Data Sheet (Cat.No.TMPY-03027)

TargetMol

Interferon alpha 4/IFNA4 Protein, Rat, Recombinant (hFc)

General Information

Synonyms:	IFNA4;interferon, α4;interferon, alpha 4
Protein Construction:	A DNA sequence encoding the rat IFNA4 (D3ZFH0) (Cys24-Lys189) was expressed, fused with Fc region of human IgG1 at the N-terminus. Predicted N terminal: Glu
Species:	Rat
Expression Host:	HEK293 Cells
Accession:	D3ZFH0
Molecular Weight:	47.5 kDa (predicted); 48 kDa (reducing condition, due to glycosylation)

QC Testing

Biological Activity:	Measured in antiviral assay using L929 cells infected with vesicular stomatitisvirus (VSV). The ED50 for this effect is typically 0.5-4 μg/mL.
Purity:	> 90 % 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.

Shipping:

In general, Lyophilized powders are shipping with blue ice.

Protein Background

Interferon, alpha 4 (IFNA4) belongs to the alpha/beta interferon family. Two variants of IFNA4 (IFNA4a and IFNA4b) are known, which differ from each other by changes in their coding regions at nucleotide positions 220 and 410 and can be distinguished by selective restriction enzyme analysis. Interferons are produced by macrophages, IFN-alpha has antiviral activities. Interferon stimulates the production of two enzymes: a protein kinase and an oligoadenylate synthetase. IFN-alpha, the first cytokine to be produced by recombinant DNA

technology, has emerged as an important regulator of growth and differentiation, affecting cellular communication and signal transduction pathways as well as immunological control. Originally discovered as an antiviral substance, the efficacy of IFN-alpha in malignant, viral, immunological, angiogenic, inflammatory, and fibrotic diseases suggests a spectrum of interrelated pathophysiologies. IFN-alpha emerged as a prototypic tumor suppressor protein that represses the clinical tumorigenic phenotype in some malignancies capable of differentiation.

Reference

Lau JY,et al.(1993) Discrepancy between biochemical and virological responses to interferon-alpha in chronic hepatitis C. Lancet. 342(8881): 1208-9.
Gutterman JU. Cytokine therapeutics: lessons from interferon alpha. Proc Natl Acad Sci U S A. 91(4): 1198-205.
Kessler DS,et al.(1990) Interferon-alpha regulates nuclear translocation and DNA-binding affinity of ISGF3, a multimeric transcriptional activator. Genes Dev. 4(10): 1753-65.