

Product Name: Rifaximin

Catalog No.: 5359

Batch No.: 1

CAS Number: 80621-81-4

IUPAC Name: (2*S*,16*Z*,18*E*,20*S*,21*S*,22*R*,23*R*,24*R*,25*S*,26*R*,27*S*,28*E*)-25-(Acetyloxy)-5,6,21,23-tetrahydroxy-27-methoxy-2,4,11,16,20,22,24,26-octamethyl-2,7-(epoxypentadeca[1,11,13]trienimino)benzofuro[4,5-*e*]pyrido[1,2-*a*]benzimidazole-1,15(2*H*)-dione

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₄₃H₅₁N₃O₁₁·2½H₂O

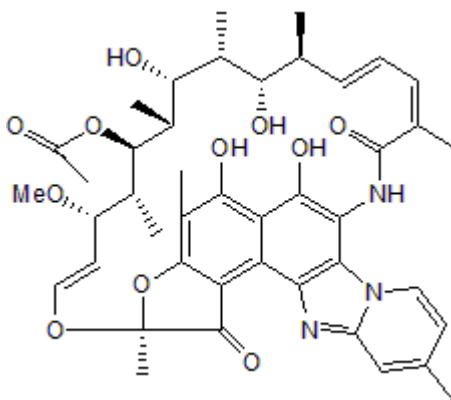
Batch Molecular Weight: 830.92

Physical Appearance: Orange solid

Solubility: DMSO to 100 mM
ethanol to 100 mM

Storage: Store at -20°C

Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 99.2% purity

¹H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	62.16	6.79	5.06
Found	62.05	6.7	5.1

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

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Description:

Pregnane X receptor (PXR) agonist; antibiotic. Reduces number of colon tumors and suppresses expression of TNF α and IL-1 β induced in a colon cancer, PXR-humanized mouse model. Increases apoptosis and decreased proliferation in HT-29 cells. Exhibits low gastrointestinal absorption while retaining its antibacterial activity. Active against gram-positive and gram-negative bacteria.

Physical and Chemical Properties:

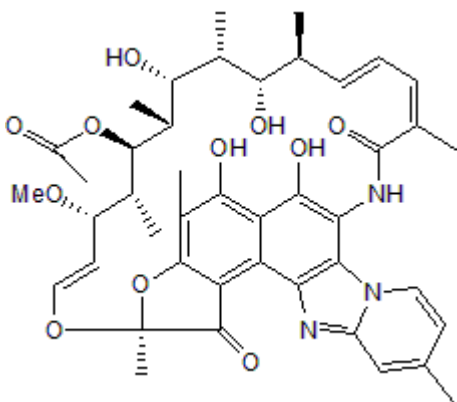
Batch Molecular Formula: C₄₃H₅₁N₃O₁₁·2½H₂O

Batch Molecular Weight: 830.92

Physical Appearance: Orange solid

Minimum Purity: >98%

Batch Molecular Structure:



References:

Jiang et al (2005) Rifaximin: *in vitro* and *in vivo* antibacterial activity-a review. *Chemotherapy* **51** 67. PMID: 15855749.

Stradi et al (2010) Structural elucidation of the Rifaximin Ph. Eur. Impurity H. *J.Pharm.Biomed.Anal.* **51** 858. PMID: 19926422.

Cheng et al (2014) Activation of intestinal human pregnane X receptor protects against azoxymethane/dextran sulfate sodium-induced colon cancer. *J.Pharmacol.Exp.Ther.* **351** 559. PMID: 25277138.

Storage: Store at -20°C

Solubility & Usage Info:

DMSO to 100 mM

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.

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