Recombinant Human IFN-alpha 6/IFNA6

Catalog Number: 11168-IF

DESCRIPTION

Source	Human embryonic kidney cell, HEK293-derived human IFN-alpha 6/IFNA6 protein Ser21-Glu189 Accession # P05013.1
N-terminal Sequence Analysis	Ser21 & Leu22
Predicted Molecular Mass	20 kDa

SPECIFICATIONS

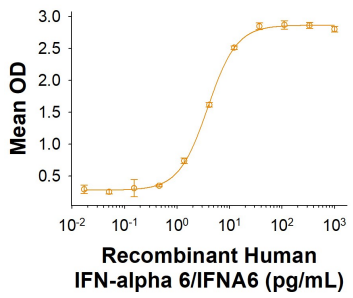
SDS-PAGE	18-22 kDa, under reducing conditions.
Activity	Measured in anti-viral assays using HeLa human cervical epithelial carcinoma cells infected with encephalomyocarditis (EMC) virus. Meager, A. (1987) in Lymphokines and Interferons, a Practical Approach. Clemens, M.J. *et al.* (eds): IRL Press. 129. The ED_{50} for this effect is 1.00-30.0 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 with Trehalose. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 100 µg/mL in PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** • 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.

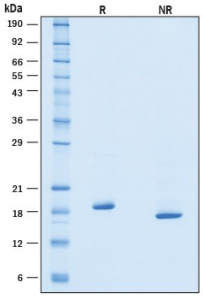
DATA

Bioactivity



Recombinant Human IFN-alpha 6/IFNA6 Protein Bioactivity. Recombinant Human IFN-alpha 6/IFNA6 Protein (Catalog # 11168-IF) demonstrates anti-viral activity in HeLa human cervical epithelial carcinoma cells infected with encephalomyocarditis (EMC) virus. The ED_{50} for this effect is 1.00-30.0 pg/mL.

SDS-PAGE



Recombinant Human IFN-alpha 6/IFNA6 Protein SDS-PAGE. 2 µg/lane of Recombinant Human IFN-alpha 6/IFNA6 Protein (Catalog # 11168-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.

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BACKGROUND

Interferons (IFN) are a family of cytokines with potent antiviral, antiproliferative and immunomodulatory properties, classified based on their binding specificity to cell surface receptors (1). Human IFNA2 was originally cloned in the early '80s and now more than a dozen closely related IFN alpha subtypes have been identified in both the human and mouse genome, each sharing about 80% amino acid (aa) sequence homology (2-4). Structurally, type I IFNs belong to the class of five helical-bundle cytokines, with the IFNA subtypes containing 2 conserved disulfide bonds (5). Mature human IFNA6, also known as IFN-alpha K, shares 56% aa sequence identity with mouse IFNA6. The type I IFNs bind to the interferon alpha receptor (IFNAR), which consists of two subunits: IFNAR1 (alpha -subunit) and IFNAR2 (beta -subunit) (6, 7). Individual IFNA subtypes are known to display unique efficacies to viral protection, and IFNA6 has been shown to be a strong inducer of IFN-stimulated genes and anti-viral protection (8). IFNA6 displays high potency against metapneumovirus and inhibition of HIV infection (9).

References:

1. Pestka, S. *et al.* (1987) Annu Rev Biochem. **56**:727
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3. Matsumiya, T. *et al.* (2007) J. Immunol. **179**:4542.
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5. Wittling, M.C. *et al.* (2021) Front Immunol. **11**:605673.
6. van Pesch, V. *et al.* (2004) J. Virol. **78**:8219.
7. James, C.M. *et al.* (2007) Vaccine. **25(10)**:1856.
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