

## Interferon alfacon 1 In Vitro Transcribed mRNA-LNP

Catalog Number:SG-MRNA-LNP-1883

DESCRIPTION	
Product Name	Interferon alfacon 1 In Vitro Transcribed mRNA-LNP
Gene Name	Interferon alfacon-1
Source	The ORF of Interferon alfacon 1 was cloned in our IVT vector and mRNA was prepared through in vitro transcription and purification. The purified mRNA was further encapsulated with LNP(DSPC:Cholesterol:DMG-PEG:SM102).
Alternative names	Interferon alfacon 1
SPECIFICATIONS	
Cap	m7GpppN
5'-UTR	5' -untranslated region derived from human alpha-globin RNA with an optimized Kozak sequence
ORF	Interferon alfacon 1
3'-UTR	3' UTR comprising two sequence elements derived from the aminoterminal enhancer of split (AES) mRNA and the mitochondrial encoded 12S ribosomal RNA
Poly(A) Tail	A 110-nucleotide poly(A)-tail consisting of a stretch of 30 adenosine residues, followed by a 10-nucleotide linker sequence and another 70 adenosine residues.
Modifications	N1-methyl-pseudouridine
Neutral Lipid	1,2-distearoyl-sn-glycero-3-phosphocholine (DSPC)
Cholesterol	Cholesterol
Ionizable Lipid	1,2-dimyristoyl-rac-glycero-3-methoxypolyethylene glycol-2000 (PEG2000-DMG)
PEG-lipid	Heptadecan-9-yl 8-((2-hydroxyethyl)(8-(nonyloxy)-8-oxooctyl)amino)octanoate)(SM-102)
Storage	-20 °C
Buffer	PBS, pH7.4
Cryoprotectant	Trehalose
BACKGROUND	
Gene Accession	
Gene Alias	Interferon alfacon 1

each corresponding position. 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 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.

#### Background

Interferon alfacon-1 is a recombinant non-naturally occurring type-I interferon. 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