

IFN-omega Protein, Human, Recombinant (hFc)

General Information

Synonyms:	IFNW1;IFN- ω 1;interferon ω -1;IFN-omega 1;IFN- ω ;interferon, omega 1;interferon, ω 1;interferon omega-1
Protein Construction:	A DNA sequence encoding the human IFN ω (NP_002168.1) (Cys 24-Ser 195) was fused with the Fc region of human IgG1 at the N-terminus. Predicted N terminal: Glu 20
Species:	Human
Expression Host:	HEK293 Cells
Accession:	P05000
Molecular Weight:	46.6 kDa (predicted); 50 kDa (reducing condition, due to glycosylation)

QC Testing

Biological Activity:	Measured in antiviral assays using WISH human amnion cells infected with vesicular stomatitis virus (VSV). The EC ₅₀ for this effect is 0.03-0.3 ng/mL.
Purity:	> 92 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/ μ g of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μ m filter, containing PBS, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

IFNs are a large family of proteins having antiviral, antiproliferative, and immunomodulatory effects, and are divided into two major classes, type I and type II, based on differences in receptor binding and nucleotide sequence. Type I IFNs consist of IFN α , β , τ , and ω and bind to the type I IFN receptor, whereas IFN- γ is the only type II IFN and is specific for the type II IFN receptor. Human IFN- ω , was identified by three independent groups in

1985 and is structurally related to IFN- α and - β . Both human IFN- ω and IFN- α are produced by virally induced leukocytes and have similar antiviral activities on human cell lines, and a sizeable proportion (at least 1%) of the total antiviral activity of leukocyte IFN is contributed by IFN- ω . Also, it was reported that IFN- ω could inhibit the growth of human tumors in vivo.

Reference

- Capon D.J., et al.,(1985), Two distinct families of human and bovine interferon-alpha genes are coordinately expressed and encode functional polypeptides. *Mol. Cell. Biol.* 5:768-779.
- Adolf G.R., et al., (1991), Human interferon omega 1: isolation of the gene, expression in Chinese hamster ovary cells and characterization of the recombinant protein. *Biochim. Biophys. Acta* 1089:167-174.
- Humphray S.J., et al.,(2004), DNA sequence and analysis of human chromosome 9. *Nature* 429:369-374.

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