

## Oprelvekin In Vitro Transcribed mRNA-LNP

Catalog Number:SG-MRNA-LNP-1877

DESCRIPTION	
Product Name	Oprelvekin In Vitro Transcribed mRNA-LNP
Gene Name	IL-11
Source	The ORF of Oprelvekin 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	Oprelvekin
SPECIFICATIONS	
Cap	m7GpppN
5'-UTR	5' -untranslated region derived from human alpha-globin RNA with an optimized Kozak sequence
ORF	Oprelvekin
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	Oprelvekin

However, it displays comparable biological activity compared to the natural IL-11 in vitro and in vivo. Oprelvekin works by stimulating megakaryocytopoiesis and thrombopoiesis. In mice and nonhuman primate studies of animals with moderate and severe myelosuppression, in addition to compromised hematopoiesis, oprelvekin was shown to potently induce thrombopoiesis and improve platelet nadirs and accelerated platelet recoveries compared to controls. In animal studies, oprelvekin was also shown to regulate intestinal epithelium growth by enhancing healing of gastrointestinal lesions, inhibit adipogenesis and macrophageal released pro-inflammatory cytokines, and induce acute phase protein synthesis.

#### Background

Oprelvekin, the active ingredient in Neumega®, is recombinant Interleukin-11 (IL-11). With a molecular mass of approximately 19,000 daltons, the non-glycosylated protein is 177 amino acids in length in comparison to the natural IL-11, which is 178 amino acid long.