Mouse Recombinant IFN-gamma

Interferon-gamma

Catalog #78021.1
#78021 20 μg
#78021 100 μg
#78021.2 1000 μg

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 that are 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, NO intermediates, complement, etc. (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: P01580
Amino Acid Sequence: MHGTVIESLE SLNNYFNSSG IDVEEKSLFL DIWRNWQKDG DMKLQSOII SFYLRLFEVL KDNQAISSNI SWIESHLITT FFSNSKAKKD AFMSIAKFEV NNPQVQRQAF NELIRVHQL LPESSLRKIR RSRC
Predicted Molecular Mass: 15.7 kDa
Species: Mouse
Formulation: Lyophilized from a sterile-filtered aqueous solution containing sodium phosphate and sodium chloride, pH 7.5.
Source: E. coli

Specifications
Activity: The specific activity is ≥ 1 x 10^6 units/mg (EC50 ≤ 1 ng/mL) after normalizing to an internal standard, as determined in a viral challenge assay using encephalomyocarditis (EMC) virus on L929 cells.
Purity: ≥ 95%
Endotoxin Level: Measured by kinetic Limulus amebocyte lysate (LAL) analysis and is ≤ 0.1 EU/μg protein.

Preparation and Storage
Storage: Store at -20 to -80°C.
Stability: Stable as supplied for 12 months from date of receipt.
Preparation: Centrifuge vial before opening. Bring vial and sterile water to room temperature (15 - 25°C). Reconstitute the product in sterile water to at least 0.1 mg/mL by pipetting the solution down the sides of the vial. Do not vortex. Let solution sit for 1 minute at room temperature. If precipitate is observed, centrifuge at 16,000 x g for 1 minute. Remove supernatant and transfer to a new tube, taking care not to disturb the pellet. Discard the pellet. A 10% overfill has been added to compensate for any loss of protein in the precipitate.

OPTIONAL: After reconstitution, if product will not be used immediately, dilute with concentrated bovine serum albumin (BSA) to a final BSA concentration of 0.1%. The effect of storage of stock solution on product performance should be tested for each application. As a general guide, do not store at 2 - 8°C for more than 1 month or at -80°C for more than 3 months. Avoid repeated freeze-thaw cycles.
Data

(A) The biological activity of Mouse Recombinant IFN-gamma was measured with L929 cells exposed to the EMC virus in a cytopathic effect (CPE) assay. The EC50 is defined as the effective concentration of the cytokine at which cell survival is at 50% of maximum. The EC50 in the above graph is 0.22 ng/mL. When normalized to an internal standard, the specific activity in the above example is $4.3 \times 10^7$ units/mg.

(B) 1 μg of Mouse Recombinant IFN-gamma was resolved with SDS-PAGE under reducing (+) and non-reducing (-) conditions and visualized by Coomassie Blue staining. Mouse Recombinant IFN-gamma has a predicted molecular mass of 15.7 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


