Print Date: Mar 20th 2018

Certificate of Analysis

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Product Name: **Monensin sodium salt** **Catalog No.: 5223** **Batch No.: 3**

CAS Number: 22373-78-0 EC Number: 244-941-7

IUPAC Name: 2-[5-Ethyltetrahydro-5-[tetrahydro-3-methyl-5-[tetrahydro-6-hydroxy-6-(hydroxymethyl)-3,5-dimethyl-2*H*-pyran-2-yl] -2-furyl]-2-furyl]-9-hydroxy-β-methoxy-α,γ,2,8-tetramethyl-1,6-Dioxaspiro[4.5]decane-7-butyric acid sodium salt

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{36}H_{61}NaO_{11}.¼H_2O$

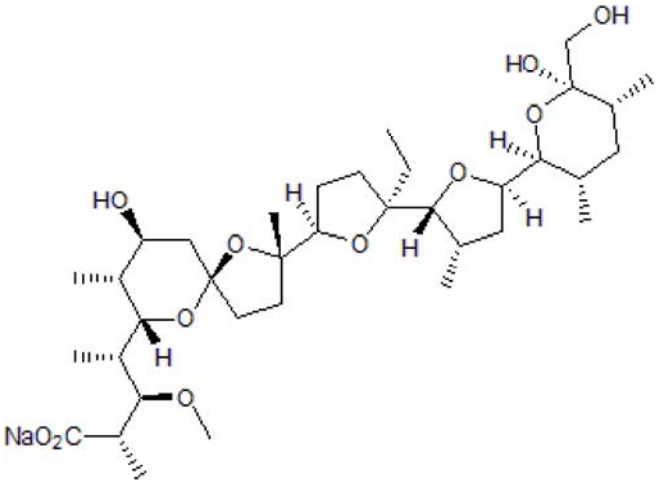
Batch Molecular Weight: 697.35

Physical Appearance: White solid

Solubility: ethanol to 100 mM

Storage: Store at +4°C

Batch Molecular Structure:



2. ANALYTICAL DATA

^{1}H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Optical Rotation: $[\alpha]_D$ = +51.4 (Concentration = 1, Solvent = Methanol)

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	62	8.89	
Found	61.78	9.08	

Potency: 905mg/g

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Product Information

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Description:

Sodium ionophore. Neutralizes acidic intracellular compartments. Disrupts Golgi apparatus structure and inhibits vesicular transport in eukaryotic cells. Induces apoptosis in prostate cancer cells. Antiprotozoal, antibacterial and antifungal agent.

Physical and Chemical Properties:

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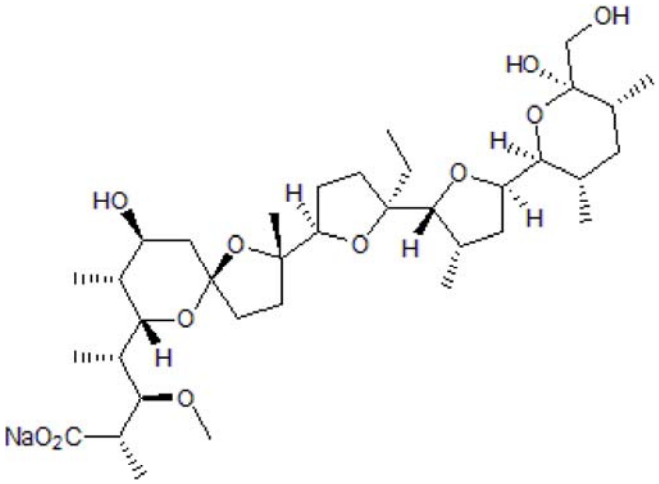

Storage: Store at +4°C

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:

Łowicki and Huczyński (2013) Structure and antimicrobial properties of monensin A and its derivatives: summary of the achievements. Biomed.Res.Int ***2013***. PMID: 23509771.

Ketola *et al* (2010) Monensin is a potent inducer of oxidative stress and inhibitor of androgen signaling leading to apoptosis in prostate cancer cells. Mol.Cancer Ther. ***9*** 3175. PMID: 21159605.

Mollenhauer *et al* (1990) Alteration of intracellular traffic by monensin; mechanism, specificity and relationship to toxicity. Biochim.Biophys.Acta ***1031*** 225. PMID: 2160275.