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

Cat. No.:	HY-P73126
Synonyms:	Interferon alpha-13; IFN-alpha-13; LeIF D; IFNA13
Species:	Rhesus Macaque
Source:	P. pastoris
Accession:	NP_001181296.1 (C25-E190)
Gene ID:	709559
Molecular Weight:	Approximately 20.8 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.
Reconsititution	It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH_2O.
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 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]. Interferon stimulates the production of two enzymes: a protein kinase and an oligoadenylate synthetase. Interferon alpha (IFNa) shows significant biological activity in various cancers, paticularly haematological malignancies such as hairy cell leukaemia and chronic myelogenous leukaemia[3]. 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 wildly use of IFN in animal model, the sequence of amino acids in IFNA13 protein of human is very different from mouse (64.55%)

REFERENCES

[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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