

## Firefly luciferase (Fluc) In Vitro Transcribed mRNA-LNP

Catalog Number:MRNA-TG-007

DESCRIPTION	
Product Name	Firefly luciferase (Fluc) In Vitro Transcribed mRNA-LNP
Gene Name	Firefly luciferase (Fluc)
Source	In vitro transcribed mRNA encapsulated with LNP
Alternative names	
SPECIFICATIONS	
Cap	Cap 1
5'-UTR	5' -untranslated region derived from human alpha-globin RNA with an optimized Kozak sequence
ORF	Firefly luciferase (Fluc)
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	

Photorhabdus luminescens and Vibrio fischeri. Common applications of BLI include in vivo studies of infection (with bioluminescent pathogens), cancer progression (using a bioluminescent cancer cell line), and reconstitution kinetics (using bioluminescent stem cells).

#### Background

Firefly luciferase (Fluc), initially isolated from the firefly *Photinus pyralis*, is an enzyme that catalyzes the oxygenation of d-luciferin to oxyluciferin, producing visible light (530-640 nm). Bioluminescence is the process of light emission in living organisms. Bioluminescence imaging utilizes native light emission from one of several organisms which bioluminesce. The three main sources are the North American firefly, the sea pansy (and related marine organisms), and bacteria like