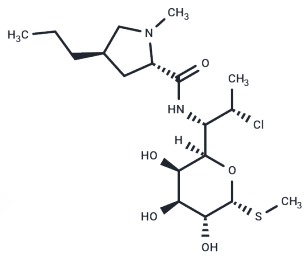
Data Sheet (Cat.No.T6447)

TargetMol

Clindamycin

Chemical Properties



CAS No. : 18323-44-9

Formula: C18H33ClN2O5S

Molecular Weight: 424.98

Storage: Store at low temperature
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	Clindamycin (Sobelin) dissociates peptidyl-tRNA from the bacterial ribosome, thereby disrupting bacterial protein synthesis. Clindamycin is a semisynthetic broad-spectrum antibiotic produced by chemical modification of the parent compound lincomycin.
Targets(IC50)	Antibacterial,Antibiotic,Parasite
In vitro	Clindamycin is a semisynthetic analogue of lincomycin. Clindamycin primarily inhibits the initiation of peptide chain synthesis by deregulating enzyme-catalyzed initiation of peptide bounds. Clindamycin appears to have a modest effect on protein synthesis by certain mammalian cells. [1] Clindamycin is active against most gram-positive aerobic bacteria. Clindamycin is about eight times more active than lincomycin against Staphylococcus aureus and Streptococcus pneumonia. Clindamycin is four times more active than erythromycin against S. aureus and is active even against strains that are resistant to erythromycin, penicillin, and methicillin. Clindamycin is active against gram-positive anaerobes. Clindamycin highly activates against Bacteroides specie. [2] Clindamyci also alters the bacterial surface in such a way that phagocytosis and intracellular killing of the bacteria is greatly facilitated. Clindamycin potentiates opsonization and phagocytosis. [4]
In vivo	Clindamycin (50 mg/kg daily administrated by intramuscular) increases the survival rate of monkeys infected with penicillin-resistant S. aureu to 87.5% (7/8). [5] Clindamycin (40 mg/kg administrated three times daily) protects 87.5% (7/8) of rabbits from anaerobic pulmonary infections induced by transtracheal inoculation of a mixture of B. fragillis, Streptococcus morbillorm, Fusobacterium nucleatum and Eubacterium lentum. [6] Clindamycin (400 mg/kg treated by mixed in the diet) increases survival rate of mice infected with the Toxoplasma gondii to 100%, while all animals die in untreated group. [7]

Solubility Information

Solubility	DMSO: 45 mg/mL (105.89 mM),Sonication is recommended. Ethanol: 79 mg/mL (185.89 mM),Sonication is recommended. H2O: < 1 mg/mL (insoluble or slightly soluble), (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.3531 mL	11.7653 mL	23.5305 mL
5 mM	0.4706 mL	2.3531 mL	4.7061 mL
10 mM	0.2353 mL	1.1765 mL	2.3531 mL
50 mM	0.0471 mL	0.2353 mL	0.4706 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

Keusch GT, et al. J Infect Dis, 1976, 133(5), 578-587.
Dhawan VK, et al. Rev Infect Dis, 1982, 4(6), 1133-1153.
Carlisle HN, et al. Appl Microbiol, 1971, 21(3), 440-446.
Gemmell CG, et al. J Clin Invest, 1981, 67(5), 1249-1256.
McGehee RF Jr, et al. Am J Med Sci, 1968, 256(5), 279-292.
Hodille E, et al. Clindamycin suppresses virulence expression in inducible clindamycin-resistant Staphylococcus aureus strains. Ann Clin Microbiol Antimicrob. 2018 Oct 20;17(1):38.