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Botulinum toxin type A In Vitro Transcribed mRNA-LNP

Catalog Number:SG-MRNA-LNP-1915

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

	transmission on motor or sympathetic nerve terminals, inhibiting the release of acetylcholine. Botulinum toxins have actions on various regions: the neuromuscular junction, autonomic ganglia, and both postganglionic sympathetic and parasympathetic nerve endings. The heavy chain of the toxin binds selectively at the presynaptic surface of cholinergic neurons in an irreversible fashion. After binding, the toxin-receptor complex is transported into the cell by endocytosis. The disulfide bond between the two chains is cleaved and the botulism toxin enters the cytoplasm. The light chain specifically interacts with SNAP-25 in the nerve terminals to block binding of acetylcholine vesicles with the cell membrane. SNAP-25 is required for successful binding and release of acetylcholine from vesicles in nerve endings.
Background	Botulinum toxin type A is a purified form of botulinum toxin type A used to block acetylcholine release in the treatment of chronic sialorrhea, muscle spasticity, and dystonia, as well as in cosmetic applications. Botulinum toxin type A blocks neuromuscular