

PRODUCT INFORMATION

C12-TLRa

Item No. 41338

CAS Registry No.: 3067466-15-0
Formal Name: 1,1'-((4-((4-amino-2-butyl-1H-imidazo[4,5-c]quinolin-1-yl)methyl)benzyl)azanediyl)bis(dodecan-2-ol)

Synonym: C12-Toll-Like Receptor a

MF: C₄₆H₇₃N₅O₂

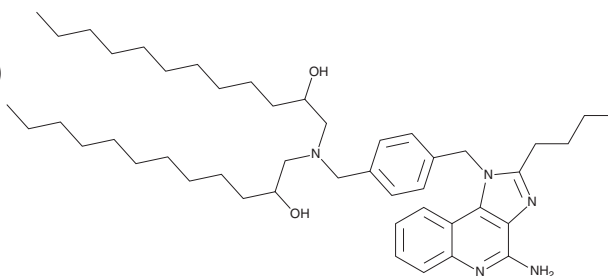
FW: 728.1

Purity: ≥98%

Supplied as: A solid

Storage: -20°C

Stability: ≥4 years



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

Laboratory Procedures

C12-TLRa is supplied as a solid. A stock solution may be made by dissolving the C12-TLRa in the solvent of choice, which should be purged with an inert gas. C12-TLRa is slightly soluble (0.1-1 mg/ml) in chloroform and methanol, and sparingly soluble (1-10 mg/ml) in DMSO.

Description

C12-TLRa is an adjuvant lipidoid ($pK_a = 6.42$) with toll-like receptor 7/8 (TLR7/8) agonist activity.¹ Lipid nanoparticles (LNPs) containing C12-TLRa as a partial replacement for the ionizable lipidoid C12-113 (Item No. 39335) and encapsulating luciferase mRNA exhibit TLR7 agonist activity in HEK reporter cells and induce TNF- α production in DC2.4 cells. LNPs containing C12-TLRa and encapsulating luciferase mRNA have improved mRNA transfection and duration and induce a larger increase in the percentage of mature dendritic cells in mice when compared to LNPs containing C12-113. A severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) mRNA-LNP vaccine containing C12-TLRa induces higher serum IgG titers to the SARS-CoV-2 receptor-binding domain (RBD), as well as a higher number of CD80⁺PD-L2⁺ RBD-specific B cells, in the spleen in mice.

Reference

1. van Eickels, M., Schreckenber, R., Doevendans, P.A., *et al.* The influence of oestrogen-deficiency and ACE inhibition on the progression of myocardial hypertrophy in spontaneously hypertensive rats. *Eur. J. Heart Fail.* **7**(7), 1079-1084 (2005).

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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