

#80385 Store at -20C

Human Interferon- γ (hIFN- γ) Recombinant Protein

20 μ g

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MW (kDa):
17

UniProt ID:
#P01579

Entrez-Gene Id:
3458

Background

IFN- γ plays key roles in both the innate and adaptive immune response. IFN- γ activates the cytotoxic activity of innate immune cells such as macrophages and NK cells (1,2). IFN- γ production by NK cells and antigen-presenting cells (APCs) promotes the cell-mediated adaptive immunity by inducing IFN- γ production by T lymphocytes, increasing expression of class I and class II MHC, and enhancing peptide antigen presentation (1). The anti-viral activity of IFN- γ is due to its induction of PKR and other regulatory proteins. Binding of IFN- γ to the IFNGR1/IFNGR2 complex promotes dimerization of the receptor complexes. Binding induces a conformational change in receptor intracellular domains and signaling involves Jak1, Jak2 and Stat1 (3). The critical role of IFN- γ in amplification of immune surveillance and function is supported by increased susceptibility to pathogen infection in IFN- γ or IFNGR knockout mice and in humans with inactivating mutations in IFNGR1 or IFNGR2. IFN- γ also appears to have a role in atherosclerosis (4).

Endotoxin

Less than or equal to 1 EU / 1 μ g hIFN- γ .

Purity

A greater than 95% purity was determined by SDS-PAGE.

Source / Purification

Recombinant human IFN- γ was expressed in *E. coli* and is supplied in a lyophilized form.

Bioactivity

The bioactivity of hIFN- γ was determined in a virus protection assay. The ED₅₀ of each lot is between 0.30-1.2 ng/ml.

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Background References

1. Schroder, K. et al. (2004) *J Leukoc Biol* 75, 163-89.
2. Martinez, F.O. et al. (2009) *Annu Rev Immunol* 27, 451-83.
3. Kotenko, S.V. et al. (1995) *J Biol Chem* 270, 20915-21.
4. McLaren, J.E. and Ramji, D.P. (2009) *Cytokine Growth Factor Rev* 20, 125-35.

Cross-Reactivity Key

H: human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **Mi:** mink **C:** chicken **Dm:** *D. melanogaster* **X:** *Xenopus* **Z:** zebrafish **B:** bovine **Dg:** dog **Pg:** pig **Sc:** *S. cerevisiae* **Ce:** *C. elegans* **Hr:** horse **GP:** Guinea Pig **Rab:** rabbit **All:** all species expected

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