

## Aequorin In Vitro Transcribed mRNA-LNP

Catalog Number:MRNA-TG-025

DESCRIPTION	
Product Name	Aequorin In Vitro Transcribed mRNA-LNP
Gene Name	Aequorin
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	Aequorin
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	

useful tool in molecular biology for the measurement of intracellular  $\text{Ca}^{2+}$  levels. The early successful purification of aequorin led to the first experiments involving the injection of the protein into the tissues of living animals to visualize the physiological release of calcium in the muscle fibers of a barnacle. Since then, the protein has been widely used in many model biological systems, including zebrafish, rats, mice, and cultured cells.

#### Background

Aequorin is a calcium-activated photoprotein isolated from the hydrozoan *Aequorea victoria*. Its bioluminescence was studied decades before the protein was isolated from the animal by Osamu Shimomura in 1962. In the animal, the protein occurs together with the green fluorescent protein to produce green light by resonant energy transfer, while aequorin by itself generates blue light. Since the emitted light can be easily detected with a luminometer, aequorin has become a