

## IFN-alpha 5/IFNA5 Protein, Mouse (HEK293, His)

<b>Cat. No.:</b>	HY-P76461
<b>Synonyms:</b>	Interferon alpha-5; Interferon alpha-61; Interferon alpha-G; LeIF G
<b>Species:</b>	Mouse
<b>Source:</b>	HEK293
<b>Accession:</b>	Q810G2 (C24-E189)
<b>Gene ID:</b>	15968
<b>Molecular Weight:</b>	Approximately 23.8&22.4 kDa.

### PROPERTIES

<b>Biological Activity</b>	Measured in antiviral assays using L929 cells infected with vesicular stomatitisvirus (VSV). The ED <sub>50</sub> for this effect is 0.02-0.1 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

#### Background

IFN-alpha 5 (IFNA5; IFN-α5), belongs to the alpha/beta interferon (IFN) family, is produced by the macrophages with antiviral activities. 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>[1]</sup>.

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<sup>[2]</sup>.

IFN-alpha 5 involves in innate immunity, and is one of the genes associated with acute viral bronchiolitis (AVB) caused by respiratory syncytial virus (RSV), determining susceptibility to RSV bronchiolitis<sup>[3][4]</sup>.

The excessively expressed interferon-α (IFN-α) might contribute to the uncontrolled inflammatory responses, causing pathological damage during influenza virus infection. However IFN-alpha 5 is dominantly expressed in respiratory epithelial cells from the patients infected with less pathogenic infectious bronchitis virus (IBV)<sup>[5]</sup>.

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As for a wildy use of IFN in animal model, the sequence of amino acids in IFNA5 protein of mouse is very different from human (60.32%).

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## REFERENCES

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- [1]. 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.
- [2]. 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.
- [3]. Hirankarn N, et al. Genetic association of interferon-alpha subtypes 1, 2 and 5 in systemic lupus erythematosus. *Tissue Antigens.* 2008 Dec;72(6):588-92.
- [4]. Janssen R, et al. Genetic susceptibility to respiratory syncytial virus bronchiolitis is predominantly associated with innate immune genes. *J Infect Dis.* 2007 Sep 15;196(6):826-34.
- [5]. Yang L, et al. Diversity of locally produced IFN- $\alpha$  subtypes in human nasopharyngeal epithelial cells and mouse lung tissues during influenza virus infection. *Appl Microbiol Biotechnol.* 2020 Jul;104(14):6351-6361.
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**Caution: Product has not been fully validated for medical applications. For research use only.**

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