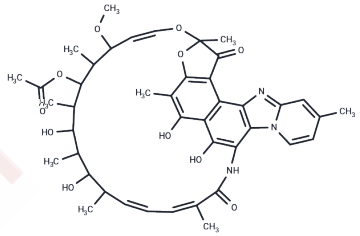
Data Sheet (Cat.No.T1154)

TargetMol

Rifaximin

Chemical Properties



CAS No. : 80621-81-4

Formula: C43H51N3O11

Molecular Weight: 785.88

Storage: Store at low temperature,Keep away from direct sunlight
Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	Rifaximin is an orally administered, semi-synthetic, nonsystemic antibiotic derived from rifamycin SV with antibacterial activity. Rifaximin binds to the beta-subunit of bacterial DNA-dependent RNA polymerase, inhibiting bacterial RNA synthesis and bacterial cell growth.
Targets(IC50)	Antibacterial,Antibiotic,DNA/RNA Synthesis
In vitro	Rifaximin exhibits broad-spectrum activity against aerobic and anaerobic Gram-positive and Gram-negative microorganisms.Rifaximin exhibits a low MIC against Gram-positive bacteria, with a dose range of 0.01 μg/mL to 0.5 μg/mL for MIC 90.Rifaximin binds to the β-subunit of the bacterial DNA-dependent RNA polymerase and inhibits the start of the chain of RNA synthesis. Rifaximin inhibits LPS-induced cytokine and chemokine expression by inhibiting NF-κB DNA binding activity.50 μM Rifaximin reduces changes in pro-inflammatory factor production induced by LPS stimulation in the IEC, such as TNF-α, IL-8, Rantes, and PGE2 in normal intestinal epithelial cells.100 μM Rifaximin is also shown to inhibit LPS-induced cytokine expression by inhibiting NF-κB DNA binding activity. μM Rifaximin effectively reduced the expression of TNFα, IL-8, MIP-3α and RANTES by lipopolysaccharide-induced stimulation.
In vivo	Rifaximin exhibits broad-spectrum activity against aerobic and anaerobic Gram-positive and Gram-negative microorganisms.Rifaximin exhibits a low MIC against Gram-positive bacteria, with a dose range of 0.01 μg/mL to 0.5 μg/mL for MIC 90.Rifaximin binds to the β-subunit of the bacterial DNA-dependent RNA polymerase and inhibits the start of the chain of RNA synthesis. Rifaximin inhibits LPS-induced cytokine and chemokine expression by inhibiting NF-κB DNA binding activity.50 μM Rifaximin reduces changes in pro-inflammatory factor production induced by LPS stimulation in the IEC, such as TNF-α, IL-8, Rantes, and PGE2 in normal intestinal epithelial cells.100 μM Rifaximin is also shown to inhibit LPS-induced cytokine expression by inhibiting NF-κB DNA binding activity. μM Rifaximin effectively reduced the expression of TNFα, IL-8, MIP-3α and RANTES by lipopolysaccharide-induced stimulation.

Solubility Information

Solubility	DMSO: 50 mg/mL (63.62 mM),Sonication is recommended. Ethanol: 3 mg/mL (3.82 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 2.5 mg/mL (3.18 mM),Sonication is recommended. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.2725 mL	6.3623 mL	12.7246 mL
5 mM	0.2545 mL	1.2725 mL	2.5449 mL
10 mM	0.1272 mL	0.6362 mL	1.2725 mL
50 mM	0.0254 mL	0.1272 mL	0.2545 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Mencarelli A, et al. Eur J Pharmacol,2011, 668(1-2), 317-324.
Zhang Z, Yuan Q, Hu X, et al. Rifaximin protects SH-SY5Y neuronal cells from iron overload-induced cytotoxicity via inhibiting STAT3/NF-κB signaling. Cell Biology International..
Adachi JA, et al. Clin Infect Dis,2006, 42(4), 541-547.
Ma X, et al. J Pharmacol Exp Ther. 2007 Jul;322(1):391-8.
Cheng J, et al. Toxicol Sci,2012, 129(2), 456-468.

Tel:781-999-4286 E_mail:info@targetmol.com Address:34 Washington Street,Wellesley Hills,MA 02481