Recombinant Human IFN-alpha 10/IFNA10

Catalog Number: 11016-IF

DESCRIPTION

Source	Human embryonic kidney cell, HEK293-derived human IFN-alpha 10/IFNA10 protein Cys24-Asp189 Accession # P01566.1
N-terminal Sequence Analysis	Cys24
Predicted Molecular Mass	19 kDa

SPECIFICATIONS

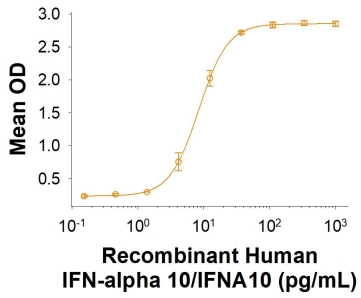
SDS-PAGE	18-22 kDa, under reducing conditions.
Activity	Measured in anti-viral assays using HeLa human cervical epithelial carcinoma cells infected with encephalomyocarditis (EMC) virus. Meager, A. (1987) in Lymphokines and Interferons, a Practical Approach. Clemens, M.J. *et al.* (eds): IRL Press. 129. 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.

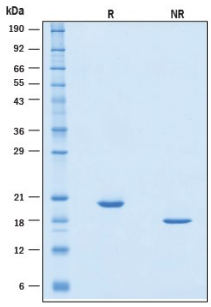
DATA

Bioactivity



Recombinant Human IFN-alpha 10/IFNA10 Protein Bioactivity. Recombinant Human IFN-alpha 10/IFNA10 Protein (Catalog # 11016-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 10/IFNA10 Protein SDS-PAGE. 2 µg/lane of Recombinant Human IFN-alpha 10/IFNA10 Protein (Catalog # 11016-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 anti-viral, 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 IFNA10 shares 61% aa sequence identity with mouse IFNA7. 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 IFNA10 has been shown to be a strong inducer of IFN-stimulated genes and anti-viral protection (8). Additionally, IFNA10 exhibits weak anti-viral effects against SARS-CoV-2 (9).

References:

1. Pestka, S. *et al.* (1987) Annu. Rev. Biochem. **56**:727.
2. Goeddel, D.V. *et al.* (1980) Nature **287**:411.
3. Matsumiya, T. *et al.* (2007) J. Immunol. **179**:4542.
4. Schreiber, G. and J. Piehler (2015) Trends Immunol. **36**:139.
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.
8. Moll, H.P. *et al.* (2011) Cytokine. **53**:52.
9. Schuhenn, J. *et al.* (2022) PNAS https://doi.org/10.1073/pnas.2111600119.

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