

# PRODUCT INFORMATION



## Tunicamycin 17:1 Mixture

Item No. 28358

**Synonyms:** Tunicamycin D Mixture,  
Tunicamycin D<sub>2</sub> Mixture,  
Tunicamycin X Mixture

**MF:** C<sub>40</sub>H<sub>66</sub>N<sub>4</sub>O<sub>16</sub>

**FW:** 859.0

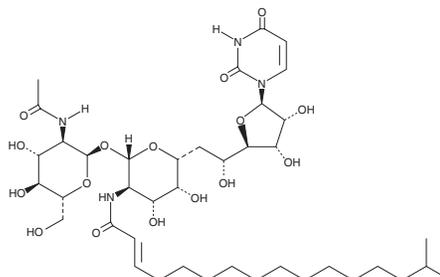
**Purity:** ≥95% (mixture of isomers)

**UV/Vis.:** λ<sub>max</sub>: 260 nm

**Supplied as:** A crystalline solid

**Storage:** -20°C

**Stability:** ≥2 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

Tunicamycin 17:1 mixture is supplied as a crystalline solid. A stock solution may be made by dissolving the tunicamycin 17:1 mixture in the solvent of choice, which should be purged with an inert gas. Tunicamycin 17:1 mixture is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of tunicamycin 17:1 mixture in these solvents is approximately 20 mg/ml.

Tunicamycin 17:1 mixture is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, tunicamycin 17:1 mixture should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Tunicamycin 17:1 mixture has a solubility of approximately 0.25 mg/ml in a 1:3 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

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.<sup>1-3</sup> Purified tunicamycin 17:1 with *iso* or *anteiso* branching configurations inhibits bacterial phospho-MurNAc-pentapeptide transferase (MraY) with IC<sub>50</sub> values of 0.12 and 0.9 μM, respectively.<sup>2</sup>

### References

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 products. *ACS 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 tunicamycins. *ACS 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 tunicamycin. *J. Biol. Chem.* **257**(6), 3105-3109 (1982).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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#### CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD  
ANN ARBOR, MI 48108 · USA

**PHONE:** [800] 364-9897  
[734] 971-3335

**FAX:** [734] 971-3640

CUSTSERV@CAYMANCHEM.COM  
WWW.CAYMANCHEM.COM