

Product Name: Valinomycin

Catalog No.: 3373

Batch No.: 6

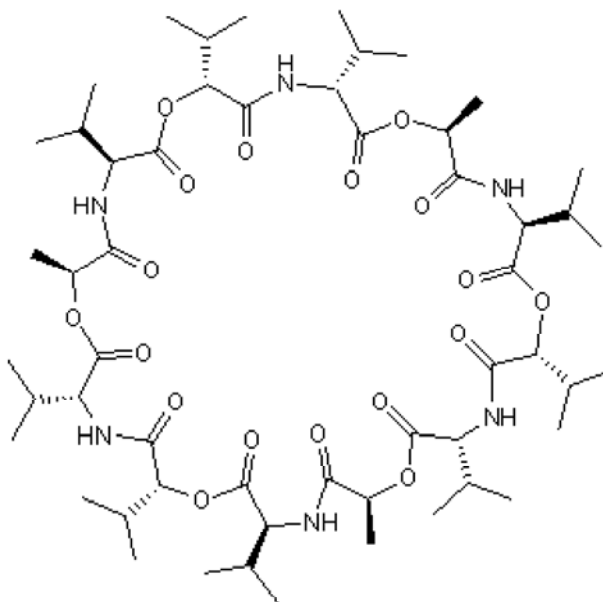
CAS Number: 2001-95-8

EC Number: 217-896-6

IUPAC Name: Cyclo(D- α -hydroxyisovaleryl-D-valyl-L-lactoyl-L-valyl-D- α -hydroxyisovaleryl-D-valyl-L-lactoyl-L-valyl-D- α -hydroxyisovaleryl-D-valyl-L-lactoyl-L-valyl)

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₅₄H₉₀N₆O₁₈
Batch Molecular Weight: 1111.32
Physical Appearance: White solid
Solubility: DMSO to 25 mM
 ethanol to 25 mM
Storage: Store at -20°C
Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 92.2% purity
¹H NMR: Consistent with structure
Mass Spectrum: Consistent with structure
Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	58.36	8.16	7.56
Found	58.95	8.44	7.2

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

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Description:

Valinomycin is a selective K⁺ ionophore (K_{0.5} values are 48, 73, 75, 93 and 246 mM for K⁺, Rb⁺, Cs⁺, Na⁺ and Li⁺ respectively) that transports K⁺ across biological and artificial lipid membranes. Inhibits Ca²⁺-ATPase activity and induces apoptosis through mitochondrial membrane depolarization, caspase-3 activation and phosphatidylserine translocation in vitro.

Physical and Chemical Properties:

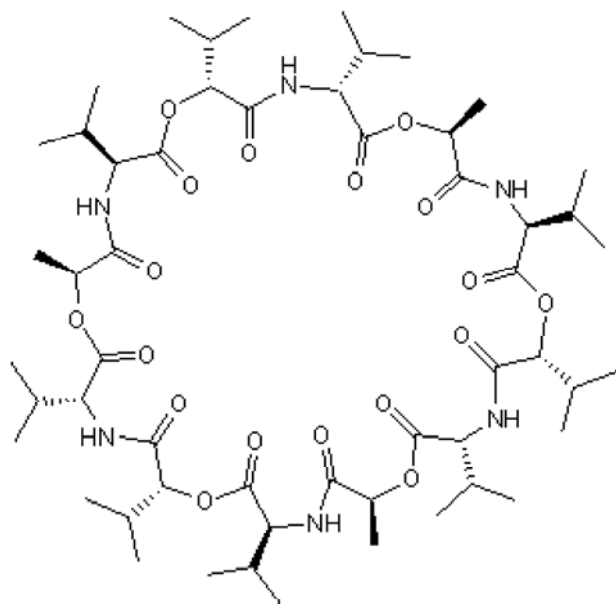
Batch Molecular Formula: C₅₄H₉₀N₆O₁₈

Batch Molecular Weight: 1111.32

Physical Appearance: White solid

Minimum Purity: ≥90%

Batch Molecular Structure:



Storage: Store at -20°C

Solubility & Usage Info:

DMSO to 25 mM

ethanol to 25 mM

Stability and Solubility Advice:

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. Our standard recommendations are:

SOLIDS: Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

SOLUTIONS: We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

References:

Rose and Jenkins (2007) The effects of the ionophore valinomycin on biomimetic solid supported lipid DPPE/EPC membranes. *Bioelectrochem.* **70** 387.

Abdalah et al (2006) Valinomycin-induced apoptosis in Chinese hamster ovary cells. *Neurosci.Letts.* **405** 68.

Davidson and Berman (1985) Interaction of valinomycin and monovalent cations with the (Ca²⁺,Mg²⁺)-ATPase of skeletal muscle sarcoplasmic reticulum. *J.Biol.Chem.* **260** 7325. PMID: 3158656.

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