

# PRODUCT INFORMATION



## LipidLaunch™ SM-102 LNP (Luciferase)

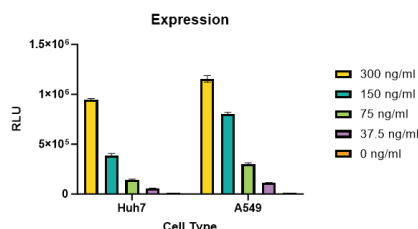
Item No. 39318

### Overview and Properties

**Storage:** -80°C (as supplied)  
**Stability:** ≥6 months  
**Supplied in:** PBS, pH 7.4, with 10% sucrose

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Images



LNP Characterization Parameters	
Size	75-150 nm
Polydispersity index (PDI)	<0.2
Encapsulation efficiency (%EE)	>85%
mRNA concentration	Batch specific, 25-100 µg/ml
mRNA/vial	5 µg

Transfection of cells with luciferase-encapsulating SM-102 particles, Huh7 hepatocytes (left), and A549 lung epithelial cells (right), which were incubated with Cayman's LipidLaunch™ SM-102 LNP (Luciferase) (Item No. 39318) at indicated RNA concentrations for 24 hours. Luciferase expression (RLU) is shown.

### Description

LipidLaunch™ SM-102 LNP (Luciferase) is a solution containing lipid nanoparticles (LNPs) composed of the ionizable cationic amino lipid SM-102 (Item No. 33474), cholesterol (Item No. 9003100 | 39088), the phospholipid 1,2-distearoyl-*sn*-glycero-3-PC (Item Nos. 15100 | 39189), and the lipid excipient DMG-PEG(2000) (Item No. 33945) at a molar ratio of 50:38.5:10:1.5 and encapsulating mRNA encoding firefly luciferase. It is intended for proof-of-concept experiments to determine whether SM-102-based LNPs can effectively lead to expression of a protein of interest in a target cell type, either *in vitro* or *in vivo*. Firefly luciferase is an enzyme that catalyzes the oxidation of ATP-dependent D-luciferin, resulting in chemiluminescence at a wavelength of approximately 560 nm.

**Suggested *in vitro* use:** Thaw LNPs on ice with occasional gentle swirling (*do not vortex*). Using a gentle pipetting technique, dilute 1:100-1:500 in complete cell culture media (with serum) and add to subconfluent cells in a luminescence-compatible tissue culture plate. Use a luciferase reporter assay substrate and read luminescence on a plate reader. Optimal conditions are highly dependent on cell type.

**WARNING**  
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

**SAFETY DATA**  
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

**WARRANTY AND LIMITATION OF REMEDY**  
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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