Recombinant Human IFNA1 therapeutic protein(Interferon alfacon-1)

Cat. No. Interferon alfa-P032H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	The 166-amino acid sequence of Interferon alfacon-1 was derived by scanning the sequences of several natural interferon alpha subtypes and assigning the most frequently observed amino acid in each corresponding position. Four additional amino acid changes were made to facilitate the molecular construction, and a corresponding synthetic DNA sequence was constructed using chemical synthesis methodology. Interferon alfacon-1 differs from interferon alfa-2b at 20/166 amino acids (88% homology), and comparison with interferon-beta shows identity at over 30% of the amino acid positions. Interferon alfacon-1 is produced in Escherichia coli (E. coli) cells that have been genetically altered by insertion of a synthetically constructed sequence that codes for Interferon alfacon-1. Prior to final purification, Interferon alfacon-1 is allowed to oxidize to its native state, and its final purity is achieved by sequential passage over a series of chromatography columns. This protein has a molecular weight of 19,434 daltons.
Species	Human
Source	E.coli
ProteinLength	166 a.a.
Description	Interferon alpha binds to type I interferon receptors (IFNAR1 and IFNAR2c) which, upon dimerization, activate two Jak (Janus kinase) tyrosine kinases (Jak1 and Tyk2). These transphosphorylate themselves and phosphorylate the receptors. The

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	phosphorylated INFAR receptors then bind to Stat1 and Stat2 (signal transducers and activators of transcription) which dimerize and activate multiple (~100) immunomodulatory and antiviral proteins. Interferon alpha binds less stably to type I interferon receptors than interferon beta. The resulting actions include gene transcription, inhibition of cellular growth, alteration of the state of cellular differentiation, interference with oncogene expression, alteration of cell surface antigen expression, increasing phagocytic activity of macrophages, and augmentation of the cytotoxicity of lymphocytes for target cells.
AA Sequence	MCDLPQTHSLGNRRALILLAQMRRISPFSCLKDRHDFGFPQEEFDGNQFQKAQAISV LHEMIQQTFNLFST KDSSAAWDESLLEKFYTELYQQLNDLEACVIQEVGVEETPLMN VDSILAVKKYFQRITLYLTEKKYSPCAW EVVRAEIMRSFSLSTNLQERLRRKE
Endotoxin	< 0.1 EU per μg of the protein
Purity	>98%
Alias	IFNA1; IFL; IFN; IFN ALPHA; IFN alpha 1b; IFN alphaD; IFNA13; IFN-ALPHA; IFN Alfacon-1; IFN-Con1; Interferon alfacon-1

GENE INFORMATION

Gene Name	IFNA1 interferon, alpha 1 [Homo sapiens]
Official Symbol	IFNA1
Synonyms	IFNA1; interferon, alpha 1; interferon alpha-1/13; IFL; IFN; IFN ALPHA; IFN alpha 1b; IFN alphaD; IFNA13; IFNA@; interferon alpha 1b; leIF D; IFN-alpha 1b; IFN-alpha-1/13; interferon-alpha1; interferon alpha-D; IFN-ALPHA; IFN-alphaD; MGC138207; MGC138505; MGC138507;

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Gene ID	3439
mRNA Refseq	NM_024013
Protein Refseq	NP_076918
MIM	147660
UniProt ID	P01562
Chromosome Location	9p22
Pathway	Autoimmune thyroid disease, organism-specific biosystem; Autoimmune thyroid disease, conserved biosystem; Cytokine Signaling in Immune system, organism-specific biosystem; Cytokine-cytokine receptor interaction, organism-specific biosystem; Cytokine-cytokine receptor interaction, conserved biosystem; Cytosolic DNA-sensing pathway, organism-specific biosystem; Cytosolic DNA-sensing pathway, conserved biosystem;

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