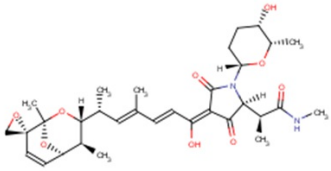
Data Sheet (Cat.No.T16945)

TargetMol
A DRUG SCREENING EXPERT

Streptolydigin

Chemical Properties



CAS No.:	7229-50-7
Formula:	C32H44N2O9
Molecular Weight:	600.7
Appearance:	N/A
Storage:	0-4℃ for short term (days to weeks), or -20℃ for long term (months).

Biological Description

Description	Streptolydigin inhibits RNA synthesis by binding to RNA polymerase and does not inhibit eukaryotic RNA polymerases. Streptolydigin is a 3-acetyltetramic acid antibiotic and a potent bacterial RNA polymerase inhibitor (Ki: 18 μM and a Kd: 15 μM).
Targets(IC_{50})	Bacterial RNA polymerase: (ki) 18 μM
In vitro	Streptolydigin inhibits initiation, elongation, and pyrophosphorolysis by bacterial RNA polymerase. Streptolydigin inhibits T. thermophilus RNA polymerase (a Ki: 1.8 μM). Binding of Streptolydigin to RNA polymerase strictly depends on a noncatalytic magnesium ion which is likely chelated by the aspartate of the bridge helix of the active center. Streptolydigin interacts with three structural elements within RNAP: the Stl pocket, the bridge helix, and the trigger-loop region. The Streptolydigin streptolol moiety interacts with the Streptolydigin pocket and bridge helix, and the Streptolydigin tetramic-acid moiety interacts with the trigger-loop region [1][3].

Solubility Information

Solubility	< 1 mg/ml refers to the product slightly soluble or insoluble

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.665 mL	8.324 mL	16.647 mL
5 mM	0.333 mL	1.665 mL	3.329 mL
10 mM	0.166 mL	0.832 mL	1.665 mL
50 mM	0.033 mL	0.166 mL	0.333 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. The storage conditions and period of the stock solution: - 80 ℃ for 6 months; - 20 ℃ for 1 month. Please use it as soon as possible.

Reference

1. Zorov S, et al. Antibiotic streptolydigin requires noncatalytic Mg2+ for binding to RNA polymerase. Antimicrob Agents Chemother. 2014;58(3):1420-4.
2. Temiakov D, et al. Structural basis of transcription inhibition by antibiotic streptolydigin. Mol Cell. 2005 Sep 2;19(5):655-66.
3. Tuske S, et al. Inhibition of bacterial RNA polymerase by streptolydigin: stabilization of a straight-bridge-helix active-center conformation. Cell. 2005 Aug 26;122(4):541-52.
4. Rosen T, et al. Aromatic dienoyl tetramic acids. Novel antibacterial agents with activity against anaerobes and staphylococci. J Med Chem. 1989 May;32(5):1062-9.

Tel:781-999-4286 E-mail:info@targetmol.com Address:36 Washington Street,Wellesley Hills,MA 02481