

IFN-gamma R1/CD119 Protein, Mouse (228a.a, HEK293, His)

Cat. No.:	HY-P72611
Synonyms:	Interferon gamma receptor 1; IFN-gamma-R1; IFN-gamma-R-alpha; CD119; Ifngr1
Species:	Mouse
Source:	HEK293
Accession:	P15261 (A26-D253)
Gene ID:	15979
Molecular Weight:	38-55 kDa

PROPERTIES

AA Sequence	<p> A L T S T E D P E P P S V P V P T N V L I K S Y N L N P V V C W E Y Q N M S Q T P I F T V Q V K V Y S G S W T D S C T N I S D H C C N I Y E Q I M Y P D V S A W A R V K A K V G Q K E S D Y A R S K E F L M C L K G K V G P P G L E I R R K K E E Q L S V L V F H P E V V V N G E S Q G T M F G D G S T C Y T F D Y T V Y V E H N R S G E I L H T K H T V E K E E C N E T L C E L N I S V S T L D S R Y C I S V D G I S S F W Q V R T E K S K D V C I P P F H D D R K D </p>
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 µm filtered solution of 20 mM PB, 150 mM NaCl, pH 7.4.
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. 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	<p>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].</p> <p>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-</p>
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responsive genes (e.g. CD54). IFN-gamma R1 deficiencies are associated with immune responses mediated by IFN- γ , and increased susceptibility to infections. IFN-gamma R1 signaling pathway is important in activating cancer cell death and inhibiting cancer progression^[3]

Mouse IFN-gamma R1 consists of extracellular domain (A26-S254), helical domain (I255-Y275), and cytoplasmic domain (W276-S477). The sequence of amino acids in IFNAR1 differs in different species. Mouse IFN-gamma R1 shares 50% aa sequence identity with human. 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- γ R1 defects: Mutation update and description of the IFNGR1 variation database. *Hum Mutat.* 2017 Oct;38(10):1286-1296.
- [3]. Ding H, et al. Role of interferon-gamma (IFN- γ) and IFN- γ receptor 1/2 (IFN γ R1/2) in regulation of immunity, infection, and cancer development: IFN- γ -dependent or independent pathway. *Biomed Pharmacother.* 2022 Nov;155:113683.
- [4]. Goto Y, et al. Contribution of the exosome-associated form of secreted endoplasmic reticulum aminopeptidase 1 to exosome-mediated macrophage activation. *Biochim Biophys Acta Mol Cell Res.* 2018 Jun;1865(6):874-888.
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