

## HSA-Interferon-alpha 2b

Human, Recombinant (HSA-IFN $\alpha$ 2b)

Expressed in *P. Pichia*

Cat. No. CRP0815

Lot. No. (See product label)

### PRODUCT INFORMATION

**Description:** Recombinant HSA fusion Interferon alpha-2b produced in *P. Pichia* is a single, non-glycosylated, polypeptide chain having a molecular mass of 85.7 kDa

At least 23 different variants of Interferon-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 carboxyl-terminal end.

**M. W. :** 85,700 Da

**Recombinant:** Expressed in *P. Pichia*

**Purity:** >98% as determined by SDS-PAGE, RP-HPLC and FPLC.

**Formulation:** Lyophilized from a (3mg/ml) solution in containing 2.4mg Tris base and 8.8mg sodium chloride.

**Specific Activity:** The specific activity as determined in a viral resistance assay using VSV-WISH cells was found to be  $5.0 \times 10^6$  IU/mg.

**Endotoxin:** Less than 0.1 ng/ $\mu$ g (IEU/ $\mu$ g) of HSA-IFN-alpha 2b.

**Reconstitution:** It is recommended to reconstitute the lyophilized HSA-IFN alpha-2b in sterile 18M $\Omega$ -cm H<sub>2</sub>O not less than 100 $\mu$ g/ml, which can then be further diluted to other aqueous solutions.

**Storage:** Lyophilized HSA-IFN alpha-2b although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution HSA-IFN alpha-2b 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