

# PRODUCT INFORMATION



**244cis**

Item No. 39284

**CAS Registry No.:** 2956402-64-3  
**Formal Name:** 4-[2-[bis[9-[(2Z)-2-nonen-1-yloxy]-9-oxononyl]amino]ethyl]-1-piperazinenonanoic acid, (2Z)-2-nonen-1-yl ester

**Synonym:** P13-8Y

**MF:** C<sub>60</sub>H<sub>111</sub>N<sub>3</sub>O<sub>6</sub>

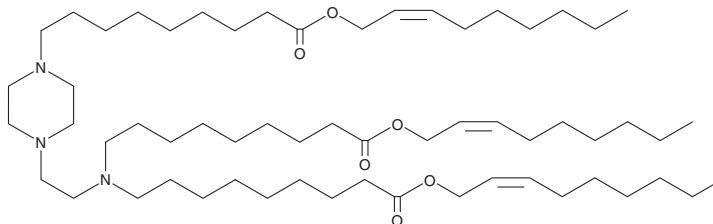
**FW:** 970.6

**Purity:** ≥95%

**Supplied as:** A 25 mg/ml solution in ethanol

**Storage:** -20°C

**Stability:** ≥4 years



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

## Description

244cis is an ionizable cationic lipid (pKa = 6.3) that has been used in the generation of lipid nanoparticles (LNPs).<sup>1,2</sup> LNPs containing 244cis and encapsulating an mRNA reporter specifically accumulate in the lungs and induce lower serum chemokine (C-C motif) ligand 2 (Ccl2) levels than LNPs containing SM-102 (Item No. 33474) in mice. Intravenous administration of LNPs containing 244cis and encapsulating mRNA encoding Cre recombinase increases tdTomato fluorescence in lung endothelial, epithelial, and immune cells, as well as fibroblasts, in mice expressing a floxed STOP codon to prevent tdTomato expression. LNPs containing 244cis and encapsulating siRNA targeting the gene encoding G<sub>2</sub> and S-phase expressed 1 (Gtse1) reduce hepatic fibrosis with decreased production of Il-6 and Tnf- $\alpha$  and induction of alanine transaminase (ALT) and aspartate aminotransferase (AST) compared with LNPs containing SM-102 in a mouse model of carbon tetrachloride-induced liver injury.<sup>1</sup>

## Reference

1. Kim, M., Jeong, M., Lee, G., *et al.* Novel piperazine-based ionizable lipid nanoparticles allow the repeated dose of mRNA to fibrotic lungs with improved potency and safety. *Bioeng. Transl. Med.* **8(6)**, e10556 (2023).
2. Jeong, M., Shin, S., Lee, G., *et al.* Engineered lipid nanoparticles enable therapeutic gene silencing of GTSE1 for the treatment of liver fibrosis. *J. Control Release* **374**, 337-348 (2024).

### 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.

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## CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD  
ANN ARBOR, MI 48108 · USA

**PHONE:** [800] 364-9897

[734] 971-3335

**FAX:** [734] 971-3640

CUSTSERV@CAYMANCHEM.COM

WWW.CAYMANCHEM.COM