

# PRODUCT INFORMATION



**C14-490**

Item No. 42004

**CAS Registry No.:** 2639634-82-3  
**Formal Name:** 1,1'-[[3-[4-[2-[[3-[bis(2-hydroxytetradecyl)amino]-2-ethoxypropyl](2-hydroxytetradecyl)amino]ethyl]-1-piperazinyl]-2-ethoxypropyl]imino]bis-2-tetradecanol

**Synonym:** B-3

**MF:** C<sub>86</sub>H<sub>177</sub>N<sub>5</sub>O<sub>7</sub>

**FW:** 1,393.4

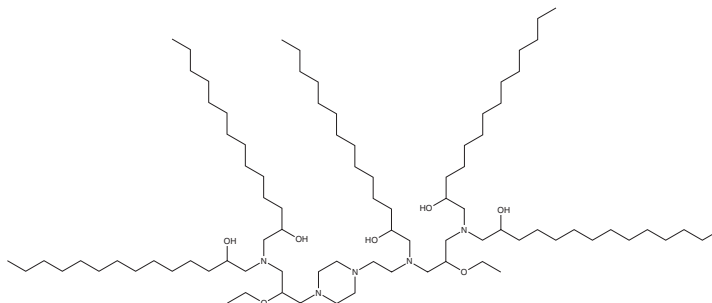
**Purity:** ≥95%

**Supplied as:** A solution in ethanol

**Storage:** -20°C

**Stability:** ≥4 years

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



## Laboratory Procedures

C14-490 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. Solvents such as chloroform can be used. C14-490 is sparingly soluble (1-10 mg/ml) in chloroform.

## Description

C14-490 is an ionizable cationic lipid ( $pK_a = 5.94$ ).<sup>1</sup> It has been used in the generation of lipid nanoparticles (LNPs) for the delivery of mRNA *in vivo*.<sup>1,2</sup> C14-490-containing LNPs accumulate primarily in the fetal mouse liver and, to a lesser extent, in the lungs, intestine, and brain after vitelline vein injection on gestational day 16 (E16).<sup>1</sup> CD45-functionalized LNPs containing C14-490 and encapsulating mRNA encoding GFP transfect Jurkat cells, which constitutively express the CD45 receptor (CD45R).<sup>2</sup> C14-490-containing CD45-functionalized LNPs encapsulating Cre mRNA mediate genome modulation in bone marrow hematopoietic stem cells (HSCs) for at least four months after *in utero* injection in *R26<sup>mT/mG</sup>* mice at E13.5.

## References

1. Riley, R.S., Kashyap, M.V., Billingsley, M.M., *et al.* Ionizable lipid nanoparticles for in utero mRNA delivery. *Sci. Adv.* **7**(3), eaba1028 (2021).
2. Palanki, R., Riley, J.S., Bose, S.K., *et al.* In utero delivery of targeted ionizable lipid nanoparticles facilitates in vivo gene editing of hematopoietic stem cells. *Proc. Natl. Acad. Sci. USA* **121**(32), e2400783121 (2024).

### 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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