Recombinant Human Interferon-alpha 2 alpha (rh IFN-alpha 2a)

**Synonyms:** Leukocyte interferon, B cell interferon, Type I interferon, IFNA2, IFN-a 2a.

**Introduction:** Interferons are cytokines that are widely known to induce potent anti-viral activity. Interferon-a exerts a variety of other biological effects, including antitumor and immunomodulatory activities and are increasingly used clinically to treat a range of malignancies, myelodysplasias and autoimmune diseases. IFN-alpha is produced by macrophages and has antiviral activities. Interferon stimulates the production of two enzymes: protein kinase and an oligoadenylate synthetase.

**Description:** Recombinant human IFN-alpha 2a produced in E.Coli is a single, non-glycosylated, polypeptide chain containing 165 amino acids and having a molecular mass of 19241 Dalton. The Interferon-alpha 2a gene was obtained from human leukocytes. The rh IFN-alpha 2a is purified by proprietary chromatographic techniques.

**Source:** *Escherichia Coli.*

**Physical Appearance:** Sterile filtered white lyophilized (freeze-dried) powder.

**Formulation:** Lyophilized without additives
The aliquots/samples of 1µg contain Trehalose 5% (w/vol) for better recovery

**Solubility:** It is recommended to reconstitute the lyophilized rh IFN-alpha 2a in sterile 8MΩ-cm H₂O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

**Stability:** Lyophilized rh IFN-alpha 2a although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution rh IFN-alpha 2a should be stored at 4°C between 2-7 days and for future use below -18°C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Please prevent freeze-thaw cycles.

**Purity:** Greater than 97.0% as determined by RP-HPLC and by SDS-PAGE.

**Amino acid sequence:** The sequence of the first five N-terminal amino acids was determined and was found to be Cys-Asp-Leu-Pro-Gln, conforming to the sequence of native human IFN-alpha. N-terminal methionine has been completely removed enzymatically.

**Biological Activity:** Specific activity as determined in a viral resistance assay using bovine kidney MDBK cells was found to be 2.7 x 10⁸ IU/mg.

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