

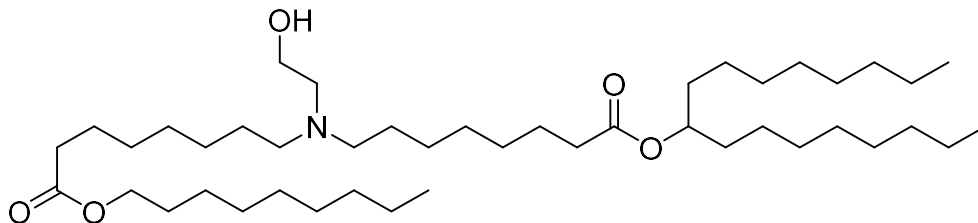
Lipid 5

Catalog number: N-1005

Molecular Formula: C₄₄H₈₇NO₅

MW: 710.18

CAS#: 2089251-33-0



Solubility: Chloroform, methanol, ethanol

Alternate name: Heptadecan-9-yl 8-((2-hydroxyethyl)(8-(nonyloxy)-8-oxooctyl)amino)octanoate

Storage and Handling: Store dry at -20 °C or below. Stock solutions should be stored at -20 °C.

Background: Ionizable lipids in combination with other lipids make up the lipid nanoparticles (LNPs) which are used to deliver RNA-based therapeutics. LNPs incorporating Lipid 5 (from Sabnis *et al.*) demonstrated potent delivery of mRNA in primates but also were rapidly cleared from the body resulting in low toxicity. Lipid 5 was better at I.V. delivery to the liver while the closely related SM-102 (cat# [N-1102](#)) was optimized for intramuscular administration. This product is for research use only and not for human use.

References: 1) Sabnis S, Kumarasinghe ES, Salerno T, et al. A Novel Amino Lipid Series for mRNA Delivery: Improved Endosomal Escape and Sustained Pharmacology and Safety in Non-human Primates. *Mol Ther*. 2018;26(6):1509-1519. doi:10.1016/j.ymthe.2018.03.010.

2) Hassett KJ, Benenato KE, Jacquinet E, Lee A, Woods A, Yuzhakov O, Himansu S, Deterling J, Geilich BM, Ketova T, Mihai C, Lynn A, McFadyen I, Moore MJ, Senn JJ, Stanton MG, Almarsson Ö, Ciaramella G, Brito LA. Optimization of Lipid Nanoparticles for Intramuscular Administration of mRNA Vaccines. *Mol Ther Nucleic Acids*. 2019 Apr 15;15:1-11. doi: 10.1016/j.omtn.2019.01.013.

Hazardous Properties and Cautions: The toxicological and pharmacological properties of this compound are not fully known. For further information see the MSDS on request. This product is manufactured and shipped only in small quantities, intended for research and development in a laboratory utilizing prudent procedures for handling chemicals of unknown toxicity, under the supervision of persons technically qualified to evaluate potential risks and authorized to enforce appropriate health and safety measures. As with all research chemicals, precautions should be taken to avoid unnecessary exposures or risks.

Warranty and Disclaimer: Echelon warrants the product conforms to the specifications stated herein. In the event of nonconformity, Echelon will replace products or refund purchase price, at its sole option, and Echelon shall not be responsible for any other loss or damage, whether known or foreseeable to Echelon. No other warranties apply, express or implied, including but not limited to warranty of fitness for any purpose or implied warranty of merchantability. Purchaser is solely responsible for all consequences of its use of the product and Echelon assumes no responsibility therefore, including success of purchaser's research and development, or health or safety of any uses of the product.

Technical Data Sheet, Rev 1, 4-26-24 – **For research use only.** Not intended for diagnostic or therapeutic use.

