

DESCRIPTION

Source	Human embryonic kidney cell, HEK293-derived mouse IFN-alpha 2/IFNA2 protein Cys24-Glu190 Accession # P01573
N-terminal Sequence Analysis	Cys24
Predicted Molecular Mass	19.3 kDa

SPECIFICATIONS

SDS-PAGE	18-22 kDa, under reducing conditions
Activity	Measured in an anti-viral assay using L-929 mouse fibroblast cells infected with encephalomyocarditis (EMC) virus. Vogel, S.N. <i>et al.</i> (1982) Infect. Immunol. 38 :681. The ED ₅₀ for this effect is 20-200 pg/mL.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 100 µg/mL in PBS.
Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> • 12 months from date of receipt, -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after opening. • 3 months, -20 to -70 °C under sterile conditions after opening.

DATA

Bioactivity

Mean RFU

Recombinant Mouse IFN-alpha 2 (pg/mL)

Recombinant Mouse IFN-alpha 2/IFNA2 (Catalog # 10149-IF) suppresses viral activity on L-929 mouse fibroblast cells infected with encephalomyocarditis (EMC) virus. The ED₅₀ for this effect is 20-200 pg/mL.

SDS-PAGE

2 µg/lane of Recombinant Mouse IFN-alpha 2/IFNA2 (Catalog # 10149-IF) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 18-22 kDa.

BACKGROUND

Interferon-alpha 2 (IFN-α2) is one of 14 subtypes within the IFN-α class of Type I Interferons (1). The members of the IFN-α class, also known as alpha leukocyte interferons, encompass a group of distinct but closely related proteins which share approximately 80% amino acid (aa) sequence identity and have a similar globular structure composed of five alpha-helices (1, 3, 4). IFN-α class members signal through a common cell surface receptor complex composed of IFN-αR2 and IFN-αR1 subunits (3). As the first highly active IFN to be cloned and produced, IFN-α2 has become the prototypic IFN for academic and pharmaceutical research (2). The mature extracellular domain (ECD) of mouse IFN-α2 shares 60% and 83% aa sequence identity with human and rat, respectively. Murine IFN-α2 can eliminate cardiac viral load and protect cardiomyocytes from injury in animals infected with coxsackievirus B3 (CVB3) (5). IFN α-2 derived mutants with reduced IFNR2 binding inhibited HIV replication and mutants with more IFNAR1 binding potentiated antiviral activity (6).

References:

1. Pestka, S. (2007) J Biol Chem. **282**:20047.
2. Paul, F. *et al.* (2015) Gene. **567**(2):132.
3. Oritani, K. *et al.* (2001). Cytokine & Growth Factor Reviews, **12**:337.
4. Pesch, V. *et al.* (2004). Journal of Virology, **78**:8219.
5. Wang, Y.X. *et al.* (2007) Am J Physiol Heart Circ Physiol. **293**:H69.
6. Schlaepfer, E. *et al.* (2019) Am Soc for Microbiology **4**:e00637.