

IFN-alpha/beta R2 Protein, Human (Biotinylated, HEK293, His)

Cat. No.:	HY-P74861
Synonyms:	Interferon alpha/beta receptor 2; IFN-R-2; Interferon alpha binding protein; IFNAR2; IFNABR; IFNARB
Species:	Human
Source:	HEK293
Accession:	P48551 (I27-K243)
Gene ID:	3455
Molecular Weight:	Approximately 26.2 kDa

PROPERTIES

Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 µm filtered solution of PBS, pH 7.4. Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween 80 are added as protectants before lyophilization.
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/beta R2, one of the subunit of IFN-α/β receptor, is a type I IFN receptor. IFN-alpha/beta R2 is expressed on peripheral blood B cells and monocytes, and mediates differentiation and activation of these cells^[4].</p> <p>IFN-alpha/beta R2 forms the heterodimeric receptor (IFN-α/β receptor) together with IFNAR1. IFNs such as IFN-α/β can induce association of the IFNAR1 and IFN-alpha/beta R2, which makes JAK1 and TYK2 form a functional signaling unit^[1]. Upon activation by these IFNs, IFNAR1 and IFN-alpha/beta R2 undergo a conformational change to promote a cascade of downstream signaling events. The signaling events includes the phosphorylation of Tyk2 and JAK1, the signal transducers and activators of transcription STAT1 and STAT2, and the formation of the IFN-stimulated gene factor 3 (ISGF3) complex which consists of phosphorylated STAT1 and STAT2 and IRF9^[3]. IFNAR2 is critical for anti-viral immunity^[5].</p> <p>Human IFN-alpha/beta R2 consists of extracellular domain (I27-K243), helical domain (I244-L264), and cytoplasmic domain (K265-R515). The sequence of amino acids in IFN-alpha/beta R2 differs in different species. Human IFN-alpha/beta R2 shares <50% aa sequence identity with mouse.</p> <p>IFN-alpha/beta R2 mediates IFN-induced tyrosine phosphorylation of the IFNARs and STAT proteins, and activates the JAK-STAT signaling cascade^[1]</p>
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REFERENCES

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- [4]. Pogue SL, et al. The receptor for type I IFNs is highly expressed on peripheral blood B cells and monocytes and mediates a distinct profile of differentiation and activation of these cells. *J Interferon Cytokine Res.* 2004 Feb;24(2):131-9.
- [5]. Duncan CJ, et al. Human IFNAR2 deficiency: Lessons for antiviral immunity. *Sci Transl Med.* 2015 Sep 30;7(307):307ra154.
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Caution: Product has not been fully validated for medical applications. For research use only.

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