

## IFN-alpha 14/IFNA14 Protein, Mouse (HEK293, His)

Cat. No.:	HY-P76401
Synonyms:	Interferon alpha-14; Interferon alpha-H; LeIF H; Interferon lambda-2-H; IFNA14
Species:	Mouse
Source:	HEK293
Accession:	Q810G3 (C24-K189)
Gene ID:	404549
Molecular Weight:	Approximately 20 kDa.

### PROPERTIES

Biological Activity	Measured in antiviral assay using L929 cells infected with vesicular stomatitisvirus (VSV) and the ED <sub>50</sub> is typically 5-40 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.
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 14 (IFNA14; IFN-α14), belongs to the alpha/beta interferon (IFN) family, is produced by the macrophages with antiviral activities<sup>[1]</sup>. 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> <p>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>[3]</sup>.</p> <p>IFN-alpha 14 involves in JAK/STAT signaling pathway, is identified as potent regulators that reduces both CTLA4 and FOXP3. Therefore, regulatory T cells (Tregs) as the key cells regulating peripheral autoreactive T lymphocytes, IFNα-14 regulates Treg functional states and destabilises Treg<sup>[4]</sup>.</p> <p>IFN-alpha14 is a new gene found in tissues of uninfected mice, also found to lack N-glycosylation and have its expression induced in response to viral infection in contrast to <a href="#">IFN-alpha 13</a><sup>[5]</sup>.</p>
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## REFERENCES

- [1]. Kumagai Y, et al. Alveolar macrophages are the primary interferon-alpha producer in pulmonary infection with RNA viruses. *Immunity*. 2007 Aug;27(2):240-52.
- [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]. 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.
- [4]. Ding M, et al. Secretome screening reveals immunomodulating functions of IFN $\alpha$ -7, PAP and GDF-7 on regulatory T-cells. *Sci Rep*. 2021 Aug 18;11(1):16767.
- [5]. van Pesch V, et al. Characterization of interferon-alpha 13, a novel constitutive murine interferon-alpha subtype. *J Biol Chem*. 2003 Nov 21;278(47):46321-8.
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**Caution: Product has not been fully validated for medical applications. For research use only.**

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