

IFN-alpha 2/IFNA2 Protein, Mouse (HEK293, Fc)

Cat. No.:	HY-P73248
Synonyms:	Interferon alpha-2; IFN-alpha-2; LeIF A; IFNA2; IFNA2A
Species:	Others
Source:	HEK293
Accession:	P01573 (C24-E190)
Gene ID:	15965
Molecular Weight:	Approximately 52 kDa

PROPERTIES

AA Sequence	<p> CDLPHTYNLR NKRALKVL AQ MRRLPFLSCL KDRQDFGFPL EKVDNQQIQK AQAIPVLRDL TQQT LNLFTS KASSAAWNAT LLDSFCNDLH QQLNDLQTCL MQQVGVQEP P LTQEDALLAV RKYFHRITVY LREKKHSPCA WEVVRAEVWR ALSSSVNLLP RLSE EKE </p>
Biological Activity	<p>1. Measured in antiviral assays using L929 cells infected with vesicular stomatitisvirus (VSV) and the ED₅₀ is 1-8 ng/mL.</p> <p>2. Measured by binding ability in a functional ELISA. Immobilized mouse IFNAR1-His at 2 µg/mL (100 µl/well) can bind IFN-alpha 2 Protein, Mouse (HEK293, Fc) and the EC₅₀ is 47.5 ng/mL.</p>
Appearance	Solution.
Formulation	Supplied as a 0.2 µm filtered solution of PBS, pH 7.4
Endotoxin Level	<1 EU/µg, determined by LAL method.
Reconstitution	N/A.
Storage & Stability	Stored at -80°C for 1 year. It is stable at -20°C for 3 months after opening. It is recommended to freeze aliquots at -80°C for extended storage. Avoid repeated freeze-thaw cycles.
Shipping	Shipping with dry ice.

DESCRIPTION

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

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

REFERENCES

- [1]. Watanabe H, et al. Detailed structure of mouse interferon α 2 and its interaction with Sortilin. *J Biochem.* 2021 Oct 11;170(2):265-273.
- [2]. Abraham S, et al. Gene therapy with plasmids encoding IFN- β or IFN- α 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]. Sutter K, et al. Interferon α subtypes in HIV infection. *Cytokine Growth Factor Rev.* 2018 Apr;40:13-18.
- [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 α 2: The prototypic human alpha interferon. *Gene.* 2015 Aug 10;567(2):132-7.
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