



Certificate of Analysis

Human Interferon Alpha 4a (Alpha M1)

Catalog No: 11177-1

Lot No:

Size: $\sim 1 \times 10^5$ units

Description: Recombinant Human Interferon Alpha 4a (Alpha M1) (Hu-IFN- M1)

Volume: ml

Activity: $\times 10$ units/ml (MDBK/VSV)

Specific Activity: $\times 10$ units/mg (MDBK/VSV)

Buffer: Phosphate buffered saline (PBS) containing 0.1% bovine serum albumin (BSA)

Endotoxin: < 1 EU/ μ g

Molecular Weight: 19.4 kDa

Purity: $\sim 95\%$

Purification Method: Purified from *E. coli* by a combination of Ion Exchange, Hydrophobic Interaction and Size Exclusion Chromatography

Source: cDNA obtained from human leukocyte mRNA expressed in *E. coli*

Human Gene: IFNA4

Synonyms: Hu-IFN- M1

Accession Number: NM_021068

Assay Used to Measure Bioactivity: Interferon was titrated with the use of the cytopathic effect inhibition assay as listed

Bovine (MDBK/VSV) – Performed as described [Rubinstein, *et al.* (1981) *J. Virol.* 37 (2):755]. The EC₅₀ for interferon in this assay is ~ 5 U/ml. Lot Activity was derived from multiple determinations in the above assay.

Human (A549/EMCV) – Performed as described [Budd, *et al.* (1985) *Canc. Chem. Pharm.* 12:39]. The EC₅₀ for interferon in this assay is ~ 1 U/ml. **Activity:** $\times 10$ units/ml **Specific Activity:** $\times 10$ units/mg

The units are determined by use of a Human IFN Alpha A (Hu-IFN- A [2a]) laboratory standard calibrated to the international reference standard for Human Interferon Alpha A (Hu-IFN- A [2a]) provided by the National Institutes of Health [Meager, *et al.* (2001) *J. Immunol. Meth.* 257 (1-2):17-33]. Please note that IFN assays vary between labs and assay systems [Meager, *et al.* (2001) *J. Immunol. Meth.* 257:17. Meager and Das (2005) *J. Immunol. Meth.* 306:1].

Shipping Conditions: Dry Ice

Physical State of Product During Shipping: Frozen

Storage Conditions/Comments: After receipt, the product may be stored at -20°C for short-term use (6 months). For long-term storage, we recommend storing the product at -70°C or below for retention of full activity. When thawing, the contents of the tube should be apportioned in separate tubes so that freezing and thawing is kept to a minimum. Refreezing should be done on dry ice or in a dry ice/alcohol bath. Further dilution of the product should be in buffers containing protein such as 0.1% bovine serum albumin (BSA) or tissue culture media with serum. Dilution of material below 2×10^5 units/ml for freezing is not recommended. One freeze-thaw cycle is equivalent to thawing an aliquot prepared from the material received. [The activity measured after one freeze-thaw cycle is $\times 10$ units/ml (MDBK/VSV)]. For more information on protein handling, visit our Resource Library at www.pbl assaysci.com.



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Authorization

Released by: _____

Date:

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Rev. 02

A decorative graphic at the bottom of the page consisting of a wavy, multi-colored shape. It transitions from a light green on the left to a bright blue on the right, with a darker green in the middle.