of the cytokines that are capable to regulate the differentiation of embryonic stem cells, hematopoietic, and neuronal cells. LIF binds to the specific LIF receptor (LIFR-α) which forms a heterodimer with a specific subunit common to all members of that family of receptors, the GP130 signal-transducing subunit. This leads to the activation of the JAK/STAT and MAPK cascades. Due to its polyfunctional activities, LIF is involved in the pathogenic events and development of many diseases of various origins.

Reference

Salas EM,et al. (2011) LIF, a Novel STAT5-Regulated Gene, Is Aberrantly Expressed in Myeloproliferative Neoplasms. Genes Cancer. 2 (5): 593-6.
Chodorowska G,et al. (2004) Leukemia inhibitory factor (LIF) and its biological activity. Ann Univ Mariae Curie Sklodowska Med. 59 (2): 189-93.
Garcia-Campana AM,et al. (2007) LIF detection of peptides and proteins in CE. Electrophoresis. 28 (1-2): 208-32.

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