

Product Name: Nigericin sodium salt

Catalog No.: 4312

Batch No.: 6

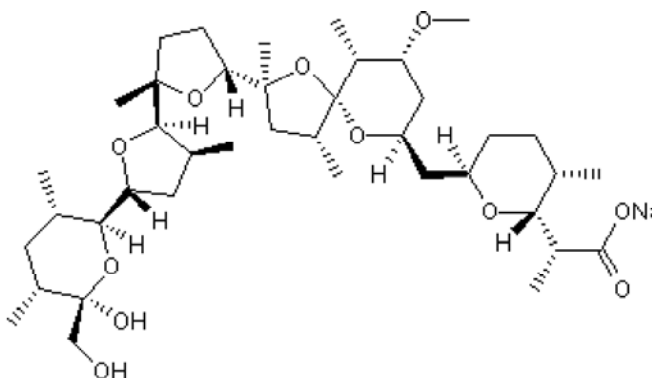
CAS Number: 28643-80-3

EC Number: 608-231-4

IUPAC Name: (2R)-2-[(2R,3S,6R)-6-[[[(2S,4R,5R,7R,9R,10R)-2-[(2R,5S)-5-[(2R,3S,5R)-5-[(2S,3S,5R,6R)-6-Hydroxy-6-(hydroxymethyl)-3,5-dimethyl-2-tetrahydropyranyl]-3-methyl-2-tetrahydrofuran-5-yl]-5-methyl-2-tetrahydrofuran-9-methoxy-2,4,10-trimethyl-1,6-dioxaspiro[4.5]decan-7-yl]methyl]-3-methyl-2-tetrahydropyranyl]propanoic acid sodium salt

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₄₀H₆₇NaO₁₁
Batch Molecular Weight: 746.94
Physical Appearance: White solid
Solubility: ethanol to 100 mM
Storage: Store at -20°C
Batch Molecular Structure:



2. ANALYTICAL DATA

¹H NMR: Consistent with structure
Mass Spectrum: Consistent with structure
Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	64.32	9.04	0
Found	64.48	9.13	0.05

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

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Description:

Nigericin sodium salt is a potassium ionophore, exchanges K⁺ for H⁺ across biological membranes, in a similar manner to Valinomycin (Cat. No. 3373). Stimulates mitochondrial ATPase activity and disrupts membrane potential. Also acts as an ionophore for Pb²⁺ with no activity with other divalent cations. Antibiotic derived from *Streptomyces hygroscopicus*.

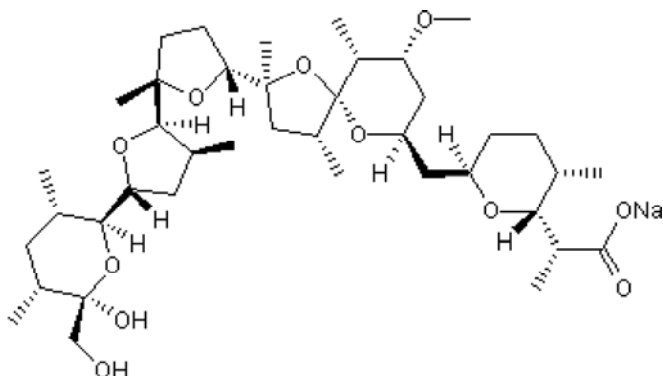
Physical and Chemical Properties:

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Batch Molecular Weight: 746.94

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Storage: Store at -20°C

Solubility & Usage Info:

ethanol to 100 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:

Hamidinia et al (2004) The ionophore Nigericin transports Pb²⁺ with high activity and selectivity: A comparison to Monensin and Ionomycin. *Biochemistry*. **43** 15956. PMID: 15595852.

Eytan et al (1990) Energy-linked transhydrogenase: Effects of Valinomycin and Nigericin on the ATP-driven transhydrogenase reaction catalyzed by reconstituted transhydrogenase-ATPase vesicles. *J.Biol.Chem.* **22** 12949.

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