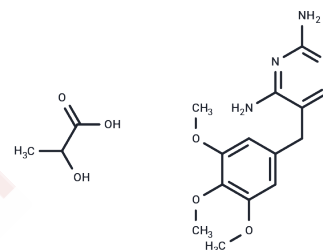


Trimethoprim lactate

Chemical Properties

CAS No. :	23256-42-0
Formula:	C17H24N4O6
Molecular Weight:	380.4
Storage:	Keep away from direct sunlight,Store at low temperature,Store under nitrogen Powder: -20°C for 3 years In solvent: -80°C for 1 year <i>Actual storage temperature shall be subject to the COA.</i>



Biological Description

Description	Trimethoprim lactate (NSC-106568 lactate) is an antibiotic that inhibits bacterial dihydrofolate reductase (DHFR). Trimethoprim lactate has demonstrated antimicrobial activity, with excellent inhibition of Gramnegative bacteria. Trimethoprim lactate is used alone for the Trimethoprim lactate is used alone or in combination with other antibiotics to treat a variety of eye, lung, and gastrointestinal infections.
Targets(IC50)	Antifolate,Antibacterial,Antibiotic
In vitro	Trimethoprim lactate interferes with folate metabolism by inhibiting dihydrofolate reductase (DHFR) activity, thereby preventing the reduction of dihydrofolate to tetrahydrofolate (THF). In E. coli cells, Trimethoprim lactate causes protein aggregation and induces major heat shock proteins (Hsps), suggesting that its presence leads to protein misfolding.Trimethoprim lactate induces the expression of the heat shock proteins DnaK, DnaJ, GroEL, ClpB, and IbpA/B, of which IbpA/B was most significantly induced and co-aggregated with insoluble proteins. [1]
In vivo	In an intraperitoneal infection assay in mice, the CD50 values of Trimethoprim lactate against Haemophilus influenzae, Streptococcus pneumoniae, Escherichia coli, and Neisseria meningitidis were 150 mg/kg, 335 mg/kg, 27.5 mg/kg, and 8.4 mg/kg, respectively. When conjugated with thiomaltose (TM-TMP), Trimethoprim lactate maintains stability in complete serum, with a half-life of approximately one hour, and shows an MIC of about 1 μM against E. coli [2].

Solubility Information

Solubility	DMSO: 200 mg/mL (525.76 mM),Sonication is recommended. H2O: 10 mg/mL (26.29 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: 5 mg/mL (13.14 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	2.6288 mL	13.1441 mL	26.2881 mL
5 mM	0.5258 mL	2.6288 mL	5.2576 mL
10 mM	0.2629 mL	1.3144 mL	2.6288 mL
50 mM	0.0526 mL	0.2629 mL	0.5258 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

Laskowska E, et al. Trimethoprim induces heat shock proteins and protein aggregation in E. coli cells. *Curr Microbiol.* 2003 Oct;47(4):286-9.

Brogden RN, et al. Trimethoprim: a review of its antibacterial activity, pharmacokinetics and therapeutic use in urinary tract infections. *Drugs.* 1982 Jun;23(6):405-30.

Wang X, et al. A Trimethoprim Conjugate of Thiomaltose Has Enhanced Antibacterial Efficacy In Vivo. *Bioconjug Chem.* 2018 May 16;29(5):1729-1735.

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