



## Certificate of Analysis

### Human Interferon Alpha 4b (Alpha 4)

**Catalog No:** 11180-1

**Lot No:**

**Size:** ~ 1 x 10<sup>5</sup> units/vial

**Description:** Recombinant Human Interferon Alpha 4b (Alpha 4) (Hu-IFN- 4b; Hu-IFN- 4)

**Volume:** 0.1 ml

**Activity:** x 10 units/ml (MDBK/VSV)

**Specific Activity:** x 10 units/mg (MDBK/VSV)

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

**Endotoxin:** < 1 EU/ g

**Molecular Weight:** 19.4 kDa

**Purity:** ~ 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- 4

**Accession #:** X02955

**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 EC<sub>50</sub> 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 EC<sub>50</sub> for interferon in this assay is ~1 U/ml. **Activity:** x 10 units/ml **Specific Activity:** x 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 (m6 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) or Tissue Culture Media with serum. Dilute for freezing of material below 2 x 10<sup>5</sup> units/ml 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 x 10 units/ml (MDBK/VSV)]. For more information on protein handling, visit our Resource Library at [www.pbl assaysci.com](http://www.pbl assaysci.com).

### Authorization

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

Date:

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