

IFN-alpha 2/IFNA2 Protein, Rhesus Macaque (HEK293, His)

Cat. No.:	HY-P75890
Synonyms:	Interferon alpha-2; IFN-alpha-2; Interferon alpha-A; IeIF A; IFNA2A
Species:	Rhesus Macaque
Source:	HEK293
Accession:	B6CK11 (C24-E188)
Gene ID:	709948
Molecular Weight:	Approximately 19-23 kDa

PROPERTIES

AA Sequence	<p> C D L P Q T H S L G N R R T L M L L A Q M R R I S L F F C L K D R H D F E F P Q E E F G N Q F Q K A Q T I P V L H E M I Q Q T F N L F S T K D S S A A W D E T L L N K F Y T E L Y Q Q L N D L E A C V M Q E M G V T E T P L M N K N S I L A V R K Y F Q R I T L Y L K E K K Y S L C A W E V V R A E I M R S F S L S T N L Q E S L R S K E </p>
Biological Activity	Measured by its binding ability in a functional ELISA. Immobilized Rhesus Macaque IFNA2 at 10 µg/mL (100 µL/well) can bind Human IFNAR2. The ED ₅₀ for this effect is 2.354 µg/mL.
Appearance	Lyophilized powder
Formulation	Lyophilized from a 0.2 µm filtered solution of PBS, pH 7.4.
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. For long term storage it is recommended to add a carrier protein (0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose).
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 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].

REFERENCES

- [1]. 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.
- [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]. Sutter K, et al. Interferon α subtypes in HIV infection. *Cytokine Growth Factor Rev*. 2018 Apr;40:13-18.
- [4]. 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.
- [5]. Gull I, et al. Heterologous expression, immunochemical and computational analysis of recombinant human interferon alpha 2b. *Springerplus*. 2013 Jun 15;2(1):264.
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