

**Product Name:** Nigericin sodium salt

**Catalog No.:** 4312

**Batch No.:** 6

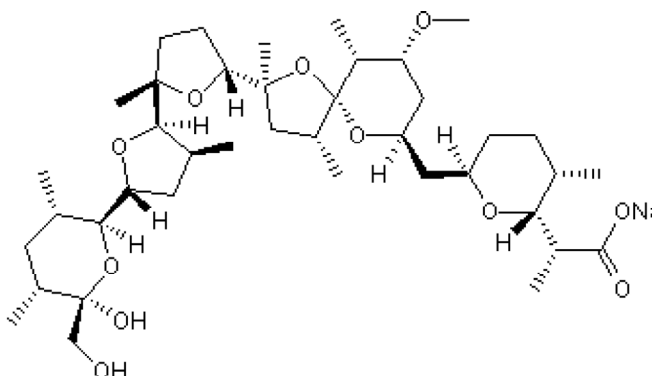
CAS Number: 28643-80-3

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]-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:** C<sub>40</sub>H<sub>67</sub>NaO<sub>11</sub>  
**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**

**<sup>1</sup>H 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

**Product Name: Nigericin sodium salt**

**Catalog No.: 4312**

**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

**Description:**

Nigericin sodium salt is a potassium ionophore; it exchanges K<sup>+</sup> for H<sup>+</sup> across biological membranes in a similar manner to Valinomycin (Cat. No. 3373). Nigericin stimulates mitochondrial ATPase activity and disrupts membrane potential. Also acts as an ionophore for Pb<sup>2+</sup> with no activity with other divalent cations. Antibiotic derived from *Streptomyces hygroscopicus*.

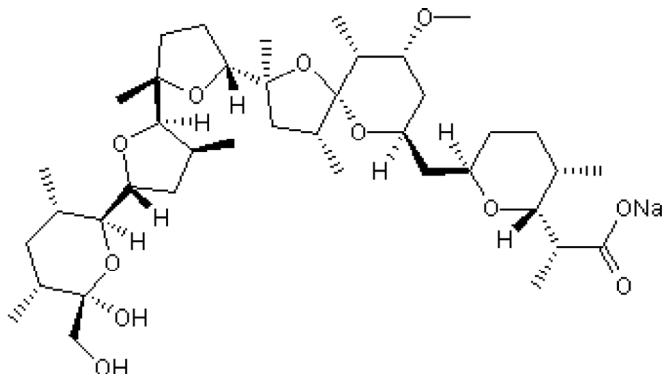
**Physical and Chemical Properties:**

Batch Molecular Formula: C<sub>40</sub>H<sub>67</sub>NaO<sub>11</sub>

Batch Molecular Weight: 746.94

Physical Appearance: White solid

**Batch Molecular Structure:**



**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. \*Unless contradicted by product-specific protocols or instructions, our standard recommendations apply:

**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 Pb<sup>2+</sup> 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.

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

bio-techne.com

info@bio-techne.com

techsupport@bio-techne.com

North America

Tel: (800) 343 7475

China

info.cn@bio-techne.com

Tel: +86 (21) 52380373

Europe Middle East Africa

Tel: +44 (0)1235 529449

Rest of World

www.tocris.com/distributors

Tel:+1 612 379 2956