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Data Sheet

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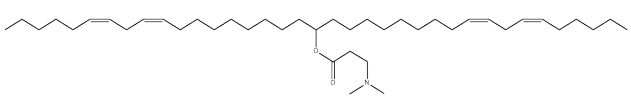
Global Supplier of Chemical Probes, Inhibitors & Agonists



Product Name :DLin-MC2-DMA
Cat.No. :URK-V2469
CAS No. :1221271-55-1
Molecular Formula :$C_{42}H_{77}NO_2$
Molecular Weight :628.08
Target :
Solubility :

Biological Activity

DLin-MC2-DMA is a novel delivery system for RNA interference (RNAi) therapeutics. It is designed to improve the efficiency and specificity of RNAi-mediated gene silencing for the treatment of various diseases.

The DLin-MC2-DMA delivery system comprises of a cationic lipid, DLin-MC2-DMA, and a nucleic acid payload, such as small interfering RNA (siRNA) or microRNA (miRNA). The cationic lipid facilitates the efficient encapsulation and delivery of the nucleic acid payload to the target cells. Furthermore, DLin-MC2-DMA can target the liver cells, which makes it an ideal candidate for the development of RNAi-based therapies for liver diseases.

DLin-MC2-DMA has been evaluated extensively in preclinical studies for its safety and efficacy. In a study conducted by Love et al. (2019), DLin-MC2-DMA was used to deliver siRNA targeting the PCSK9 gene to non-human primates. The results showed a significant reduction in the expression of PCSK9 in the liver, leading to a reduction in plasma LDL cholesterol levels.

Another study by McNamara et al. (2013) evaluated the efficacy of DLin-MC2-DMA-mediated delivery of miR-122 in a mouse model of hepatitis C virus (HCV) infection. The results demonstrated a significant reduction in HCV viral replication and liver inflammation, highlighting the potential of DLin-MC2-DMA for the treatment of HCV.

References

1,Love, K. T., Mahon, K. P., Levins, C. G., Whitehead, K. A., Querbes, W., Dorkin, J. R., Qin, J., Cantley, W., Qin, L. L Racie, T., Frank-Kamenetsky, M., Yip, K. N., Alvarez, R., Sah, D. W. Y., de Fougerolles, A., Fitzgerald, K., Koteliansky V., & Akinc, A. (2019). Lipid-like materials for low-dose, in vivo gene silencing. Proceedings of the National Academy of Sciences, 116(15), 6908-6914.

2,McNamara, J. O., Andrechek, E. R., Wang, Y., Viles, K. D., Rempel, R. E., Gilboa, E., & Sullenger, B. A. (2013). Cell type-specific delivery of siRNAs with aptamer-siRNA chimeras. Nature biotechnology, 31(8), 753-759.

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