

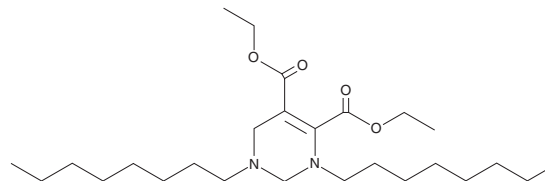
PRODUCT INFORMATION



THP1 Lipid

Item No. 42585

CAS Registry No.: 3097638-13-3
Formal Name: 1,2,3,6-tetrahydro-1,3-dioctyl-4,5-pyrimidinedicarboxylic acid, 4,5-diethyl ester
Synonym: Tetrahydropyrimidine 1 Lipid
MF: C₂₆H₄₈N₂O₄
FW: 452.7
Purity: ≥98%
Supplied as: A 50 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

THP1 lipid is an ionizable cationic lipid ($pK_a = 5.451$) that has been used in the generation of lipid nanoparticles (LNPs) for the delivery of mRNA *in vitro* and *in vivo*.¹ LNPs containing THP1 lipid and encapsulating mRNA encoding luciferase induce luciferase expression in HEK293 and RAW 264.7 cells. LNPs containing THP1 lipid and 1-palmitoyl-2-oleoyl-*sn*-glycero-3-PE (1,2-POPE; Item No. 20067) accumulate in mouse liver after intravenous administration and have a higher transfection efficiency than LNPs containing DLin-MC3-DMA (Item No. 34364). THP1 lipid-containing LNPs encapsulating Cre mRNA induce the expression of tdTomato in the liver of Ai14 mice engineered to express tdTomato upon Cre-mediated recombination.

Reference

1. Isaac, I., Shaikh, A., Bhatia, M., et al. Tetrahydropyrimidine ionizable lipids for efficient mRNA delivery. *ACS Nano* **18**(42), 29045-29058 (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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