

Active Recombinant Human interferon, gamma Protein, His tagged

Cat. No. IFNG-157H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant human IFN-gamma protein (P01579) (Gln 24-Gly 161) with a His tag at the C-terminus was expressed in HEK293.
Species	Human
Source	HEK293
ProteinLength	24-161aa
Description	Type II interferon produced by immune cells such as T-cells and NK cells that plays crucial roles in antimicrobial, antiviral, and antitumor responses by activating effector immune cells and enhancing antigen presentation. Primarily signals through the JAK-STAT pathway after interaction with its receptor IFNGR1 to affect gene regulation. Upon IFNG binding, IFNGR1 intracellular domain opens out to allow association of downstream signaling components JAK2, JAK1 and STAT1, leading to STAT1 activation, nuclear translocation and transcription of IFNG-regulated genes. Many of the induced genes are transcription factors such as IRF1 that are able to further drive regulation of a next wave of transcription. Plays a role in class I antigen presentation pathway by inducing a replacement of catalytic proteasome subunits with immunoproteasome subunits. In turn, increases the quantity, quality, and repertoire of peptides for class I MHC loading. Increases the efficiency of peptide generation also by inducing the expression of activator PA28 that associates with the proteasome and alters its proteolytic cleavage preference. Up-regulates as well MHC II complexes on

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the cell surface by promoting expression of several key molecules such as cathepsins B/CTSB, H/CTSH, and L/CTSL. Participates in the regulation of hematopoietic stem cells during development and under homeostatic conditions by affecting their development, quiescence, and differentiation.

Tag	C-His
Bio-activity	Measured in a cytotoxicity assay using HT-29 human colon cancer cells. The ED50 for this effect is 0.05-0.25 ng/mL
Molecular Mass	17.6 kDa
Endotoxin	Less than 1.0 EU/μg by the LAL method.
Purity	>95% as determined by SDS-PAGE.
Storage	Please avoid repeated freeze-thaw cycles. Samples are stable for up to twelve months from date of receipt at -20 to -80 centigrade. It is recommended that aliquot the reconstituted solution to minimize freeze-thaw cycles.
Storage Buffer	Lyophilized from a 0.2 μm filtered solution of PBS, pH7.4, 5% Trehalose, 5% mannitol.
Reconstitution	Reconstitute at 250 μg/mL in sterile water.

GENE INFORMATION

Gene Name	IFNG interferon, gamma [Homo sapiens (human)]
Official Symbol	IFNG

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Synonyms	IFNG; interferon, gamma; interferon gamma; IFN-gamma; immune interferon; IFG; IFI;
Gene ID	3458
mRNA Refseq	NM_000619
Protein Refseq	NP_000610
MIM	147570
UniProt ID	P01579
Activity	Measured in a cytotoxicity assay using HT-29 human colon cancer cells. The ED50 for this effect is 0.05-0.25 ng/mL
Protein on SDS-PAGE under reducing (R) condition.	