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

Cat. No.:	HY-P76462
Synonyms:	Interferon alpha-5; Interferon alpha-61; Interferon alpha-G; LeIF G
Species:	Rat
Source:	HEK293
Accession:	XP_001076062 (C24-E189)
Gene ID:	690894
Molecular Weight:	Approximately 21 kDa.

PROPERTIES

Biological Activity	Measured in antiviral assay using L929 cells infected with vesicular stomatitis virus (VSV).The ED_{50} for this effect is typically 4-50 pg/mL.
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.
Reconsititution	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

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[1].

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[2].

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[3][4].

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)[5].

REFERENCES

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[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-α 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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