

PRODUCT INFORMATION



Lipid 331

Item No. 39771

Formal Name: di((9Z,12Z)-octadeca-9,12-dien-1-yl) 4,4'-(2-(tert-butoxycarbonyl)-1-(2-(2-ethylpiperidin-1-yl)ethyl)-2,5-dihydro-1H-imidazole-5,5-diyl)dibutyrate

MF: C₆₁H₁₀₇N₃O₆

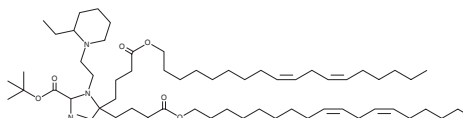
FW: 978.5

Purity: ≥95%

Supplied as: A 10 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.

Laboratory Procedures

Lipid 331 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 and methanol purged with an inert gas can be used.

Description

Lipid 331 is a biodegradable cyclic ionizable cationic lipid ($pK_a = 7.53$) that has been used in the formation of lipid nanoparticles (LNPs) for the delivery of mRNA *in vitro* and *in vivo*.¹ LNPs containing lipid 331 and encapsulating 5-methoxyuridine-modified mRNA encoding ovalbumin induce IFN regulatory factor (IRF) activation in a reporter assay using THP-1 monocytes. Intranasal administration of LNPs containing lipid 331 and DOTAP (Item Nos. 15110 | 38905) and encapsulating mRNA encoding a fusion of the receptor-binding domain (RBD) of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) spike glycoprotein, also known as surface glycoprotein, with mouse complement C3d as an adjuvant increase serum anti-SARS-CoV-2 spike glycoprotein RBD IgG titers in mice.

Reference

1. Li, B., Jiang, A.Y., Raji, I., *et al.* Enhancing the immunogenicity of lipid-nanoparticle mRNA vaccines by adjuvanting the ionizable lipid and the mRNA. *Nat. Biomed. Eng.* (2023).

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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