

## Product Information

### Interferon- $\gamma$ , human recombinant, expressed in *E. coli*

Catalog Number **I3265**  
Storage Temperature  $-20\text{ }^{\circ}\text{C}$

Synonyms: IFN- $\gamma$ , immune interferon, type II interferon, T cell interferon, MAF

#### Product Description

Human Interferon- $\gamma$  (IFN- $\gamma$ ) exerts a variety of biological effects including antiviral activity,<sup>1</sup> inhibition of cell or tumor growth,<sup>2,3</sup> and promotion of terminal differentiation of B cells into immunoglobulin-producing cells.<sup>4,5</sup> In addition to antiviral activity, recombinant human interferon- $\gamma$  is a potent modulator of immune responses and modifies cellular processes.<sup>6</sup> IFN- $\gamma$  is classified as an immune interferon.<sup>6</sup> It functions as an activating factor to prime macrophages for nonspecific tumoricidal activity<sup>7</sup> and activates monocytes to exert enhanced cytotoxicity against tumor cells.<sup>8</sup> IFN- $\gamma$  acts as a signal for major histocompatibility antigen expression,<sup>9</sup> boosts cytotoxicity of natural killer cells, and stimulates T cell cytotoxicity.<sup>10</sup> The species specificity of IFN- $\gamma$  resides in the interaction of IFN- $\gamma$  with its receptor.<sup>11</sup> Human IFN- $\gamma$  does not bind specifically to mouse, hamster, nor to bovine cells.<sup>11</sup>

Human IFN- $\gamma$  is a 17 kDa protein containing 143 amino acid residues. The recombinant human protein is expressed in *E. coli*. It is lyophilized from 10 mM sodium phosphate, pH 7.4.

Purity:  $\geq 98\%$  (SDS-PAGE)

Endotoxin:  $\leq 0.1$  ng/mg (1 EU/ $\mu\text{g}$ )

The biological activity is measured in a viral resistance assay.<sup>12</sup> The ED<sub>50</sub> is defined as the effective concentration of growth factor that allows 50% cell growth in an antiviral cell based bioassay.

#### Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

#### Preparation Instructions

The lyophilized powder can be reconstituted in sterile water to a concentration of 0.5–1.0 mg/mL. This stock solution can be diluted further with RPMI medium containing 10% fetal calf serum or 5% human serum albumin. Use polypropylene containers for dilutions.

#### Storage/Stability

Store the lyophilized product at  $-20\text{ }^{\circ}\text{C}$ . It remains active for a few weeks at room temperature.

The reconstituted product should be stored in working aliquots at  $-20\text{ }^{\circ}\text{C}$ . Repeated freezing and thawing is not recommended. Do not store in frost-free freezer.

#### References

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