

Product Data Sheet

Product Name: Tunicamycin 17:1 Mixture

Cat. No.: GC48357

Chemical Properties

Cas. No.

SMILES CC(N[C@H]1[C@@H](O[C@@]2([H])[C@H](NC(/C=C/CCCCCCCCCCCCC(C)C)=O)[C@@H](O)[C@@H](O)[C@@H](C[C@@H](O)[C@@H]3[C@@H](O)[C@@H](O)[C@H](N4C=CC(NC4=O)=O)O3)O2)O[C@H](CO)[C@@H](O)[C@@H]1O)=O

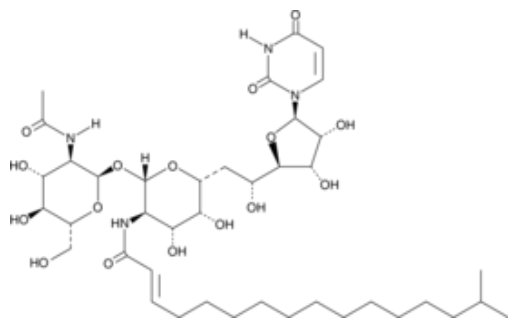
Formula C₄₀H₆₆N₄O₁₆ M.Wt 859

Solubility DMF: 20 mg/ml, DMSO: 20 mg/ml, DMSO:PBS (pH 7.2) (1:3): 0.25 mg/ml Storage -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

Tunicamycin 17:1 is a mixture of tunicamycin structural isomers that contain a 17-carbon N-acyl chain with variable branching patterns. The N-acyl chain incorporated into tunicamycins, like tunicamycin 17:1, is derived from the same pool of cellular branched-chain fatty acids (BCFAs) in *Streptomyces* and directly impacts the biological activity of each individual tunicamycin variant.^{1,2,3} Purified tunicamycin 17:1 with *iso* or *anteiso* branching configurations inhibits bacterial phospho-MurNAc-pentapeptide transferase (MraY) with IC₅₀ values of 0.12 and 0.9 μM, respectively.²

Caution: Product has not been fully validated for medical applications. For research use only.

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1.Price, N.P.J., Jackson, M.A., Hartman, T.M., et al.Branched chain lipid metabolism as a determinant of the N-Acyl variation of Streptomyces natural productsACS Chem. Biol.16(1)116-124(2021) 2.Hering, J., Dunevall, E., Snijder, A., et al.Exploring the active site of the antibacterial target MraY by modified tunicamycinsACS Chem Biol.15(11)2885-2895(2020) 3.Duksin, D., and Mahoney, W.C.Relationship of the structure and biological activity of the natural homologues of tunicamycinJ. Biol. Chem.257(6)3105-3109(1982)

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