

DESCRIPTION

Source	Human embryonic kidney cell, HEK293-derived mouse IFN-alpha 4 protein Leu23-Glu186 Accession # P07351
N-terminal Sequence Analysis	Leu23
Predicted Molecular Mass	19 kDa

SPECIFICATIONS

SDS-PAGE	17-25 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 <60 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, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 3 months, -20 to -70 °C under sterile conditions after reconstitution.

DATA

Bioactivity

Recombinant Mouse IFN-alpha/IFNA4 (Catalog # 10259-IF) suppresses viral activity on L-929 mouse fibroblast cells infected with encephalomyocarditis (EMC) virus. The ED₅₀ for this effect is <60 pg/mL.

SDS-PAGE

2 µg/lane of Recombinant Mouse IFN-alpha 4 (Catalog # 10259-IF) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 17-25 kDa.

BACKGROUND

The interferons (IFN) are a family of cytokines with potent antiviral, antiproliferative and immunomodulatory properties, and are classified based on their binding specificity to cell surface receptors (1). The type I IFNs bind to the interferon alpha receptor (IFNAR), which consists of two subunits: IFNAR1 (α-subunit) and IFNAR2 (β-subunit). This binding contributes to TNF-α induced signaling (2, 3). Both the human and mouse genome code for more than a dozen closely related IFN-α subtypes and the various IFN-αs share about 80% sequence homology among them (4, 5). The mouse IFN-α 4 consists of 186 amino acids (aa) including a 24 aa signal peptide and a 162 aa IFN-α 4 mature domain. The mature mouse IFN-α 4 shares 58% and 76% sequence identity with mature human and rat IFN-α 4, respectively. The mouse IFN-α 4 reduces the local replication of murine cytomegalovirus in the tibia muscle (6). mIFN-A4 is a strong activator of Mx gene and was shown to be very effective in reducing splenomegaly (7).

References:

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5. van Pesch, V. *et al.* (2004) J. Virol. **78**:8219.
6. Yeow, W.S. *et al.* (1998) J. Immunol. **15**:2932.
7. Gerlach, N. *et al.* (2009) European J. Immunol. **39**:136.