



Glucosamine cholesterol

Cat. No.:	OB0626WX-3831
Appearance:	Solid
Purity:	≥95%
Identity:	Confirmed by NMR, TLC, and HPLC.
Size:	1 mg; 5 mg; 10 mg; 25 mg

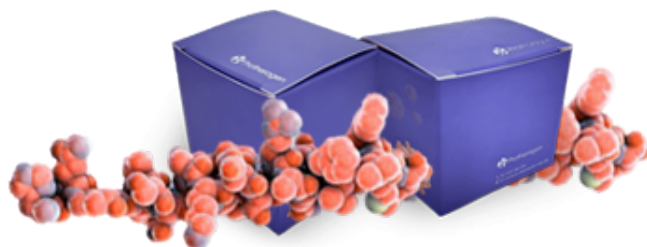
This product is for research use only and is not intended for diagnostic use.

Product Overview

Description	Glucosamine cholesterol is an amphiphilic, carbohydrate-modified sterol conjugate engineered to incorporate a hydrophilic glucosamine domain linked directly to a rigid cholesterol anchor. When integrated into lipid nanoparticles, this molecule creates a stable, ordered bilayer with the sugar headgroup facing outward to exploit glucose transporter-mediated cellular internalization, subsequently delivering pro-apoptotic lipid or chemotherapeutic payloads to selectively reduce tumor volumes, eliminate hypoxic cancer stem cell populations, and enrich tumor-associated cytotoxic T cell networks.
Synonyms	2-[[4-[(3β)-cholest-5-en-3-yloxy]-1,4-dioxobutyl]amino]-2-deoxy-D-glucopyranose; 1257309-90-2
CAS No.	1257309-90-2
Compound CID	171038221
Formula	C ₃₇ H ₆₁ NO ₈
Formula Weight	647.9

Specification

IUPAC Name	[(3S,8S,9S,10R,13R,14S,17R)-10, 13-dimethyl-17-[(2R)-6-methylheptan-2-yl]-2,3,4,7,8,9,11,12,14,15,16,17-dodecahydro-1H-cyclopenta[a]phenanthren-3-yl] 4-oxo-4-[[[(3R,4R,5S,6R)-2,4,5-trihydroxy-6-(hydroxymethyl)oxan-3-yl]amino]butanoate
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InChI	InChI=1S/C37H61NO8/c1-21(2)7-6-8-22(3)26-11-12-27-25-10-9-23-19-24(15-17-36(23,4)28(25)16-18-37(26,27)5)45-31(41)14-13-30(40)38-32-34(43)33(42)29(20-39)46-35(32)44/h9,21-22,24-29,32-35,39,42-44H,6-8,10-20H2,1-5H3,(H,38,40)/t22-,24+,25+,26-,27+,28+,29-,32-,33-,34-,35?,36+,37-/m1/s1
InChI Key	CEZJGMHPGUGAEW-ACSCFQKYS-A-N
Canonical SMILES	<chem>C[C@]12CC[C@H](OC(CCC(N[C@H]3C(O)O[C@H](CO)[C@@H](O)[C@@H]3O)=O)=O)CC1=CC[C@]4([H])[C@]2([H])CC[C@@]5(C)[C@@]4([H])CC[C@]5([H])[C@@H](CCCC(C)C)C</chem>
Stability	1 year
Storage	Storage at -20°C.
Applications	Glucosamine cholesterol serves as a cholesterol-based lipid derivative for investigating membrane engineering and lipid nanoparticle design. It supports the development of functional lipid assemblies, lipid conjugation strategies, formulation optimization, and studies of membrane-associated delivery systems.