

PRODUCT INFORMATION



Lipid 114

Item No. 41158

Formal Name: ditetradecyl 4,8,17-tris(3-oxo-3-(tetradecyloxy)propyl)-4,8,13,17-tetraazaicosanedioate

MF: $C_{95}H_{186}N_4O_{10}$

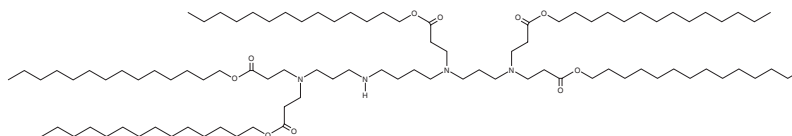
FW: 1,544.5

Purity: $\geq 98\%$

Supplied as: A 10 mg/ml solution in methyl acetate

Storage: $-20^{\circ}C$

Stability: ≥ 4 years



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

Description

Lipid 114 is an ionizable cationic lipid that has been used in the generation of lipid nanoparticles (LNPs) for the delivery of siRNA and mRNA *in vitro* and *in vivo*.^{1,2} Lipid 114-containing LNPs are primarily liver-targeted after intravenous administration and muscle-targeted after intramuscular administration in mice. LNPs containing lipid 114 and encapsulating siRNA targeting IL-1 β reduce *IL1B* expression in activated RAW 264.7 macrophages and primary mouse macrophages in a concentration-dependent manner.¹ Lipid 114-containing LNPs encapsulating IL-1 β -targeted siRNA reduce hepatic and renal expression of *Il1b*, as well as decrease hepatic inflammation and damage, in a mouse model of acute liver failure induced by LPS and D-(+)-galactosamine (D-GalN; Item No. 22981). Immunization with LNPs containing lipid 114 and encapsulating ovalbumin mRNA inhibit tumor growth, induce dendritic cell maturation in the draining lymph nodes, and increase intratumoral T cell infiltration in E.G7-OVA tumor-bearing mice.²

Reference

1. Ding, F., Zhang, H., Li, Q., *et al.* Identification of a potent ionizable lipid for efficient macrophage transfection and systemic anti-interleukin-1 β siRNA delivery against acute liver failure. *J. Mater. Chem. B* **9**(25), 5136-5149 (2021).
2. Lv, H., Liu, W., Zhang, M., *et al.* Structure-guided design of ionizable lipids with distinct amine headgroups for muscle-selective mRNA delivery and enhanced antitumor immunotherapy. *Colloids Surf. B Biointerfaces* **266**, 115810 (2026).

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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