9051 Mira Mesa Blvd, #910094
San Diego, CA 92191
Tel: 760-390-3989

IFNW1 Human, HEK

Interferon-Omega 1 Human Recombinant, HEK
CYK0217

Product Overview

Name	IFNW1 Human, HEK
Description	
Interferon-Omega 1 Human Recombinant, HEK	
Accession (Primary)	P05000
Synonyms	
IFN omega-1, IFN alpha-II-1, IFNW1.	
Source	
HEK293 Cells.	
Physical Appearance	
Sterile Filtered colorless solution.	
Formulation	
The IFNW1 solution (1mg/ml) contains 10% Glycerol and Phosphate-Buffered Saline (pH 7.4).	
Stability	
Store at 4°C if entire vial will be used within 2-4 weeks. Store, frozen at -20°C for longer periods of time. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Avoid multiple freeze-thaw cycles.	
Purity	
Greater than 95.0% as determined by SDS-PAGE.	
Amino acid sequence	
LGCDLPQNHG LLSRNTLVLL HQMRRISPFL CLKDRRDFRF PQEMVKGSQL QKAHVMSVLH EMLQQIFSLF HTERSSAAWN MTLLDQLHTG LHQQLQHLET CLLQVVGEGE SAGAISSPAL TLRRYFQGIR VYLKEKKYSD CAWEVVRMEI MKSLFLSTNM QERLRSKDRD LGSS HHHHHH .	
Biological Activity	
The ED50 is ≤0.07 ng/ml, measured in a cytotoxicity assay using TF-1 human erythroleukemic cells .	
Background	
Interferons, a family of signaling proteins, play a pivotal role in the immune system′s defense against viral infections and other threats. Among these, Interferon W1 (IFNW1), a member of the Type I interferon family, has emerged as a key player in orchestrating antiviral responses and modulating immune reactions. This research embarks on a detailed exploration of the IFNW1 protein, unveiling its structural intricacies, signaling pathways, and its broader implications in	

immune regulation and disease. By delving into IFNW1, scientists aim to comprehend the nuances of its functions, decipher its interactions within the complex interferon network, and explore its potential applications in therapeutic interventions and beyond. Structural Insights into IFNW1: IFNW1, like other Type I interferons, exhibits a unique tertiary structure that enables it to interact with specific cell surface receptors. This interaction triggers a cascade of events, leading to the activation of various antiviral genes and immune modulatory pathways. Understanding the structural basis of IFNW1 is crucial for elucidating its binding affinities, biological activities, and its significance in immune responses. Signaling Pathways and Antiviral Defense: IFNW1 engages with its cognate receptors, initiating Janus kinase (JAK)-Signal Transducer and Activator of Transcription (STAT) signaling pathways. This activation leads to the transcription of interferon-stimulated genes (ISGs) with potent antiviral properties. IFNW1′s ability to induce an antiviral state in infected and neighboring cells is fundamental for restricting viral replication and curtailing the spread of infections. Additionally, IFNW1 plays a role in modulating adaptive immune responses, contributing to the broader immune defense mechanisms. IFNW1 in Immunomodulation and Disease: Beyond its antiviral functions, IFNW1 is implicated in immunomodulation and disease pathogenesis. Dysregulation of IFNW1 signaling is associated with autoimmune disorders, including lupus and rheumatoid arthritis, highlighting its involvement in immune-related diseases. Moreover, IFNW1 is being explored in cancer immunotherapy, where its ability to modulate the tumor microenvironment and enhance immune surveillance presents opportunities for novel treatment strategies. Therapeutic Potential and Future Prospects: The unique properties of IFNW1, particularly its role in immune regulation and antiviral defense, position it as a potential therapeutic target. Research efforts are directed towards harnessing its immunomodulatory functions for developing therapies against infectious diseases, autoimmune disorders, and certain cancers. Additionally, understanding IFNW1′s interactions with other components of the immune system opens avenues for innovative approaches in personalized medicine and targeted immunotherapies. IFNW1 Protein, as an integral component of the interferon network, stands as a sentinel in the body′s defense against viral invasions and immune dysregulations. Its multifaceted roles in antiviral defense, immune modulation, and disease pathogenesis underscore its significance in biology and medicine. As researchers delve deeper into the intricacies of IFNW1, they pave the way for innovative therapies, immunomodulatory interventions, and a deeper understanding of immune responses. This research not only illuminates the pivotal role of IFNW1 but also holds the promise of transformative advancements in medicine, shaping the future of immunology and disease therapeutics.

Precautions

IFNW1 Human, HEK is for research use only and not for use in diagnostic or therapeutic procedures.

Target Information: (P05000)

Background

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