Animal-Free IFN-gamma Protein, Human (His)

Cat. No.:	HY-P700091AF
Synonyms:	IFNG; IFN-gamma; Interferon gamma
Species:	Human
Source:	E. coli
Accession:	P01579 (Q24-Q166)
Gene ID:	3458
Molecular Weight:	Approximately 17.7 kDa

PROPERTIES

AA Sequence	M Q D P Y V K E A E N L K K Y F N A G H S D V A D N G T L F L G I L K N W K E E S D R K I M Q S Q I V S F Y F K L F K N F K D D Q S I Q K S V E T I K E D M N V K F F N S N K K K R D D F E K L T N Y S V T D L N V Q R K A I H E L I Q V M A E L S P A A K T G K R K R S Q M L F Q G R R A S Q
Biological Activity	Measure by its ability to induce cytotoxicity in HT29 cells. The ED_{50} for this effect is <1 ng/mL. The specific activity of recombinant human IFN gamma is approximately >2 x 10^6 IU/mg.
Appearance	Lyophilized powder.
Formulation	Lyophilized from a solution containing 1X PBS, pH 8.0.
Endotoxin Level	<0.01 EU per 1 μg of the protein by the 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 is a dimeric soluble cytokine that is the only member of type II interferon IFN-gamma is produced by immune cells T cells and NK cells and plays an important role in antimicrobial, antiviral and anti-tumor responses by activating effector immune cells and enhancing antigen presentation. IFN-gamma influences gene regulation by interacting with its receptor IFNGR1 through the JAK-STAT pathway, and can also trigger mTOR, MAPK, and PI3K/AKT signaling pathways. IFN-gamma plays a role in the Class I antigen presentation pathway by inducing the substitution of the catalytic proteasome subunit for the immune proteasome subunit. IFN-gamma upregulates the MHC II complex on the cell surface by promoting

the expression of several key molecules such as pepsin B/CTSB, H/CTSH, and L/CTSL. IFN-gamma is involved in the regulation of hematopoietic stem cells under developmental and homeostasis conditions by influencing the development, quiescence and differentiation of hematopoietic stem cells[1][2][3][4][5].

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