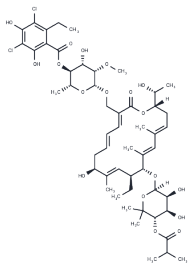
Data Sheet (Cat.No.T6194)

TargetMol

Fidaxomicin

Chemical Properties



CAS No. : 873857-62-6

Formula: C52H74Cl2O18

Molecular Weight: 1058.04

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	Fidaxomicin (Tiacumicin B) is a semisynthetic macrolide antibiotic used to treat Clostridium difficile-associated diarrhea in adults. Fidaxomicin has minimal systemic absorption and has not been linked to serum enzyme elevations during therapy or to instances of clinically apparent, acute liver injury.
Targets(IC50)	Apoptosis,Antibacterial,Antibiotic,DNA/RNA Synthesis
In vitro	Fidaxomicin acts as a RNA polymerase inhibitor by binding to the DNA template-RNA polymerase (RNAP) complex prior to the formation of the open RNAP-DNA complex in which transcription is initiated. Therefore it will inhibit protein synthesis. As a result, apoptosis is triggered in susceptible organisms such as C. difficile. [1]
In vivo	The minimum inhibitory concentration for 90% of organisms for fidaxomicin against C. difficile is 0.9978 to 2 μg/mL. Fidaxomicin is not systemically absorbed as shown by a plasma concentrations below the lower limit of quantification after single-dose or multiple-dose. In contrast, fecal concentrations of fidaxomicin are much higher and are concentration-dependent. Cmax = 2 hours; Tmax = 5.2 ng/mL; AUC = 14 ng?hr/mL. Fidaxomicin is hydrolyzed by gastric acid or intestinal microsomes into a less active metabolite (OP-1118). The cytochrome enzyme system are not involved in the metabolism of fidaxomicin. [1]

Solubility Information

Solubility	H2O: < 1 mg/mL (insoluble or slightly soluble), Ethanol: < 1 mg/mL (insoluble or slightly soluble), DMSO: 250 mg/mL (236.29 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+90% Saline: < 10 mg/mL (9.45 mM),Lower concentrations may be soluble, but exact solubility limit is unknown. 10% DMSO+90% (20% SBE-β-CD in Saline): < 10 mg/mL (9.45 mM),Lower concentrations may be soluble, but exact solubility limit is unknown. 10% DMSO+90% Corn oil: 10 mg/mL (9.45 mM),Solution. 10% DMSO+40% PEG300+5% Tween 80+45% Saline: < 10 mg/mL (9.45 mM),Lower concentrations may be soluble, but exact solubility limit is unknown. *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*

In vivo Formulation	*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	0.9451 mL	4.7257 mL	9.4514 mL
5 mM	0.189 mL	0.9451 mL	1.8903 mL
10 mM	0.0945 mL	0.4726 mL	0.9451 mL
50 mM	0.0189 mL	0.0945 mL	0.189 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

Venugopal AA, et al. Clin Infect Dis, 2012, 54(4), 568-574.
Sun Q, Liao X, Wang C, et al. In vitro activity of fidaxomicin against nontuberculosis mycobacteria. Journal of Medical Microbiology. 2022, 71(6): 001549