Product Description
Interferon-gamma (IFN-γ), also known as type II interferon, is produced by T and NK cells, and in smaller amounts by dendritic cells and macrophages. IFN-γ is controlled by cytokines such as IL-12 and IL-18 secreted in response to infection (Schroder et al.). IFN-γ binds to a receptor complex and initiates signal transduction via the JAK/STAT pathway; this culminates in the transcription and activation of many genes that control a diverse array of immunological functions (de Weerd & Nguyen; Krause et al.). IFN-γ stimulates the antimicrobial and anti-tumor activity of macrophages, NK cells, and neutrophils (Billiau & Matthys) by promoting the activation of microbial effector functions such as production of reactive oxygen species, nitric oxide, and complement (Schroder et al.). IFN-γ enhances MHC class I and II expression in dendritic cells and mononuclear phagocytes, as well as the production of IL-12 by dendritic cells. In B cells, IFN-γ stimulates survival and growth in both mouse and human cells, and redirects B cells from proliferation towards differentiation. IFN-γ favors the development of Th1 vs Th2 cells and stimulates monocyte differentiation and function (Schroder et al.).

Product Information
Alternative Names: Interferon gamma, Type II interferon
Accession Number: P01579
Amino Acid Sequence: MQDPYKVEAE NLKKYFNAGH SDVADNGTLF LGILKNWKEE SDRKIMOSQI VSFYFKLFKN FKDDQSIQKS VETIKEDMNV KFFNSNKKKR DDFEKLTNY SVDNLNVQRKA IHELIQVMAE LSPAAKTGKR KRSQMLFRGR RASQ
Predicted Molecular Mass: 17 kDa
Species: Human
Cross Reactivity: Mouse, Monkey
Formulation: Lyophilized after dialysis against phosphate-buffered saline.
Source: E. coli

Specifications
Activity: The specific activity is ≥ 2 x 10^7 units/mg (EC50 ≤ 0.05 ng/mL) as determined by a cytotoxicity assay using HT-29 cells.
Purity: ≥ 95%
Endotoxin Level: Measured by kinetic Limulus amebocyte lysate (LAL) analysis and is ≤ 0.2 EU/μg protein.

Preparation and Storage
Storage: Store at -80°C.
Stability: Stable as supplied for 12 months from date of receipt.
Preparation: Centrifuge vial before opening. Reconstitute the product in sterile water or phosphate-buffered saline to at least 0.1 mg/mL by pipetting the solution down the sides of the vial. Do not vortex. Store at 2 - 8°C for up to 1 week or at -20°C to -80°C for up to 2 months. Avoid repeated freeze-thaw cycles.
Cytokines

Human Recombinant IFN-gamma

Data

(A) The biological activity of Human Recombinant IFN-gamma was tested by its ability to promote the cytotoxicity of HT-29 (HTB-38) cells. Cytotoxicity was measured using a fluorometric assay method. The EC50 is defined as the effective concentration of the growth factor at which cell death is at 50% of maximum. The EC50 for this effect is 0.035 ng/mL.

(B) 2 μg of Human Recombinant IFN-gamma was resolved with SDS-PAGE under reducing (+) and non-reducing (-) conditions and visualized by Coomassie Blue staining. Human Recombinant IFN-gamma has a predicted molecular mass of 17 kDa.

Related Products

For a complete list of cytokines, as well as related products available from STEMCELL Technologies, visit www.stemcell.com/cytokines or contact us at techsupport@stemcell.com.

References


