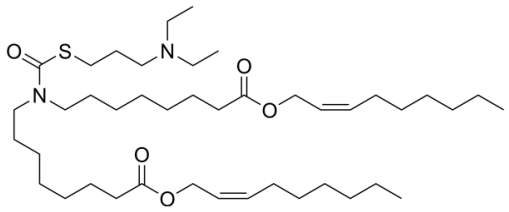
Product Data Sheet

Product Name: ATX-012
Cat. No.: GC79710

Chemical Properties

Cas. No.	1777792-44-5		
Formula	$C_{42}H_{78}N_2O_5S$	M.Wt	723.14
Solubility		Storage	Store at -20°C
General tips	For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20°C for several months.		
Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.		
Structure			



Background

ATX-012 is an ionizable cationic lipid for the assembly of mRNA -delivering lipid nanoparticles (LNPs). ATX-012 blends with helper lipids, cholesterol and PEG-lipid conjugates to form mRNA -containing nanocarriers, which support efficient cellular internalization and the generation of functional proteins including CFTR. ATX-012 constitutes the vital building block of LNPs applied in cystic fibrosis-related biological studies [1].

In Vivo, ATX-012 (intratracheal administration)-formulated LNPs deliver mRNA to mouse lung epithelial cells and drive protein expression throughout large and small airways[1]. ATX-012 (1

mg/kg; intranasal administration; once daily for two days)-based LNPs loaded with hCFTR mRNA restore functional chloride channel activity in CFTR knockout mice[1].

In Vitro, ATX-012 can form LNPs featuring high mRNA encapsulation efficiency (> 95%) and a small particle size ranging from 70 to 90 nm, and such LNPs achieve efficient mRNA delivery into lung epithelial cells in vitro and in vivo[1].

References:
[1]. Carlos G, et al. Lipid formulations containing nucleic acids and methods of treatment for cystic fibrosis. US20230159449A1. United States. 2022-11-03.