Seconeolitsine

Cat. No.: HY-N10495

CAS No.: 2650074-56-7

Molecular Formula: $C_{19}H_{17}NO_4$

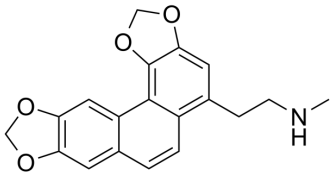
Molecular Weight: 323.34

Target: Antibiotic; Bacterial; Topoisomerase

Pathway: Anti-infection; Cell Cycle/DNA Damage

Storage: 4°C, stored under nitrogen

* In solvent : -80°C, 6 months; -20°C, 1 month (stored under nitrogen)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 50 mg/mL (154.64 mM; ultrasonic and warming and heat to 80°C)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	3.0927 mL	15.4636 mL	30.9272 mL
	5 mM	0.6185 mL	3.0927 mL	6.1854 mL
	10 mM	0.3093 mL	1.5464 mL	3.0927 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: 2.5 mg/mL (7.73 mM); Clear solution; Need ultrasonic
2. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: 2.5 mg/mL (7.73 mM); Clear solution; Need ultrasonic

BIOLOGICAL ACTIVITY

Description

Seconeolitsine, an antibiotic, and is an inhibitor of targeting topoisomerase I (TopA). Seconeolitsine also is a new antimicrobial agent that can inhibit S. pneumoniae growth. Seconeolitsine can inhibit TopA relaxation activity with an IC_{50} value of 17 μM. Seconeolitsine can be used for the research of S. pneumoniae infections resistant to other antibiotics[1].

IC_{50} & Target

Topoisomerase I
17 μM (IC_{50})

In Vitro

Seconeolitsine (compounds 17) inhibits TopA relaxation activity in a concentration-dependent manner, with an IC_{50} value of 17 μM and the inhibition of TopA is enhanced by preincubation of the enzyme with the alkaloid[1].
Seconeolitsine shows great inhibition of S.pneumoniae growth with MIC_{50} values of 16 μM for R6, ATCC6303, CipS8, CipS9, CipR20, CipR16, CipR8, CipR45 and CipR5. And shows great inhibition of S. pneumoniae growth with MIC_{50} values of 8 μM for

	CipR42, CipR68 and CipR15[1]. Seconeolitsine has activation at low concentrations and partial inhibition at 50 μM, a concentration at which the pneumococcal TopA showed full inhibition, but not inhibits Human TOPO1[1]. Seconeolitsine (0.25×-1×MIC) affects cell growth and division in a concentration-dependent manner[1]. Seconeolitsine (30 and 100 μM), is not affected neutrophil apoptosis and human cell viability[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Seconeolitsine (compounds 17) increases supercoiling and TopA is target in vivo[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. María Teresa García, et al. New alkaloid antibiotics that target the DNA topoisomerase I of Streptococcus pneumonia. J Biol Chem. 2011 Feb 25;286(8):6402-13.

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