

# PRODUCT INFORMATION



## C14-A1

Item No. 40256

**Formal Name:** 1,1'-((5-(4-(2-((5-(bis(2-hydroxytetradecyl)amino)pentyl)(2-hydroxytetradecyl)amino)ethyl)piperazin-1-yl)pentyl)azanediyl)bis(tetradecan-2-ol)

**MF:** C<sub>86</sub>H<sub>177</sub>N<sub>5</sub>O<sub>5</sub>

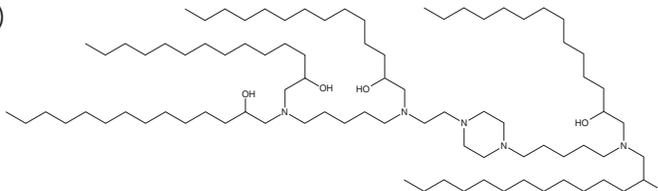
**FW:** 1,361.4

**Purity:** ≥95%

**Supplied as:** A 10 mg/ml solution in ethanol

**Storage:** -20°C

**Stability:** ≥2 years



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

### Laboratory Procedures

C14-A1 is supplied as a solution in ethanol. To change the solvent, simply evaporate the ethanol under a gentle stream of nitrogen and immediately add the solvent of choice. C14-A1 is soluble in methanol.

### Description

C14-A1 is an ionizable cationic lipid that has been used in the generation of lipid nanoparticles (LNPs).<sup>1</sup> LNPs containing C14-A1 and encapsulating mRNA encoding forkhead box protein P3 (FOXP3) increase FOXP3 levels in primary human T cells. LNPs containing C14-A1 and encapsulating mRNA encoding FOXP3 also reduce the proliferation of primary human CD4<sup>+</sup>/CD8<sup>+</sup> T cells, as well increase TGF-β1 and decrease IL-10 secretion from CD4<sup>+</sup>/CD8<sup>+</sup> T cells.

### Reference

1. Thatte, A.S., Hamilton, A.G., Nachod, B.E., *et al.* mRNA lipid nanoparticles for *ex vivo* engineering of immunosuppressive T cells for autoimmunity therapies. *Nano Lett.* **23(22)**, 10179-10188 (2023).

#### 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.

Copyright Cayman Chemical Company, 11/18/2025

#### 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