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

Cat. No.:	HY-P74855
Synonyms:	Interferon gamma receptor 1; IFN-gamma-R1; CD119; Ifngr1
Species:	Human
Source:	HEK293
Accession:	P15260-1/AAH05333 (E18-G245)
Gene ID:	3459
Molecular Weight:	60-75 kDa

PROPERTIES

Biological Activity	Immobilized Human Human IFN gamma, His Tag at 2μg/ml (100μl/well) on the plate. Dose response curve for Human IFN gamma R1, hFc Tag with the EC_{50} of 32.7ng/ml determined by ELISA.
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.
Reconsititution	It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH_2O.
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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