

## IFN-alpha 2/IFNA2 Protein, Mouse (P.pastoris)

Cat. No.:	HY-P73247
Synonyms:	Interferon alpha-2; IFN-alpha-2; LeIF A; IFNA2; IFNA2A
Species:	Mouse
Source:	P. pastoris
Accession:	P01573 (C24-E190)
Gene ID:	15965
Molecular Weight:	Approximately 19.4 kDa

### PROPERTIES

<b>AA Sequence</b>	<p>           CDLPHTYNLR    NKRALKVLQA    MRRLPFLSCL    KDRQDFGFPL            EKVDNQQIQK    AQAIPVLRDL    TQQT LNLFTS    KASSAAWNAT            LLDSFCNDLH    QQLNDLQTC L    MQQVGVQEP P    LTQEDALLAV            RKYFHRITVY    LREKKHSPCA    WEVVRAEVWR    ALSSSVNLLP            RLSE EKE         </p>
<b>Biological Activity</b>	Measured in antiviral assays using L929 cells infected with vesicular stomatitis virus (VSV) and the ED <sub>50</sub> is typically 0.15-0.9 ng/mL.
<b>Appearance</b>	Lyophilized powder.
<b>Formulation</b>	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.
<b>Endotoxin Level</b>	<1 EU/µg, determined by LAL method.
<b>Reconstitution</b>	It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH <sub>2</sub> O.
<b>Storage &amp; Stability</b>	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.
<b>Shipping</b>	Room temperature in continental US; may vary elsewhere.

### DESCRIPTION

<b>Background</b>	<p>IFN-alpha 2 (IFNA2; IFN-α2), belongs to the type I interferon family, produced by the plasmacytoid dendritic cells (pDCs) exposure to HIV-1BaL in order to inhibit viral infection<sup>[1]</sup>.</p> <p>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<sup>[2]</sup>.</p>
-------------------	---

IFN-alpha 2 subtype is the only one that is currently licensed to treat infections caused by hepatitis B virus (HBV) and HCV<sup>[3]</sup>. IFN-alpha 2 shows a Sortilin-dependent trafficking in cells and increases the expression level of interferon-stimulated genes (ISGs) in HIV-infected cells<sup>[1][4]</sup>. It also exhibits cytotoxic activity against CD8<sup>+</sup> T cells and enhances CD4<sup>+</sup> T cell depletion<sup>[3]</sup>. Among the IFN-alpha 2 alleles, IFN-alpha 2b is being the predominant allele while IFN $\alpha$ -2a is less predominant and IFN $\alpha$ -2c only a minor allelic variant<sup>[5]</sup>.

IFN-alpha 2 has a broad application in research of cancer, including some hematological malignancies and solid tumors<sup>[6]</sup>. As for a widely use of IFN in animal disease model, the sequence of amino acids in IFN $\alpha$ 2a protein of mouse is very different from human (59.57%).

---

## REFERENCES

- [1]. Sutter K, et al. Interferon  $\alpha$  subtypes in HIV infection. *Cytokine Growth Factor Rev.* 2018 Apr;40:13-18.
- [2]. Abraham S, et al. Gene therapy with plasmids encoding IFN- $\beta$  or IFN- $\alpha$ 14 confers long-term resistance to HIV-1 in humanized mice. *Oncotarget.* 2016 Nov 29;7(48):78412-78420.
- [3]. 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.
- [4]. Watanabe H, et al. Detailed structure of mouse interferon  $\alpha$ 2 and its interaction with Sortilin. *J Biochem.* 2021 Oct 11;170(2):265-273.
- [5]. Gull I, et al. Heterologous expression, immunochemical and computational analysis of recombinant human interferon alpha 2b. *Springerplus.* 2013 Jun 15;2(1):264.
- [6]. Paul F, et al. IFN $\alpha$ 2: The prototypic human alpha interferon. *Gene.* 2015 Aug 10;567(2):132-7.
- 

**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](mailto:tech@MedChemExpress.com)

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