

cKK-E12

Catalog number: N-1012

Molecular Formula: C₆₀H₁₂₀N₄O₆

MW: 993.64

CAS#: 1432494-65-9

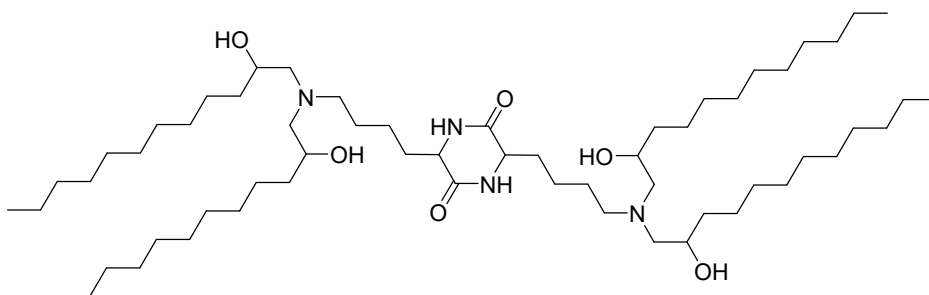
Solubility: Chloroform, methanol, ethanol

Alternate Names: 3,6-bis(4-(bis(2-hydroxydodecyl)amino)butyl)piperazine-2,5-dione

Storage and Handling: Store dry at 4°C or below. Stock solutions should be stored at -20 °C.

Background: Cationic lipids in combination with other lipids make up the lipid nanoparticles which are used to deliver RNA-based therapeutics. cKK-E12 has been used to deliver siRNA in mice, rats, and primates (ED₅₀ = 0.002, 0.01, & 0.3 mg/kg respectively). It shows low toxicity and is selective for liver parenchymal cells over liver, heart, lung, and kidney endothelial cells. This product is for research use only and not for human use.

References: 1) Y. Dong, et al., "Lipopeptide nanoparticles for potent and selective siRNA delivery in rodents and nonhuman primates" *PNAS*, 111(11) 3955 (2014) DOI: 10.1073/pnas.1322937111
2) M.A. Oberli, A.M.Reichmuth, et al. "Lipid Nanoparticle Assisted mRNA Delivery for Potent Cancer Immunotherapy" *Nano Lett*, 17, 1326 (2017). DOI: 10.1021/acs.nanolett.6b03329
3) Miao, L., Lin, J., Huang, Y. *et al.* Synergistic lipid compositions for albumin receptor mediated delivery of mRNA to the liver. *Nat Commun* **11**, 2424 (2020). DOI: 10.1038/s41467-020-16248-y



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, 4-25-24 – **For research use only.** Not intended for diagnostic or therapeutic use.