

IFN-alpha 14/IFNA14 Protein, Human (His-SUMO)

Cat. No.:	HY-P72243
Synonyms:	IFN-alpha14; IFN14_HUMAN; IFNA14; Interferon alpha 14; Interferon alpha H; Interferon alpha-14; Interferon alpha-H; Interferon lambda-2-H; Interferon lambda2H ; LeIF H; LeIFH; MGC125756; MGC125757
Species:	Human
Source:	E. coli
Accession:	P01570 (C24-D189)
Gene ID:	3448
Molecular Weight:	Approximately 35.7 kDa

PROPERTIES

AA Sequence	<p>C N L S Q T H S L N N R R T L M L M A Q M R R I S P F S C L K D R H D F E F P Q</p> <p>E E F D G N Q F Q K A Q A I S V L H E M M Q Q T F N L F S T K N S S A A W D E T</p> <p>L L E K F Y I E L F Q Q M N D L E A C V I Q E V G V E E T P L M N E D S I L A V</p> <p>K K Y F Q R I T L Y L M E K K Y S P C A W E V V R A E I M R S L S F S T N L Q K</p> <p>R L R R K D</p>
Appearance	Lyophilized powder
Formulation	Lyophilized from a 0.2 µm solution of 10 mM Tris-HCl, 1 mM EDTA, 6% Trehalose, pH 8.0.
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.
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 14 (IFNA14; IFN-α14), belongs to the alpha/beta interferon (IFN) family, is produced by the macrophages with antiviral activities^[1]. 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> <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^[3].</p> <p>IFN-alpha 14 involves in JAK/STAT signaling pathway, is identified as potent regulators that reduces both CTLA4 and FOXP3.</p>
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Therefore, regulatory T cells (Tregs) as the key cells regulating peripheral autoreactive T lymphocytes, IFN α -14 regulates Treg functional states and destabilises Treg^[4].

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 [IFN-alpha 13](#)^[5].

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 α -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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