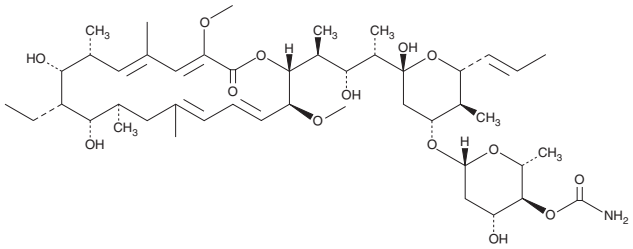
# PRODUCT INFORMATION

## Concanamycin A

*Item No. 11050*

**CAS Registry No.:** 80890-47-7
**Formal Name:** (3Z,5E,7R,8R,9S,10S,11R,13E,15E,17S,18R)-18-[(1S,2R,3S)-3-[(2R,4R,5S,6R)-4-[[4-O-(aminocarbonyl)-2,6-dideoxy-β-D-arabino-hexopyranosyl]oxy]tetrahydro-2-hydroxy-5-methyl-6-(1E)-1-propen-1-yl-2H-pyran-2-yl]-2-hydroxy-1-methylbutyl]-9-ethyl-8,10-dihydroxy-3,17-dimethoxy-5,7,11,13-tetramethyl-oxacyclooctadeca-3,5,13,15-tetraen-2-one
**Synonyms:** Antibiotic X 4357B, NSC 674620, X 4357B
**MF:** $C_{46}H_{75}NO_{14}$
**FW:** 866.1
**Purity:** ≥95%
**Supplied as:** A solution in acetonitrile
**Storage:** -20°C
**Stability:** ≥2 years
**Item Origin:** Bacterium/*Streptomyces* sp.



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

### Laboratory Procedures

Concanamycin A is supplied as a solution in acetonitrile. To change the solvent, simply evaporate the acetonitrile under a gentle stream of nitrogen and immediately add the solvent of choice. Solvents such as methanol and DMSO, purged with an inert gas can be used.

### Description

Concanamycin A is a plecomacrolide antibiotic that has been found in *Streptomyces*.[1] It is active against *S. cerevisiae*, *S. sake*, *A. citri*, *P. citrinum*, and *P. oryzae* (MICs = <0.39, <0.39, <0.39, 1.56, and 25 µg/ml, respectively). Concanamycin A inhibits vacuolar $H^+$-ATPase (V-ATPase; $EC_{50}$ = ~2.1-2.3 µM).[2] It also decreases perforin levels in $CD8^+$ OE4 cytotoxic T lymphocytes (CTLs).[3] Concanamycin A (100 µM) inhibits concanavalin A-induced thymidine incorporation by 99% in isolated mouse splenic lymphocytes.[1] It also prevents influenza virus entry into MDCK cells when used at a concentration of 0.8 µM.[4]

### References


1. Kinashi, H., Someno, K., and Sakahguchi, K. Isolation and characterization of concanamycins A, B and C. *J. Antibiot. (Tokyo)* **37(11)**, 1333-1343 (1984).
2. Johnson, R.M., Allen, C., Melman, S.D., *et al.* Identification of inhibitors of V-ATPase pumps in yeast by HTS flow cytometry. *Anal. Biochem.* **398(2)**, 203-211 (2010).
3. Kataoka, T., Takaku, K., Magae, J., *et al.* Acidification is essential for maintaining the structure and function of lytic granules of CTL. Effect of concanamycin A, an inhibitor of vacuolar type $H^+$-ATPase, on CTL-mediated cytotoxicity. *J. Immunol.* **153(9)**, 3938-3947 (1994).
4. Guinea, R. and Carrasco, L. Requirement for vacuolar proton-ATPase activity during entry of influenza virus into cells. *J. Virol.* **69(4)**, 2306-2312 (1995).





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