

**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:** C<sub>43</sub>H<sub>51</sub>N<sub>3</sub>O<sub>11</sub>·2½H<sub>2</sub>O

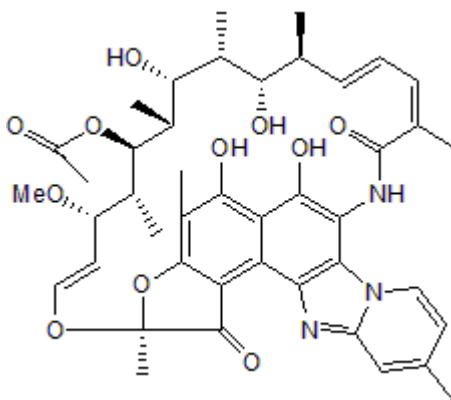
**Batch Molecular Weight:** 830.92

**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

**<sup>1</sup>H 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

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**Description:**

Pregnane X receptor (PXR) agonist; antibiotic. Reduces number of colon tumors and suppresses expression of TNF $\alpha$  and IL-1 $\beta$  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:**

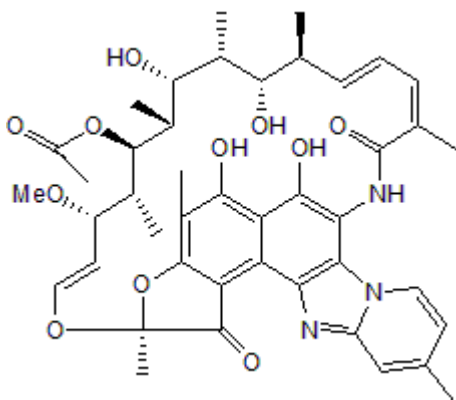
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Batch Molecular Weight: 830.92

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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