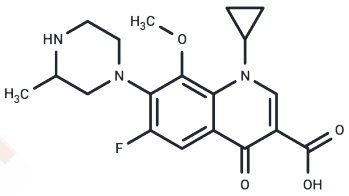
Data Sheet (Cat.No.T1293)

TargetMol

Gatifloxacin

Chemical Properties



CAS No. : 112811-59-3

Formula: C19H22FN3O4

Molecular Weight: 375.39

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	Gatifloxacin (CG5501) is an antibiotic of the fourth-generation fluoroquinolone family, that like other members of that family, inhibits the bacterial enzymes DNA gyrase and topoisomerase IV.
Targets(IC50)	Antibacterial,Antibiotic,Topoisomerase
In vitro	Gatifloxacin increases serum adrenaline levels in both normal and diabetic rats, and concurrently reduces serum glucose concentrations in these subjects.
In vivo	Gatifloxacin exhibits potent inhibitory activity against bacterial type II topoisomerases, with half-maximal inhibitory concentrations (IC50) of 13.8 mg/mL and 0.109 mg/mL for Staphylococcus aureus topoisomerase and Escherichia coli DNA gyrase, respectively. Its inhibitory effect on HeLa cell topoisomerase II is minimal, with an IC50 of 265 mg/mL. Gatifloxacin inhibits Mycobacterium tuberculosis ATCC 35801 with a minimum inhibitory concentration (MIC) of 0.125 μg/mL. When used in combination with ciprofloxacin, gatifloxacin demonstrates a synergistic effect on 19% of 31 strains of Pseudomonas aeruginosa. However, gatifloxacin's activity is two-fold lower than that of ciprofloxacin and two-fold less potent than ofloxacin against Enterobacteriaceae. Gatifloxacin shows strong antimicrobial activity against Haemophilus influenzae, Legionella, and Helicobacter pylori (MIC90s, 0.03-0.06 mg/L), and at least an eight-fold greater efficacy against Chlamydiaceae and Mycoplasmataceae (gatifloxacin MIC90s, 0.13 mg/L).

Solubility Information

Solubility	DMSO: 2.33 mg/mL (6.21 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+90% Saline: 0.23 mg/mL (0.61 mM),Solution. *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.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.6639 mL	13.3195 mL	26.639 mL
5 mM	0.5328 mL	2.6639 mL	5.3278 mL
10 mM	0.2664 mL	1.3319 mL	2.6639 mL
50 mM	0.0533 mL	0.2664 mL	0.5328 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

Alvirez-Freites EJ, et al. Antimicrob Agents Chemother, 2002, 46(4), 1022-1025.
Takei M, et al. Antimicrob Agents Chemother, 1998, 42(10), 2678-2681.
Dawis MA, et al. J Antimicrob Chemother, 2003, 51(5), 1203-1211.
Pankey GA, et al. Antimicrob Agents Chemother, 2005, 49(7), 2959-2964.
Fung-Tomc J, et al. J Antimicrob Chemother, 2000, 45(4), 437-446.