Proteins

Product Data Sheet

IFN-alpha 4/IFNA4 Protein, Human (HEK293, Fc)

Cat. No.: HY-P75821

Synonyms: Interferon alpha-4; Interferon alpha-76; IFNA4

Species: Human **HEK293** Source:

P05014 (C24-D189) Accession:

Gene ID: 3441

Molecular Weight: Approximately 50 kDa

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Lyophilized powder. **Appearance**

Formulation Lyophilized from a 0.2 μm filtered solution of PBS, pH 7.4. Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween 80 are added as protectants before lyophilization.

Endotoxin Level <1 EU/µg, determined by LAL method.

Reconsititution It is not recommended to reconstitute to a concentration less than 100 μ g/mL in ddH₂O.

Storage & Stability Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.

Shipping Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background

IFN-alpha 4 (IFNA4; IFN- α 4), belongs to the alpha/beta interferon (IFN) family, is produced by the macrophages with antiviral activities. Interferon (IFN) is originally identified as a substance 'interfering' with viral replication in vitro. IFN- α/β and related molecules are classified as type I IFNs, as for the other two types of type II IFN (IFN-γ) and type III IFNs (IFN-λ), respectively^[1].

Interferon alpha (IFNa) shows significant biological activity in various cancers, paticularly haematological malignancies such as hairy cell leukaemia and chronic myelogenous leukaemia^[2].

IFN-alpha 4 is the subtypes dominates in IFN-alpha, whose the response with IFNA5, IFNA7, and IFNA14 accounting for up to 85% of the subtypes expressed by Peripheral blood mononuclear cells (PBMCs)^[3].

IFN-alpha 4 is promoted by interferon (IFN) regulatory factors (IRFs), especially IRF-1 and IRF-7^{[5][6]}. And it exhibits function by inhibiting virus RNA replication and enhances human natural killer cytotoxicity against virus^{[4][7]}.

As for a wildly use of IFN in animal model, the sequence of amino acids in IFNA4 protein of human is very different from mouse (57.07%) and rat (57.98), respectively.

REFERENCES

- [1]. Zhang SY, et al. Inborn errors of interferon (IFN)-mediated immunity in humans: insights into the respective roles of IFN-alpha/beta, IFN-gamma, and IFN-lambda in host defense. Immunol Rev. 2008 Dec;226:29-40.
- [2]. Raj NB, et al. Identification of a novel virus-responsive sequence in the promoter of murine interferon-alpha genes. J Biol Chem. 1991 Jun 15;266(17):11360-5.
- [3]. Li Y, et al. Expression Pattern of Individual IFNA Subtypes in Chronic HIV Infection. J Interferon Cytokine Res. 2017 Dec;37(12):541-549.
- [4]. Verhagen A, et al. Comparison of augmentation of human natural killer cell cytotoxicity by interferon-alpha subtypes. Nat Immun Cell Growth Regul. 1990;9(5):325-33.
- [5]. Au WC, et al. Identification of a member of the interferon regulatory factor family that binds to the interferon-stimulated response element and activates expression of interferon-induced genes. Proc Natl Acad Sci U S A. 1995 Dec 5;92(25):11657-61.
- [6]. Lin R, et al. Selective DNA binding and association with the CREB binding protein coactivator contribute to differential activation of alpha/beta interferon genes by interferon regulatory factors 3 and 7. Mol Cell Biol. 2000 Sep;20(17):6342-53.
- [7]. Xiao CX, et al. Exome sequencing identifies novel compound heterozygous IFNA4 and IFNA10 mutations as a cause of impaired function in Crohn's disease patients. Sci Rep. 2015 May 22;5:10514.

Caution: Product has not been fully validated for medical applications. For research use only.

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