

Ionizable Cationic Lipids: From R&D to GMP Excipient



Ionizable cationic lipids are a key component in the formulation of lipid nanoparticles (LNPs). Ionizable cationic lipids encapsulate nucleic acid payloads and promote endosomal escape with minimal cytotoxicity. Given the significant structural and functional diversity of these lipids, ionizable cationic lipids have utility in several LNP applications, from achieving tissue tropism for targeted delivery to personalized cell and gene therapy.

A Single Partner Across the LNP Development Pipeline

Cayman's ionizable cationic lipids support LNP development programs from early discovery, through all clinical phases, to commercial supply of GMP-grade excipient lipids to your CGMP LNP formulator of choice. We offer a collaborative, flexible approach, allowing our clients to build a customized service plan to suit their individual project needs, including fit-for-purpose custom specifications and supply agreements, if necessary, to support your end-use application.



Our Portfolio

Backed by over 40 years of experience in lipid synthesis and analysis, Cayman helps our clients reach important milestones in their LNP R&D journey with stand-alone services or a comprehensive LNP development program.

Research Grade Lipids	Custom Lipid Synthesis	CGMP Lipid Manufacturing	LNP Resource Center
Access our industry-leading collection of more than 140 ready-to-use ionizable cationic lipids	Custom design and synthesis of novel lipids to advance your proprietary intellectual property	Scale-up and CGMP lipid manufacturing to support LNP formulation by your CDMO partner	Our full collection of products, services, and resources for LNP R&D. www.caymanchem.com/LNPs



Licensable Lipids with Freedom to Operate for LNP Formulations

Browse Certest ionizable lipids available through Cayman at www.caymanchem.com/certest



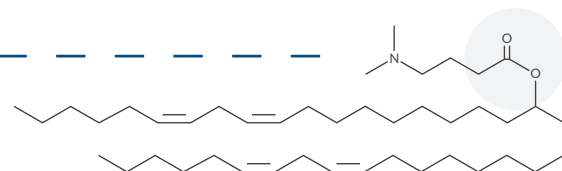
FEATURED IONIZABLE CATIONIC LIPIDS

The following selection showcases the latest and most advanced ionizable cationic lipids available as custom or off-the-shelf GMP excipients. Contact GMP-API@caymanchem.com for more information.



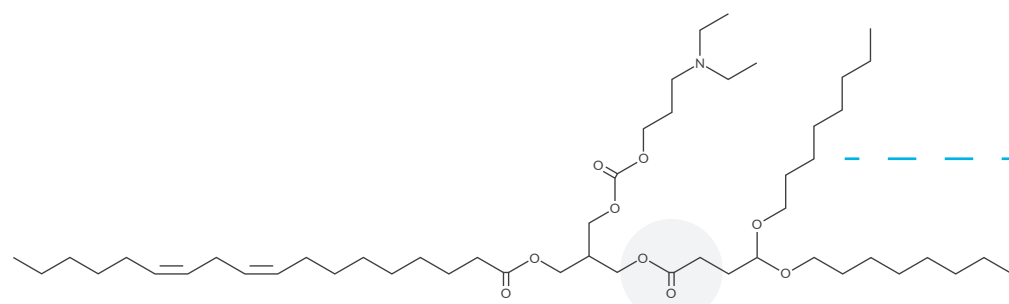
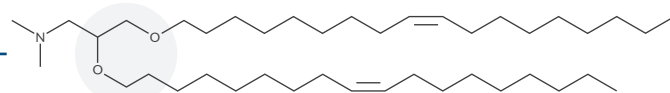
DLin-MC3-DMA

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DODMA

Item No. 15109

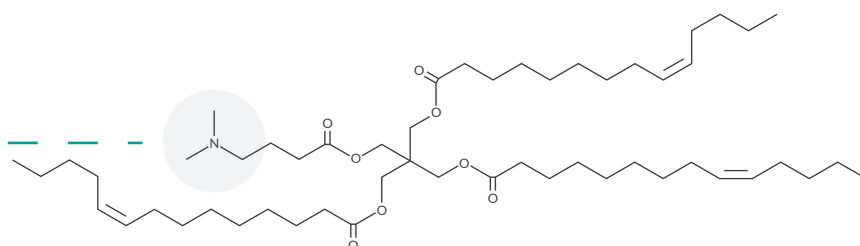


LP-01

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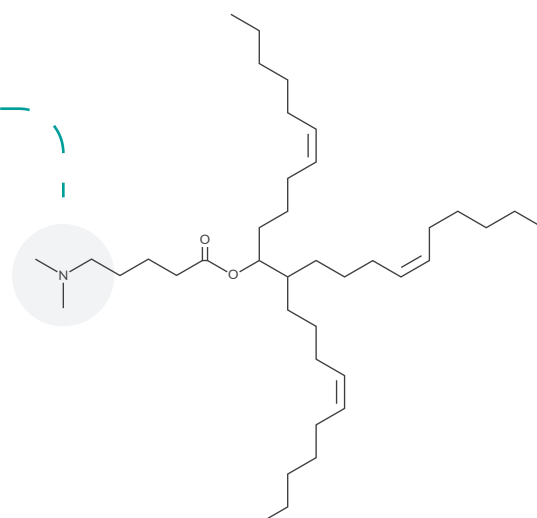
TCL053

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Lipid CL1

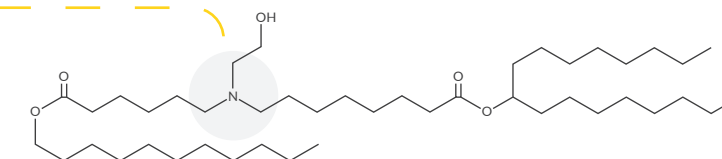
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SM-102

RUO Item No. 33474 | GMP Item No. 45572

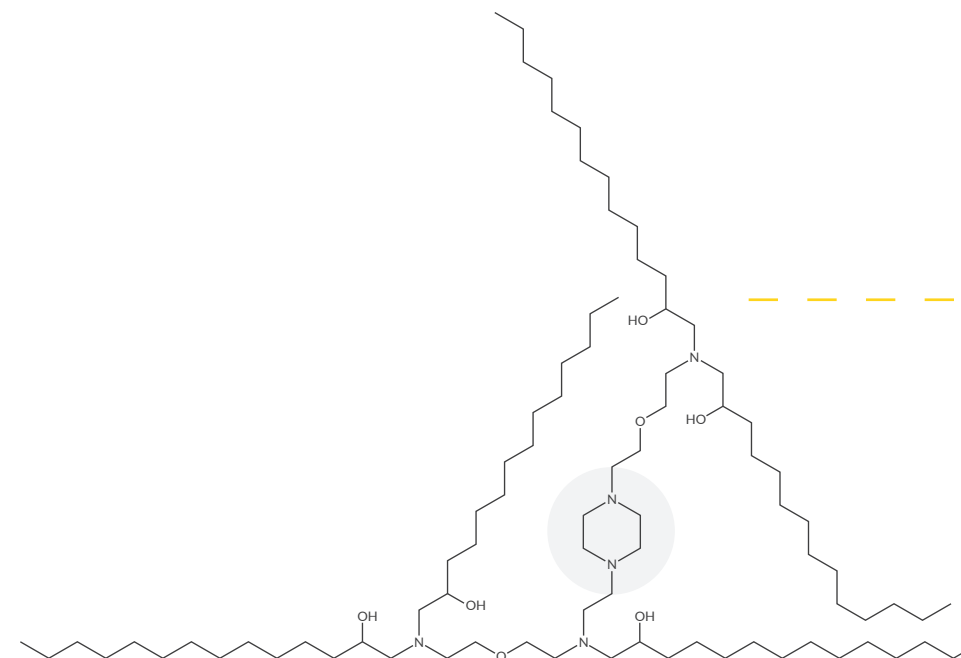
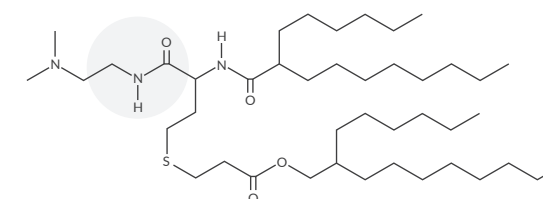
NEW



CP-LC-0729

RUO Item No. 41929

Certest proprietary lipid. Commercial license required.

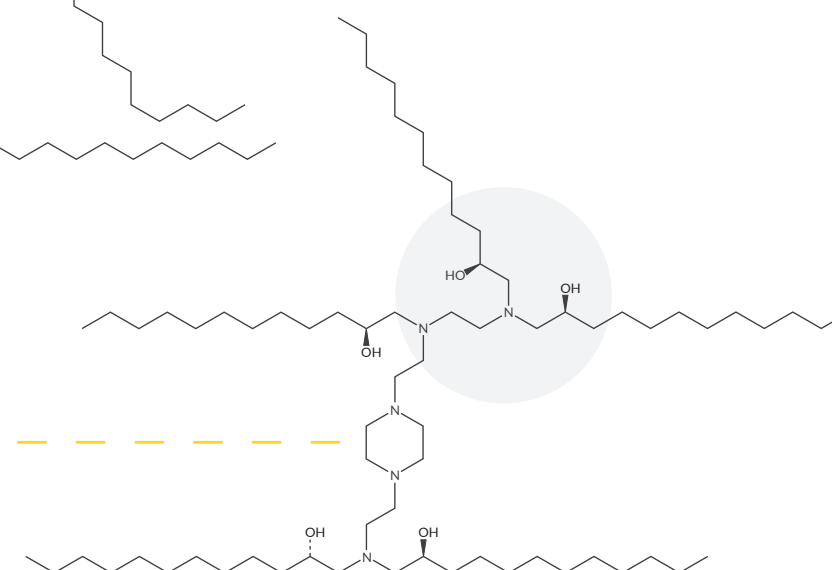


C14-4

Item No. 38942

(S)-C12-200

Item No. 38885



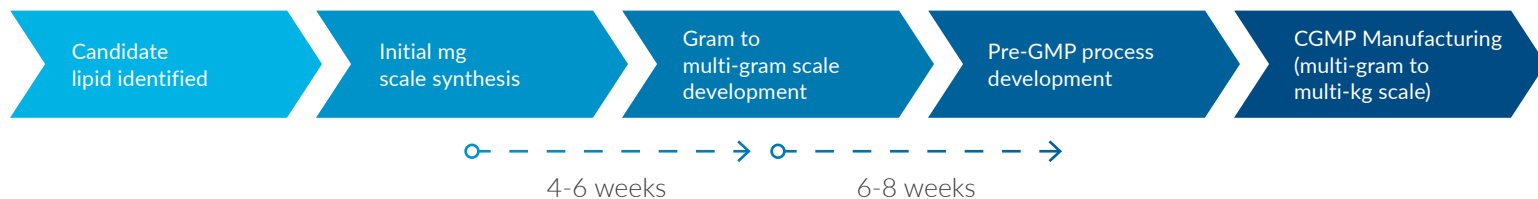
Unsaturated Lipids

Unsaturated, Branched Tail, Multi-Tail Non-Disulfide Lipids

Unsaturated, Multi-Tail Non-Disulfide Lipids

Branched Tail, Multi-Tail Non-Disulfide Lipids

Lipid Synthesis & CGMP Manufacturing



Custom Lipid Synthesis

Partner with Cayman to design and synthesize custom ionizable cationic lipids to accelerate your path to market while maintaining a competitive edge through proprietary intellectual property.

Scale Up & Bulk Quantities

Bulk quantities of custom lipids or ionizable cationic lipids in our catalog are also available to support your LNP R&D efforts.

For Custom Lipid Synthesis, email sales@caymanchem.com
For CGMP Manufacturing, email GMP-API@caymanchem.com

CGMP Lipid Manufacturing

- Process Development
- Analytical Method Development & Validation
- Technology Transfer & Process Scale-Up
- CGMP Manufacturing
- Commercial Scale-Up & Process Validation



Our CGMP Services Division leverages the expertise of Cayman's synthetic chemists, medicinal chemists, process chemists, and chemical engineers who offer decades of experience and extensive knowledge.

- Ionizable cationic lipids
- Helper lipids
- Sterol lipids
- Custom & proprietary lipids

Fit-for-Purpose CGMP Deliverables

- Starting Materials
- Excipients
- Ancillary Grade
- Phase-appropriate APIs



Cayman operates 10,972 ft² of FDA-inspected, dedicated CGMP manufacturing suites to support kilogram to multi-kilogram synthesis at our headquarters in Ann Arbor, Michigan, USA.

View all CGMP Services at www.caymanchem.com/CGMP-services