

# PRODUCT INFORMATION



## (R)-C12-200

Item No. 43647

**CAS Registry No.:** 1226777-45-2  
**Formal Name:** (2R,2'R)-1,1'-[[2-[4-[2-[[2-bis[(2R)-2-hydroxydodecyl]amino]ethyl]piperazinyl]ethyl]imino]bis-2-dodecanol  
**Synonym:** KB-R12

**MF:** C<sub>70</sub>H<sub>145</sub>N<sub>5</sub>O<sub>5</sub>

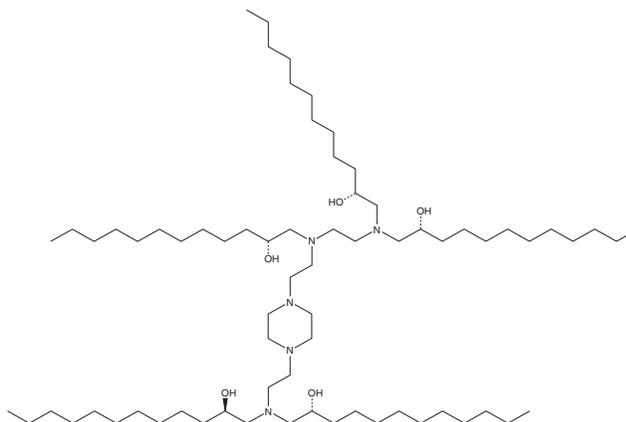
**FW:** 1,137.0

**Purity:** ≥98%

**Supplied as:** A 50 mg/ml solution in ethanol

**Storage:** -20°C

**Stability:** ≥3 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Description

(R)-C12-200 is an ionizable cationic lipid ( $pK_a = 7.25$ ) and isomer of C12-200 (Item No. 36699) that has been used in the formation of lipid nanoparticles (LNPs) for the delivery of mRNA *in vivo*.<sup>1</sup> Intravenous administration of LNPs containing (R)-C12-200 and encapsulating mRNA encoding Cre recombinase increases the percentage of tdTomato<sup>+</sup> hepatocytes, endothelial cells, and Kupffer cells in the liver of Ai14 mice to a lesser extent than LNPs containing (S)-C12-200 (Item No. 38885) and encapsulating Cre recombinase. LNPs containing (R)-C12-200 and encapsulating mRNA encoding purine nucleoside phosphorylase (PNP), an *E. coli* enzyme that converts fludarabine phosphate (Item No. 14251) into the cytotoxic agent 2-fluoroadenine, induce intratumoral expression of PNP and reduce tumor volume in a FaDu head and neck squamous cell carcinoma (HNSCC) mouse xenograft model when co-administered with fludarabine phosphate.<sup>2</sup>

### References

1. Da Silva Sanchez, A.J., Zhao, K., Huayameres, S.G., *et al.* Substituting racemic ionizable lipids with stereopure ionizable lipids can increase mRNA delivery. *J. Control Release* **353**, 270-277 (2023).
2. Huayameres, S.G., Lian, L., Rab, R., *et al.* Nanoparticle delivery of a prodrug-activating bacterial enzyme leads to anti-tumor responses. *Nat. Commun.* **16(1)**, 3490 (2025).

#### 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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