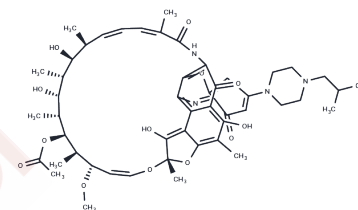


Rifalazil

Chemical Properties

CAS No. :	129791-92-0
Formula:	C ₅₁ H ₆₄ N ₄ O ₁₃
Molecular Weight:	941.07
Storage:	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	Rifalazil (KRM-1648) is a benzophenazine antibiotic with antibacterial activity. It inhibits bacterial RNA polymerase, blocking the β -subunit, and is used in Chlamydia infection research.
Targets(IC50)	Antibacterial, Antibiotic, DNA/RNA Synthesis
In vitro	The MIC ₅₀ values of Rifalazil were 0.0015, 0.0039 and 0.0313 μ g/ml for Clostridium difficile, Clostridium perfringens and Bacteroides fragile, respectively. Rifalazil showed antibacterial activity against gram-negative gut bacteria with MIC ₅₀ values of 16 μ g/ml for Escherichia coli and 16 μ g/ml for Klebsiella pneumoniae. [1] The MIC of Rifalazil against rifampicin-resistant mutants of Chlamydia pneumoniae was 0.125 μ g/ml. [4]
In vivo	Treatment with Rifalazil (5 or 10 mg/kg orally for 15 weeks) improved the redness and swelling of the foot pads in mice with ulcer-infected models. [2] Rifalazil (20 mg/kg for 5 days) can treat and prevent recurrence of Clostridium difficile-associated diarrhea in hamsters. [3]

Solubility Information

Solubility	DMSO: 4 mg/mL (4.25 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: 1 mg/mL (1.06 mM), Sonication is recommended. <i>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.</i>

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.0626 mL	5.3131 mL	10.6262 mL
5 mM	0.2125 mL	1.0626 mL	2.1252 mL
10 mM	0.1063 mL	0.5313 mL	1.0626 mL
50 mM	0.0213 mL	0.1063 mL	0.2125 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

- Rothstein DM, et al. Development potential of rifalazil. *Expert Opin Investig Drugs*. 2003 Feb;12(2):255-71.
- Fukano H, et al. Therapeutic efficacy of rifalazil (KRM-1648) in a *M. ulcerans*-induced Buruli ulcer mouse model. *PLoS One*. 2022 Oct 6;17(10):e0274742.
- Anton PM, et al. Rifalazil treats and prevents relapse of clostridium difficile-associated diarrhea in hamsters. *Antimicrob Agents Chemother*. 2004 Oct;48(10):3975-9.
- Rothstein DM, et al. Rifalazil retains activity against rifampin-resistant mutants of *Chlamydia pneumoniae*. *J Antibiot (Tokyo)*. 2008 Aug;61(8):489-95.

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