

# Product Information

**Interferon  $\alpha$  rat**

recombinant, expressed in bacteria  
cell culture tested

**Catalog Number I8657**

Storage Temperature  $-70^{\circ}\text{C}$

**Product Description**

Recombinant rat Interferon  $\alpha$  (IFN- $\alpha$ ) is obtained from rat cDNA expressed in bacteria. Its molecular weight is  $\sim 19$  kDa.

Type I Interferons are a closely related family of proteins that induce a variety of effects on target cells including antiviral, antiproliferative and immuno-modulatory activities. They are divided into subtypes according to their cell type specific activities:  $\alpha$  subtypes (leukocytes),  $\beta$  subtypes (fibroblasts),  $\omega$  subtypes (lymphocytes), and  $\tau$  subtypes (ruminant embryos).<sup>1</sup>

**Reagent**

Supplied as a lyophilized powder from 0.5 mL citric acid buffered saline (CBS pH 5.0) containing 125 mM trehalose.

Minimum  $1 \times 10^5$  units/vial

**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**

Reconstitute the contents of the vial with 1 ml sterile distilled water. After reconstitution, the concentration is  $1 \times 10^5$  units/ml. If further dilutions are to be made, use buffers containing 0.1% bovine serum albumin.

**Storage/Stability**

Store at  $-70^{\circ}\text{C}$  or below for retention of full activity. After reconstitution, freeze in working aliquots at  $-70^{\circ}\text{C}$ . Repeated freezing and thawing is not recommended and may cause significant loss of activity.

**Product Profile**

Rat Interferon  $\alpha$  activity is measured in a bioassay system for interferon  $\alpha$  by the inhibition of cytopathic effect in rat epithelial-like (RATEC) cells with VSV in the presence of 2 mM glutathione.<sup>3-5</sup> Since there is no international rat interferon  $\alpha$  standard, units are determined with respect to the international reference standard for mouse interferon  $\alpha/\beta$  provided by the National Institutes of Health (NIH). In this antiviral assay for interferon, approximately 1 unit/ml of interferon is the quantity necessary to produce a cytopathic effect of 50%.

**Note:** Specific activity is lot specific.

Purity:  $\geq 95\%$  %

**References**

1. The Cytokine Facts Books, eds., R. Callard and A. Gearing, p. 148 (Academic Press, 1994).
2. Rubinstein, S., et al., *J. Virol.*, **37**, 755-758 (1981).
3. Familletti, P., et al., *Meth. Enzymol.*, **78**, 387-394 (1981).
4. Pestka, S., *Meth. Enzymol.*, **119**, 14-23 (1986).

TD,JR,PHC 08/09-1

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