

IFN-alpha 13/IFNA13 Protein, Mouse (P.pastoris, His)

Cat. No.:	HY-P73908
Synonyms:	Interferon alpha13; IFN-alpha13; LeIF D; IFNA13
Species:	Mouse
Source:	P. pastoris
Accession:	Q80SU4 (C24-E189)
Gene ID:	230396
Molecular Weight:	Approximately 20.4 kDa

PROPERTIES

Appearance	Lyophilized powder.
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.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH ₂ O.
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	<p>IFN-alpha 13 (IFNA13; IFN-α13) is produced by the macrophages, belongs to the alpha/beta interferon (IFN) family, a family of cytokines induced by viral infection and are primarily involved in antiviral defense of the cells^[1]. 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^[2].</p> <p>Interferon stimulates the production of two enzymes: a protein kinase and an oligoadenylate synthetase. Interferon alpha (IFNα) shows significant biological activity in various cancers, particularly haematological malignancies such as hairy cell leukaemia and chronic myelogenous leukaemia^[3].</p> <p>IFN-alpha13 exhibits acid-stable antiviral activity against Theiler's virus, Mengo virus, and vesicular stomatitis virus. Firstly, it is transcribed constitutively, independent of viral infection and of interferon regulatory factor-7 induction. Secondly, it contains two N-glycosylation sites, in contrast to other murine IFN-alpha subtypes that contain either one or no N-glycosylation site^[4]. As for a widely use of IFN in animal model, the sequence of amino acids in IFNA13 protein of human is very different from mouse (64.55%)</p>
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REFERENCES

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- [1]. Kumagai Y, et al. Alveolar macrophages are the primary interferon-alpha producer in pulmonary infection with RNA viruses. *Immunity*. 2007 Aug;27(2):240-52.
- [2]. 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.
- [3]. 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.
- [4]. van Pesch V, et al. Characterization of interferon-alpha 13, a novel constitutive murine interferon-alpha subtype. *J Biol Chem*. 2003 Nov 21;278(47):46321-8.
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Caution: Product has not been fully validated for medical applications. For research use only.

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA