

Tunicamycin 15:1 Mixture

Chemical Properties

CAS No. :

Formula:

Molecular Weight:

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Actual storage temperature shall be subject to the COA.

Biological Description

Description	Tunicamycin 15:1 is a mixture of tunicamycin structural isomers that contain a 15-carbon N-acyl chain with variable branching patterns. The N-acyl chain incorporated into tunicamycins, like tunicamycin 15:1, is derived from the same pool of cellular branched-chain fatty acids (BCFAs) in <i>Streptomyces</i> and directly impacts the biological activity of each individual tunicamycin variant. ^{1,2,3} Purified tunicamycin 15:1 with <i>iso</i> , <i>anteiso</i> , or a mixture of <i>iso</i> and <i>anteiso</i> branching configurations inhibit bacterial phospho-MurNAc-pentapeptide transferase (MraY) with IC ₅₀ values of 0.05, 0.36, and 0.09 μM, respectively. ²
Targets(IC ₅₀)	Others

Solubility Information

Solubility	DMSO:PBS (pH 7.2) (1:3): 0.25 mg/mL, Sonication is recommended. DMSO: 20 mg/mL, Sonication is recommended. DMF: 20 mg/mL, Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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Reference

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 products. *ACS Chem. Biol.* 16(1)116-124(2021)

Hering, J., Dunevall, E., Snijder, A., et al. Exploring the active site of the antibacterial target MraY by modified tunicamycins. *ACS Chem Biol.* 15(11)2885-2895(2020)

Duksin, D., and Mahoney, W.C. Relationship of the structure and biological activity of the natural homologues of tunicamycin. *J. Biol. Chem.* 257(6)3105-3109(1982)

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