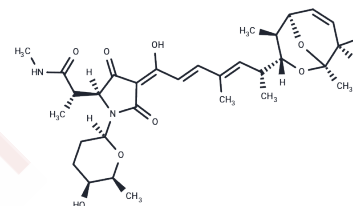


## Streptolydigin

## Chemical Properties

CAS No. :	7229-50-7
Formula:	C <sub>32</sub> H <sub>44</sub> N <sub>2</sub> O <sub>9</sub>
Molecular Weight:	600.70
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	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 (K <sub>i</sub> : 18 μM and a K <sub>d</sub> : 15 μM).
Targets(IC <sub>50</sub> )	Antibacterial
In vitro	Streptolydigin inhibits initiation, elongation, and pyrophosphorolysis by bacterial RNA polymerase. Streptolydigin inhibits <i>T. thermophilus</i> RNA polymerase (a K <sub>i</sub> : 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 StI 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].

## Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.6647 mL	8.3236 mL	16.6472 mL
5 mM	0.3329 mL	1.6647 mL	3.3294 mL
10 mM	0.1665 mL	0.8324 mL	1.6647 mL
50 mM	0.0333 mL	0.1665 mL	0.3329 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

- Zorov S, et al. Antibiotic streptolydigin requires noncatalytic Mg<sup>2+</sup> for binding to RNA polymerase. *Antimicrob Agents Chemother.* 2014;58(3):1420-4.
- Temiaikov D, et al. Structural basis of transcription inhibition by antibiotic streptolydigin. *Mol Cell.* 2005 Sep 2;19(5):655-66.
- 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.
- 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.

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