

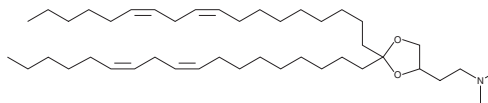
PRODUCT INFORMATION



DLin-KC2-DMA

Item No. 34363

CAS Registry No.: 1190197-97-7
Formal Name: N,N-dimethyl-2,2-di-(9Z,12Z)-9,12-octadecadien-1-yl-1,3-dioxolane-4-ethanamine
Synonym: KC2
MF: C₄₃H₇₉NO₂
FW: 642.1
Purity: ≥98%
Supplied as: A 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

DLin-KC2-DMA 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. DLin-KC2-DMA is soluble in DMSO.

Description

DLin-KC2-DMA is an ionizable cationic lipid (apparent $pK_a = 6.7$) that has been used in the formation of lipid nanoparticles (LNPs) encapsulating siRNA or plasmid DNA for use *in vitro* and *in vivo*.^{1,2} LNPs containing DLin-KC2-DMA selectively accumulate in the liver after intravenous or intramuscular administration in mice or localize to the retinal pigment epithelium and Müller glia after subretinal administration.^{2,3} DLin-KC2-DMA-containing LNPs encapsulating siRNA targeting F7 mRNA, which encodes Factor VII, reduce serum Factor VII levels in mice.¹ Intravenous administration of DLin-KC2-DMA-containing LNPs encapsulating siRNA targeting AR mRNA, which encodes the androgen receptor, decrease serum prostate-specific antigen (PSA) and tumor androgen receptor levels in an LNCaP prostate cancer mouse xenograft model.⁴

References

1. Semple, S.C., Akinc, A., Chen, J., *et al.* Rational design of cationic lipids for siRNA delivery. *Nat. Biotechnol.* **28**(2), 172-176 (2010).
2. Algarni, A., Pilkington, E.H., Suys, E.J.A., *et al.* In vivo delivery of plasmid DNA by lipid nanoparticles: The influence of ionizable cationic lipids on organ-selective gene expression. *Biomater. Sci.* **10**(11), 2940-2952 (2022).
3. Patel, S., Ryals, R.C., Weller, K.K., *et al.* Lipid nanoparticles for delivery of messenger RNA to the back of the eye. *J. Control Release* **303**, 91-100 (2019).
4. Lee, J.B., Zhang, K., Tam, Y.Y.C., *et al.* Lipid nanoparticle siRNA systems for silencing the androgen receptor in human prostate cancer *in vivo*. *Int. J. Cancer* **131**(5), E781-E790 (2012).

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.

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