Product Data Sheet

Product Name:	Monazomycin
Cat. No.:	GC10708

Chemical Properties

Cas. No.	11006-31-8
Chemical Name	48-(7-amino-1-methylheptyl)-8,10,16,20,24,26,28,32,36,38,40,42,44,46-tetradecahydroxy-23-(α-D-mannopyranosyloxy)-9,15,17,19 oxacyclooctatetraconta-13,17,21,29-tetraen-2-one
SMILES	OC(CC(C(C(C(O[C@@H]1[C@@H](O)[C@@H](O)[C@H](O)C(CO)O1)/C=C(C)/C(O)C(C)/C=C(C)/C(O)C(C)/C=C/CCC(O)C(C)C(O)CCCCCC2=O)O)C)O)/C=C/C(C)C(O)C(C)CCC(O)CC(O)C(C)C(O)C
Formula	$C_{72}H_{133}NO_{22}$ M.W
Solubility	DMF: Soluble,DMSO: Soluble,Ethanol: Soluble,Methanol: Soluble Stc
General tips	For obtaining a higher solubility , please warm the tube at 37 ℃ and shake it in the ultrasonic bath for a while.Stock solution can be
Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.
Structure	Monazomycin

Background

Monazomycin is a positively charged and polyenelike antibiotic produced by Streptomyces [1].

Monazomycin is able to induce a voltage-dependent conductance in lipid bilayer membranes. Monazomycin is selective for monovalent cations and can alter the membrane conductance when applied to one or both sides of the membrane [1]. Application of micromolar amounts of monazomycin on one side of phospholipid bilayer membranes induced dramatic voltage-dependent conductance effects. The steady-state conductance was proportional to the 5th power of the monazomycin concentration and increased exponentially with positive voltage (monazomycin side positive); there was an e-fold change in conductance per 4–6 mv. The major current-carrying ions were univalent cations. Monazomycin monomers cooperated to form a multimolecular conductance channel. The voltage control of conductance arose from the electric field driving monazomycin molecules at the membrane surface into the membrane and thus affecting the number of channels that were formed [2].

References:
[1] Bamberg E, Janko K. Single channel conductance at lipid bilayer membranes in presence of monazomycin[J]. Biochimica et Biophysica Acta (BBA)-Biomembranes, 1976, 426(3): 447-450.
[2] Muller R U, Finkelstein A. Voltage-dependent conductance induced in thin lipid membranes by monazomycin[J]. The Journal of general physiology, 1972, 60(3): 263-284.

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