

Interferon-alpha 2a

Human, Recombinant (rHuIFN α 2a)

Expressed in *E. coli*

Cat. No. CRP0812

Lot. No. (See product label)

PRODUCT INFORMATION

Description: At least 23 different variants of IFN-alpha are known. The individual proteins have molecular masses between 19-26 kDa and consist of proteins with lengths of 156-166 and 172 amino acids. All IFN-alpha subtypes possess a common conserved sequence region between amino acid positions 115-151 while the amino-terminal ends are variable. Many IFN-alpha subtypes differ in their sequences at only one or two positions. Naturally occurring variants also include proteins truncated by 10 amino acids at the carboxy-terminal end.

Amino-Acid Sequence: 165 aa (The sequence of the first fifteen N-terminal amino acids was determined and was found to be Met-Cys-Asp-Leu-Pro-Gln-Thr-His-Ser-Leu-Gly-Ser-Arg-Arg-Thr-Leu.), non-glycosylated

M. W. : 19,241Da

Recombinant: Expressed in *E. coli*

Purity: >95% as determined by SDS-PAGE and SEC-HPLC.

Formulation: rHuIFN α 2a is lyophilized from (1mg/ml) solution containing 7.21 sodium chloride and 0.77mg ammonium acetate.

Specific Activity: The specific activity as determined in a viral resistance assay using VSV-WISH cells was found to be greater than 1.0×10^8 IU/ mg.

Endotoxin: Less than 0.3ng/ μ g (0.3IEU/ μ g) determined by LAL test.

Reconstitution: It is recommended to reconstitute the lyophilized rHuIFN α 2a in sterile 18M Ω -cm H₂O not less than 100 μ g/ml, which can then be further diluted to other aqueous solutions.

Storage: Lyophilized rHuIFN-alpha 2a although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution rHuIFN α 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). Aliquot to avoid repeated freeze-thaw cycles.

FOR RESEARCH USE ONLY

GENE INFORMATION

Gene Name: [IFNA2](#)

Gene Alias: IFNA, INFA2, MGC125764, MGC125765

Gene Type: protein coding

mRNA Refseq: [NM_000605.2](#)

Protein Refseq: [NP_000596.2](#)

MIM: [147562](#)

GeneID: [3440](#)

Chromosome Location: 9p22

Summary: Interferon alpha, beta. Includes also interferon omega and tau. Different from interferon gamma family. Type I interferons(alpha, beta) belong to the larger helical cytokine superfamily, which includes growth hormones, interleukins, several colony-stimulating factors and several other regulatory molecules. All function as regulators of cellular activity by interacting with cell-surface receptors and activating various signalling pathways. Interferons produce antiviral and antiproliferative responses in cells. Receptor specificity determines function of the various members of the family.

Pathway: Antigen processing and presentation; Cytokine-cytokine receptor interaction ;Jak-STAT signaling pathway ;KEGG pathway: Natural killer cell mediated cytotoxicity ;Regulation of autophagy ;Toll-like receptor signaling pathway

Function: interferon-alpha/beta receptor binding

REFERENCES

- 1.Thomas H. et al. Mechanisms of Action of Interferon and Nucleoside Analogues. Journal of hepatology. 2004 Feb; 40 (2): 364
- 2.Schmeisser H, Gorshkova I, et al. Two interferons alpha influence each other during their interaction with the extracellular domain of human type interferon receptor subunit 2. Biochemistry. 2007 Dec 18; 46(50):14638-14649.
- 3.Thyrell et al. Mechanisms of Interferon-alpha induced apoptosis in malignant cells. Oncogene: Nature Publishing Group. 2002; 21:1251-1262

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