Recombinant Porcine Interferon gamma (rp IFN\(\gamma\))

**Synonyms:** Immune Interferon, type II interferon, T cell interferon, MAF.

**Introduction:** IFN-\(\gamma\) produced by lymphocytes activated by specific antigens or mitogens. IFN-\(\gamma\), in addition to having antiviral activity, has important immunoregulatory functions. It is a potent activator of macrophages, has antiproliferative effects on transformed cells and can potentiate the antiviral and antitumor effects of the type I interferons.

**Description:** Recombinant porcine Interferon-\(\gamma\) produced in E.Coli is a single, non-glycosylated, polypeptide chain containing 146 amino acids and having a molecular mass of 17140 Dalton. Growth Hormone is purified by proprietary chromatographic techniques.

**Source:** *Escherichia Coli*.

**Physical Appearance:** Sterile filtered white lyophilized (freeze-dried) powder.

**Formulation:** The protein was lyophilized with no additives. The samples of 1µg contain Trehalose 5% (w/vol) for better recovery.

**Solubility:** It is recommended to reconstitute the lyophilized IFN gamma in sterile H\(2\)O not less than 100µg/ml which can then be further diluted to other aqueous solutions.

**Stability:** Lyophilized rp IFN\(\gamma\) although stable at room temperature for 3 weeks, should be stored desiccated below -18° C. Upon reconstitution rp IFN\(\gamma\) should be stored at 4° C between 2-7 days and for future use below -18° C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Please prevent freeze-thaw cycles.

**Purity:** Greater than 95.0% as determined by:
(a) Analysis by RP-HPLC.
(b) Analysis by SDS-PAGE.

**Amino acid sequence:** The sequence of the first five N-terminal amino acids was determined and was found to be Ser-Tyr-Cys-Gln-Ala.

**Biological Activity:** The ED\(_{50}\) as determined by the amount of interferon that inhibited 50% of the cytopathic effect of vesicular stomatitis virus in MDBK cells was < 0.3 ng/ml.

**Protein content:** Protein quantitation was carried out by two independent methods:
1. UV spectroscopy at 280 nm using the absorbency value of 0.556 as the extinction coefficient for a 0.1% (1mg/ml) solution. This value is calculated by the PC GENE computer analysis program of protein sequences (IntelliGenetics).
2. Analysis by RP-HPLC, using a calibrated solution of IFN\(\gamma\) as a Reference Standard.

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