



Recombinant Bovine IFN γ

Catalogue Number: REC401

Specifications and Use

Source

- A DNA sequence encoding mature bovine IFN γ (Gln24-Thr166; Accession NM_174086) was expressed in *E.coli*.

Molecular Mass

- 17 kDa, reducing condition

Purity

- 90%, as determined by SDS-PAGE and visualized by silver stain.

Endotoxin Level

- < 1.0 EU per 1 μ g of the protein as determined by LAL method.

Activity

- Measured in antiviral assays using MDBK bovine renal epithelial carcinoma cells infected with vesiculostomatitis virus (VSV).
- The ED₅₀ for this effect is typically 100-200 ng/ml.

Formulation

- Supplied as lyophilized powder.
- Reconstitute in PBS
- Centrifuge the vial before opening to prevent loss of the powder.

Storage

- Samples are stable up to 1 year from date of receipt at -20°C.
- Upon thawing, this protein can be stored under sterile conditions at 2-8°C for two weeks or at -70°C in a manual defrost freezer for three months without detectable loss of activity.
- Avoid repeated freeze-thaw cycles. Samples are recommended to be aliquot in small volumes and frozen for multiple uses.

Background

Interferon- γ (IFN γ), also known as type II or immune interferon, exerts a wide range of immunoregulatory activities and is considered to be the prototype proinflammatory cytokine (1, 2). Mature human IFN γ exists as a non-covalently linked homodimer of 20-25 kDa variably glycosylated subunits (3). It shares 60% amino acid (aa) sequence identity with human IFN γ . IFN γ dimers bind to IFN γ RI (α subunits) which then interact with IFN γ RII (β subunits) to form the functional receptor complex of two α and two β subunits. Inclusion of IFN γ RII increases the binding affinity for ligand and the efficiency of signal transduction (4, 5). IFN γ is produced by a variety of immune cells under inflammatory conditions, notably by T cells and NK cells (6). It plays a key role in host defense by promoting the development and activation of Th1 cells, chemoattraction and activation of monocytes and macrophages, upregulation of antigen presentation molecules, and immunoglobulin class switching in B cells. It also exhibits antiviral, antiproliferative, and apoptotic effects (6, 7). In addition, IFN γ functions as an anti-inflammatory mediator by promoting the development of regulatory T cells and inhibiting Th17 cell differentiation (8, 9). The pleiotropic effects of IFN γ contribute to the development of multiple aspects of atherosclerosis (7).

References

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