

306O_{i10}

Catalog number: N-1010

Molecular Formula: C₅₉H₁₁₅N₃O₈

MW: 994.58

CAS#: 2322290-93-5

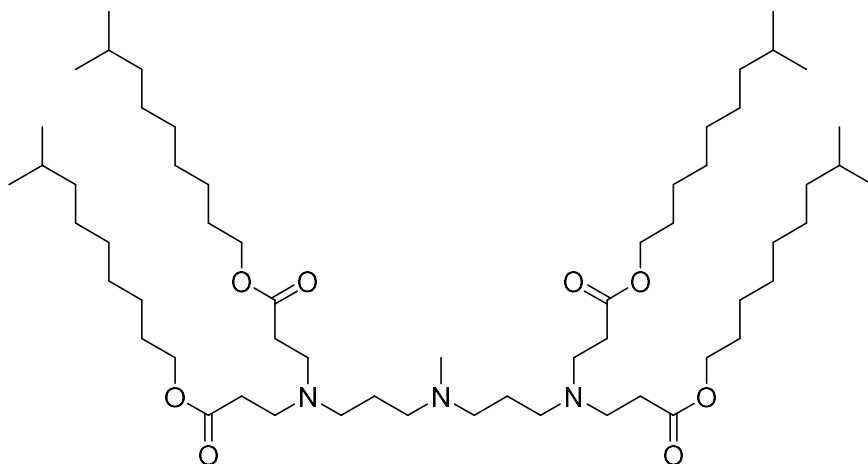
Solubility: Chloroform, methanol, ethanol

Alternate name: Tetrakis(8-methylnonyl) 3,3',3",3'''-(((methylazanediy)bis(propane-3,1-diyl))bis(azanetriyl))-tetrapropionate

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

Background: 306O_{i10} is a biodegradable, branched chain lipidoid developed for RNA delivery in lipid nanoparticles (LNPs). Interestingly, the unbranched analog was 10-fold less effective in delivering luciferase mRNA in mice. The increased potency is thought to be due to increased cone-shaped structure and protonation at endosomal pH resulting in enhanced endosomal escape. 306O_{i10} has been used to co-deliver three mRNAs (firefly luciferase, mCherry, and erythropoietin). The LNPs derived from 306O_{i10} were not immunogenic or toxic to the liver.

References: 1) Hajj KA, Ball RL, Deluty SB, Singh SR, Strelkova D, Knapp CM, Whitehead KA. (2019) "Branched-Tail Lipid Nanoparticles Potently Deliver mRNA In Vivo due to Enhanced Ionization at Endosomal pH." *Small*. Feb;15(6):e1805097. doi: 10.1002/smll.201805097
2) Hajj KA, Melamed JR, Chaudhary N, Lamson NG, Ball RL, Yerneni SS, Whitehead, KA (2020) "A Potent Branched-Tail Lipid Nanoparticle Enables Multiplexed mRNA Delivery and Gene Editing In Vivo." *Nano Lett.* 20, 5167–5175.



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.

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