



## Certificate of Analysis

### Mouse Interferon Alpha 4, mammalian

**Catalog No:** 12115-1

**Lot No:** 7654

**Size:**  $\geq 1 \times 10^5$  units/vial

**Description:** Recombinant Mouse Interferon Alpha 4 (Mu-IFN- $\alpha$ 4)

**Volume:** 0.100 ml

**Activity:**  $1.19 \times 10^6$  units/ml

**Specific Activity:**  $7.93 \times 10^7$  units/mg

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

**Endotoxin:**  $< 1$  EU/ $\mu$ g

**Molecular Weight:** 19.5 kDa

**Purity:**  $> 95\%$

**Purification Method:** Purified from mammalian tissue culture media by a combination of ion exchange, hydrophobic interaction and size exclusion chromatography.

**Source:** Murine (C57/BI) DNA expressed in mammalian cells

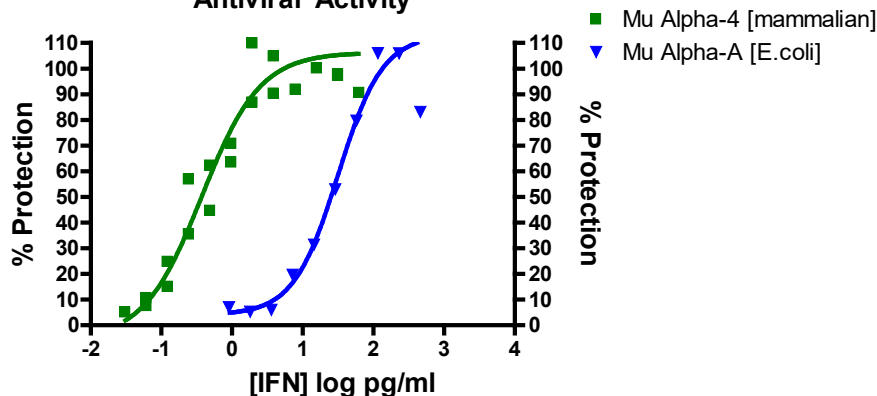
**Synonyms:** None

**Accession #:** NM\_010504

**Assay Used to Measure Bioactivity:** Interferon was titrated with the use of the cytopathic effect inhibition assay as described [Familletti *et al.* (1981) "A Convenience and Rapid Cytopathic Effect Inhibition Assay for Interferon," in *Methods in Enzymology*, Vol. 78 (S. Pestka, ed.), Academic Press, New York, 387-394] with the exception that EMCV rather than VSV was used as the challenge. The activity was determined relative to a lab standard of Mu-IFN- $\alpha$ A which was calibrated to the NIH Murine IFN- $\alpha$  standard (Ga02-901-511). Mouse (L929/EMCV) in this assay the  $EC_{50}$  for IFN is  $\sim 5$  U/ml. Lot Activity was derived from multiple determinations in the above assay. 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]

**Product Information:** Most mammalian species have multiple IFN- $\alpha$  subtypes. Although the reasons for these multiple subtypes are not fully known, there are clear cell type and temporal differences in their expression. A study established a nomenclature for the murine IFN- $\alpha$  subtypes (van Pesch, et al. 2004) and determined relative activities of the subtypes with protein quantification by phosphorimaging of metabolically-labeled protein. In this study, Mu-IFN- $\alpha$ A was defined to have average antiviral activity in order to compare the potencies of the other subtypes.

**Comparison of Mu Alpha-A [*E.coli*] and Mu Alpha-4 [mammalian]  
Antiviral Activity**



**Figure 1:** The activity of Mu Alpha-A [*E. coli*] and Mu Alpha-4 [mammalian] was compared in an L929/EMCV CPE assay. The EC<sub>50</sub> for Mu Alpha-A [*E. coli*] in this experiment was 23.5 pg/ml while the EC<sub>50</sub> for Mu Alpha-4 [mammalian] was 3.59 pg/ml. Results are representative and may vary depending upon experimental conditions.

**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. Re-freezing 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). For more information on protein handling, visit our Resource Library at [www.pbl assaysci.com](http://www.pbl assaysci.com).

**Authorization**

Released by: \_\_\_\_\_

Date: November 7, 2023

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