

Product Data Sheet

Product Name: CAP 2 (hydrochloride)

Cat. No.: GC91828

Chemical Properties

Cas. No. N/A

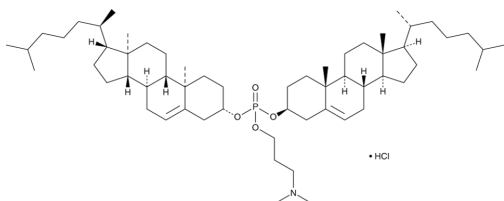
Formula $C_{59}H_{102}NO_4P \cdot HCl$ M.Wt 956.9

Solubility Chloroform: Sparingly soluble: 1-10 mg/ml Storage $-20^{\circ}C$

General tips For obtaining a higher solubility, please warm the tube at $37^{\circ}C$ and shake it in the ultrasonic bath for a while. Stock solution can be stored below $-20^{\circ}C$ for several months.

Shipping Condition Evaluation sample solution: ship with blue ice All other available size: ship with RT, or blue ice upon request.

Structure



Background

CAP 2 is an ionizable cationic lipid composed of two cholesterol moieties connected via a phosphate linker that contains an amino head group.^[1] It has been used in the generation of lipid nanoparticles (LNPs) for the delivery of mRNA or self-amplifying RNA (saRNA) *in vivo*. It has been used in the generation of lipid nanoparticles (LNPs) for the delivery of mRNA or self-amplifying RNA (saRNA) *in vivo*. LNPs containing CAP 2 and encapsulating saRNA encoding DNA meiotic recombinase 1 (Dmc1) increase Dmc1 levels in seminiferous tubules for a longer period of time than equivalent LNPs encapsulating Dmc1 mRNA in a *Dmc1*^{-/-} mouse model of male infertility. LNPs containing CAP 2 and encapsulating saRNA encoding Dmc1 increase the percentage of morphologically mature spermatocytes, thickness of the geminate layer, and diameter of the seminiferous tubes in the same mice. Sperm isolated from mice administered these LNPs produced viable embryos with isolated mouse oocytes.

References:

Caution: Product has not been fully validated for medical applications. For research use only.

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[1].Du, S., Li, W., Zhang, Y., et al. Cholesterol-amino-Phosphate (CAP) derived lipid nanoparticles for delivery of self-amplifying RNA and restoration of spermatogenesis in infertile mice Adv. Sci. (Weinh) 10(11)e2300188(2023).

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