

## IFN-beta Protein, Mouse (HEK293, Fc)

<b>Cat. No.:</b>	HY-P73131
<b>Synonyms:</b>	Interferon beta; IFN-beta; IFNB1; IFB; IFNB
<b>Species:</b>	Mouse
<b>Source:</b>	HEK293
<b>Accession:</b>	P01575 (I22-N182)
<b>Gene ID:</b>	15977
<b>Molecular Weight:</b>	Approximately 55-70 kDa due to the glycosylation.

### PROPERTIES

<b>Biological Activity</b>	<ol style="list-style-type: none"> <li>1. Measured in antiviral assay using L929 cells infected with vesicular stomatitisvirus (VSV) and the ED<sub>50</sub> is typically 8 pg/mL.</li> <li>2. Measured by its binding ability in a functional ELISA. Immobilized Recombinant Mouse IFNAR2 at 2 µg/mL (100 µL/well) can bind Biotinylated Recombinant Mouse IFNB1. The ED<sub>50</sub> for this effect is 3.885 ng/mL.</li> </ol>
<b>Appearance</b>	Lyophilized powder.
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution of PBS, pH 7.4, 5% trehalose, 5%mannitol, 0.01% tween-80 or PBS, pH 7.4.
<b>Endotoxin Level</b>	<1 EU/µg, determined by LAL method.
<b>Reconstitution</b>	It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH <sub>2</sub> O.
<b>Storage &amp; Stability</b>	Stored at -20°C for 2 years from date of receipt. 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.
<b>Shipping</b>	Room temperature in continental US; may vary elsewhere.

### DESCRIPTION

#### Background

IFN-beta Protein, a type I interferon cytokine, assumes a pivotal role in the innate immune response to infections, tumors, and various inflammatory stimuli. Its signaling involves binding to the high-affinity receptor IFNAR2 and the low-affinity receptor IFNAR1, forming a heterodimeric complex and activating the canonical Jak-STAT signaling pathway. This activation results in the transcriptional modulation of interferon-regulated genes, encompassing antiviral proteins, regulators of cell proliferation and differentiation, and immunoregulatory proteins. While predominantly signaling through the IFNAR1-IFNAR2 heterodimeric receptor, IFN-beta can also function with IFNAR1 alone, operating independently of Jak-STAT pathways. IFN-beta elicits diverse responses, including antiviral and antibacterial activities, and influences B-cell development, myelopoiesis, and lipopolysaccharide (LPS)-inducible production of tumor necrosis factor. Beyond its immune functions, IFN-beta plays a crucial role in neuronal homeostasis by regulating dopamine turnover and protecting dopaminergic neurons, promoting neuronal autophagy, and facilitating alpha-synuclein clearance, thereby preventing dopaminergic neuron loss. Notably, IFN-beta demonstrates greater potency than interferon-alpha (IFN-alpha) in inducing apoptotic and antiproliferative pathways crucial for controlling tumor cell growth. It functions as a monomer in these

---

regulatory processes.

---

**Caution: Product has not been fully validated for medical applications. For research use only.**

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: [tech@MedChemExpress.com](mailto:tech@MedChemExpress.com)

Address: 1 Deer Park Dr, Suite F, Monmouth Junction, NJ 08852, USA