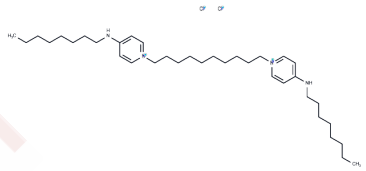
Data Sheet (Cat.No.T3287)

TargetMol

Octenidine Dihydrochloride

Chemical Properties



CAS No. : 70775-75-6

Formula: C36H64Cl2N4

Molecular Weight: 623.82

Appearance: no data available

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Biological Description

Description	Octenidine is an antibiosis.
Targets(IC50)	Antibacterial,Antibiotic
In vitro	Octenidine at concentrations below 1.5 μM (0.94 μg/mL) results in over 99% reduction of the assessed microbial population within 15 minutes. Among the tested organisms, Staphylococcus epidermidis exhibits the highest susceptibility, whereas E. coli and C. Albicans show the lowest susceptibility[1].
In vivo	Octenidine hydrochloride (OCT) demonstrates sustained antimicrobial activity upon application to the skin of cynomolgus monkeys' hands and feet. Aqueous octenidine effectively diminishes resident microflora by 90 to 99.98% at concentrations ranging from 0.2 to 1.6%[1]. Moreover, a significant reduction in plaque score on buccal tooth surfaces was observed following daily topical applications of 1% solutions of octenidine and chlorhexidine for seven days, with octenidine proving to be more effective than chlorhexidine[2].
Kinase Assay	The bactericidal activities of OCT and CHG against Staphylococcus aureus are measured by exposing cultures to several different concentrations of each compound for various lengths of time. OCT is diluted from the 5 mM stock solution and tested in phosphate buffer at levels ranging from 0.5 to 5.0 FsM. The test is begun by adding the bacterial culture to the test solution containing OCT or CHG; samples are taken at 5, 15, 30, and 60 min afterward. The inoculum size is approximately 106 CFU/mL[1].

Solubility Information

Solubility	DMSO: 6.24 mg/mL (10 mM),Sonication is recommended. H2O: 50 mg/mL (80.15 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.603 mL	8.0151 mL	16.0303 mL
5 mM	0.3206 mL	1.603 mL	3.2061 mL
10 mM	0.1603 mL	0.8015 mL	1.603 mL
50 mM	0.0321 mL	0.1603 mL	0.3206 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.

Reference

Sedlock DM, et al. Microbicidal activity of octenidine hydrochloride, a new alkanediylbis[pyridine] germicidal agent. Antimicrob Agents Chemother. 1985 Dec;28(6):786-90.
Emilson CG, et al. Effect of the antibacterial agents octenidine and chlorhexidine on the plaque flora in primates. Scand J Dent Res. 1981 Oct;89(5):384-92.