

Product Data Sheet

Product Name: Trimethoprim lactate

Cat. No.: GC61981

Chemical Properties

Cas. No. 23256-42-0

SMILES CC(O)C(O)=O.NC1=NC=C(CC2=CC(OC)=C(OC)C(OC)=C2)C(N)=N1

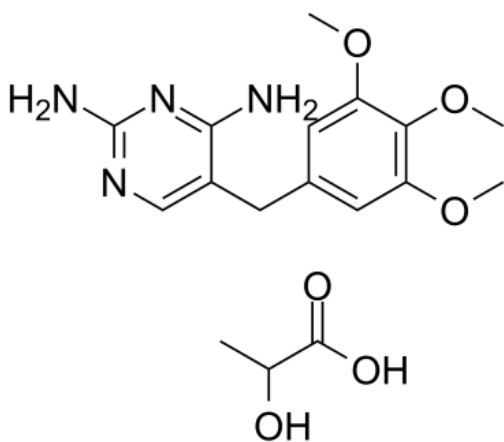
Formula $C_{17}H_{24}N_4O_6$ M.Wt 380.4

Solubility DMSO : 250 mg/mL (657.20 mM) Storage Store at -20°C

General tips For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.

Structure



Background

Trimethoprim lactic is a bacteriostatic antibiotic and an orally active dihydrofolate reductase inhibitor.

Caution: Product has not been fully validated for medical applications. For research use only.

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com

Address: 10292 Central Ave. #205, Montclair, CA, USA

Product Data Sheet

Trimethoprim lactic is active against a wide range of Gram-positive and Gram-negative aerobic bacteria. Trimethoprim lactic has the potential for urinary tract infections, Shigellosis and Pneumocystis pneumonia treatment[1][2][3].

Trimethoprim interrupts folate metabolism by inhibition of the activity of dihydrofolase reductase (DHFR), which reduces dihydrofolate to tetrahydrofolate (THF)[1]. Trimethoprim causes protein aggregation and induction of main heat shock proteins (Hsps) in E. coli cells, which indicates that Trimethoprim presence leads to protein misfolding. Trimethoprim causes induction of DnaK, DnaJ, GroEL, ClpB, and IbpA/B Hsps. Among these Hsps, IbpA/B are most efficiently induced by Trimethoprim and coaggregates with the insoluble proteins. Upon folate stress, deletion of the delta ibpA/B operon resulted in increased protein aggregation but does not influence cell viability[1].

In intraperitoneal infections in mice, the CD50 values for Trimethoprim alone against H. influenzae, S. pneumoniae, E. coli and N. meningitidis, is 150 mg/kg, 335 mg/kg, 27.5 mg/kg and 8.4 mg/kg, respectively[2].

[1]. Ewa Laskowska, et al. Trimethoprim Induces Heat Shock Proteins and Protein Aggregation in E. Coli Cells. Curr Microbiol. 2003 Oct;47(4):286-9.

[2]. R N Brogden, et al. Trimethoprim: A Review of Its Antibacterial Activity, Pharmacokinetics and Therapeutic Use in Urinary Tract Infections. Drugs. 1982 Jun;23(6):405-30.

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

Caution: Product has not been fully validated for medical applications. For research use only.

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com

Address: 10292 Central Ave. #205, Montclair, CA, USA