Miltenyi Biotec

Mouse IFN-γ
research grade

Contents

1. Description

Products

Mouse IFN-γ, research grade.

Recombinant mouse interferon γ.

Content in µg	Order no.
10	130-105-790
25	130-105-785

Biological activity

The ED_{50} is ≤1.0 ng/mL corresponding to an activity of ≥1×10^6 IU/mg.

▲ **Note:** The ED_{50} is determined by inhibition assay using murine WEHI-279 cells according to Wong *et al.*[1] The inhibition assay was calibrated with the international standard for mouse IFN-γ (NR-3081).

Primary structure

Single non-glycosylated polypeptide chain without N-terminal methionine (133 amino acid residues).

Molecular mass

15.5 kDa.

Source

Produced in *E. coli*.

Product format

Lyophilized from a filtered (0.2 µm) buffer solution.

Stabilizer

Mannitol and trehalose.

Purity

>90% as determined by SDS-PAGE analysis.

Endotoxin level

Low endotoxin (<1.0 EU/µg cytokine) as determined by Limulus Amebocyte Lysate (LAL) assay.

Storage

Lyophilized Mouse IFN-γ, research grade should be stored at –20 °C. The expiration date is indicated on the vial label. Upon reconstitution aliquots should be stored at –20 °C or below. Avoid repeated freeze-thaw cycles.

Reconstitution

It is recommended to reconstitute lyophilized Mouse IFN-γ, research grade with deionized sterile-filtered water to a final concentration of 0.1–1.0 mg/mL in a minimal volume of 100 µL. Further dilutions should be prepared with 0.1% bovine serum albumin (BSA) or human serum albumin (HSA) in phosphate-buffered saline.

1.1 Background information

Interferon γ (IFN-γ) is a homodimer produced by a variety of immune cells, mainly activated T cells and NK cells. In addition to its antiviral activity[2], IFN-γ is a potent activator of macrophages, has antiproliferative effects on transformed cells, and can potentiate the antiviral and antitumor effects of type I interferons. Transgenic mice expressing IFN-γ in the pancreas have been shown to develop autoimmune diabetes, caused by infiltration of lymphocytes. IFN-γ knockout mice develop normally, but are highly susceptible to infection with low numbers of certain intracellular bacterial pathogens and fungi. Mouse IFN-γ shows approximately 40% amino acid sequence homologous with human IFN-γ. It is highly specific without showing cross-reactivity between species.

1.2 Applications

Mouse IFN-γ may be used for a variety of applications, including:

- Macrophage stimulation to study antimicrobial and anti-tumor effects.
- *In vitro* maturation of DCs, e.g. of MDCs to study the influence of HIV-1 infection.

Optimal concentration for a specific application should be determined by a dose-response experiment.

2. References

1. Wong, G. H. *et al.* (1983) Interferon-gamma induces enhanced expression of Ia and H-2 antigens on B lymphoid, macrophage, and myeloid cell lines. J Immunol 131: 788–793.
2. Groot, F. *et al.* (2006) Opposing roles of blood myeloid and plasmacytoid dendritic cells in HIV-1 infection of T cells: transmission facilitation versus replication inhibition. Blood 108: 1957–1964.

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