IFN-gamma R1/CD119 Protein, Human (HEK293, His)

Cat. No.:	HY-P72612A
Synonyms:	Interferon gamma receptor 1; IFN-gamma-R1; IFN-gamma-R-alpha; CD119; Ifngr1
Species:	Human
Source:	HEK293
Accession:	P15260/NP_000407.1 (E18-G245)
Gene ID:	3459
Molecular Weight:	40-50 kDa

PROPERTIES

AA Sequence	E M G T A D L G P S S V P T P T N V T I E S Y N M N P I V Y W E Y Q I M P Q V P V F T V E V K N Y G V K N S E W I D A C I N I S H H Y C N I S D H V G D P S N S L W V R V K A R V G Q K E S A Y A K S E E F A V C R D G K I G P P K L D I R K E E K Q I M I D I F H P S V F V N G D E Q E V D Y D P E T T C Y I R V Y N V Y V R M N G S E I Q Y K I L T Q K E D D C D E I Q C Q L A I P V S S L N S Q Y C V S A E G V L H V W G V T T E K S K E V C I T I F N S S I K G
Biological Activity	Immobilized Human IFN-γ at 5 μg/mL (100 μL/well) can bind Biotinylated IFN-γR1 protein. The ED_{50} for this effect is ≤201 ng/mL.
Appearance	Lyophilized powder
Formulation	Lyophilized a 0.22 μm filtered solution of 20 mM PB,150 mM NaCl, pH 7.4.
Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconsititution	It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH_2O. For long term storage it is recommended to add a carrier protein (0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose).
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	IFN-gamma R1 (CD119), one of the subunit of IFN-gamma receptor, is a receptor for IFN-gamma. IFN-gamma R1 is constitutively expressed on the surface of almost all cells[1]. IFN-gamma R1 can associate with IFN-gamma R2 to form a functional receptor. Upon binding with IFN-gamma, IFNγR1 and

IFNγR2 oligomerize and transphosphorylate[1]. Then, JAK1 and JAK2 are phosphorylated and activated, and STAT1 is recruited to the receptor complex. The phosphorylation of IFNγR1 creates a docking site for STAT1 and leads to the phosphorylation of STAT1. Phosphorylated STAT1 translocates to the nucleus, where it regulates the expression of IFN-responsive genes (e.g. CD54). Mutations in the gene IFNGR1 which encodes the IFN-gamma R1 cause a primary immunodeficiency and leads to mycobacterial infection, such as Mendelian susceptibility to mycobacterial disease (MSMD) [2]

Human IFN-gamma R1 consists of extracellular domain (E18-G245), helical domain (S246-I266), and cytoplasmic domain (C267-S489). The sequence of amino acids in IFNAR1 differs in different species. Human IFN-gamma R1 shares 50% aa sequence identity with mouse.IFN-gamma R1 plays a critical role in antimicrobial, antiviral, and antitumor responses[2].

REFERENCES

[1]. Castro F, et al. Interferon-Gamma at the Crossroads of Tumor Immune Surveillance or Evasion. Front Immunol. 2018 May 4;9:847.

[2]. van de Vosse E, et al. IFN-γR1 defects: Mutation update and description of the IFNGR1 variation database. Hum Mutat. 2017 Oct;38(10):1286-1296.

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