



Certificate of Analysis

Mouse Interferon Alpha 1

Catalog No: 12105-1

Lot No: 7598

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

Description: Recombinant Mouse Interferon Alpha 1 (Mu-IFN- α 1)

Volume: 0.1 ml

Activity: 4.72×10^6 units/ml

Specific Activity: 1.08×10^7 units/mg

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

Endotoxin: < 1 EU/ μ g

Molecular Weight: 19.1 kDa

Purity: $> 95\%$

Purification Method: A combination of ion exchange, hydrophobic interaction and size exclusion chromatography.

Source: Murine Leukocyte Interferon cDNA expressed in *E. coli*

Synonyms: Mu-IFN- α 1

Mouse Gene: IFNA1

Accession #: AY225950

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- α A which was calibrated to the NIH Murine IFN- α standard (Ga02-901-511). Mouse (L929/EMCV) in this assay the EC_{50} for IFN is ~ 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- α subtypes. Although the reason 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- α 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- α A was defined to have average antiviral activity in order to compare the potencies of the other subtypes.

Comparison of Mu Alpha-A and Mu Alpha-1 Antiviral Activity

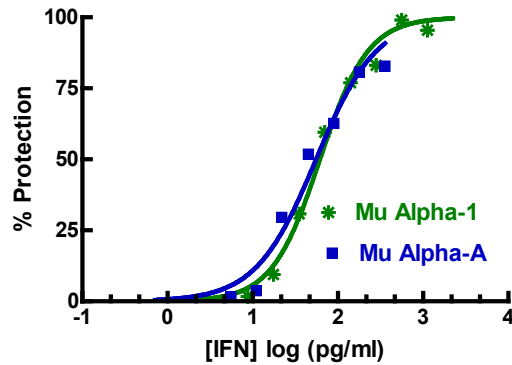


Figure 1: The activity of Mu Alpha-A and Mu Alpha-1 was compared in an L929/EMCV CPE assay. The EC₅₀ for Mu Alpha-A in this experiment was 56 pg/ml while the EC₅₀ for Mu Alpha-1 was 62 pg/ml. This similarity was confirmed for several batches of Mu Alpha-1.

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.

Authorization

Released by: _____

Date: March 10, 2023

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