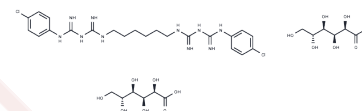


Chlorhexidine digluconate (20% in water)

Chemical Properties

CAS No. :	18472-51-0
Formula:	C ₃₄ H ₅₄ Cl ₂ N ₁₀ O ₁₄
Molecular Weight:	897.76
Storage:	Pure form: -20°C for 3 years In solvent: -80°C for 1 year Actual storage temperature shall be subject to the COA.



Biological Description

Description	Chlorhexidine digluconate is a broad-spectrum antiseptic and disinfectant with broad-spectrum antimicrobial activity, inhibits both Gram-positive and Gram-negative bacteria, induces necrosis and apoptosis, and can be used in the study of bacterial infections.
Targets(IC50)	Apoptosis, Antibacterial, Antibiotic, Necroptosis
In vitro	Chlorhexidine digluconate exhibits dose-dependent and time-dependent effects on Chinese hamster ovary (CHO) cells ($P < 0.05$). As the concentration of Chlorhexidine digluconate increases, the mode of cell death shifts from apoptosis to necrosis: Chlorhexidine digluconate (0.00005%, 0.0001%, 0.0005%; 1 hour) induces approximately 1.62%, 5.51%, and 5.47% apoptosis, while the percentages of cell necrosis are 2.38%, 8.62%, and 22.50%, respectively.[1].
In vivo	Compared to mice in group D receiving only saline lavage, a single intraperitoneal injection of Chlorhexidine gluconate (0.05%, 0.025%) significantly reduces the incidence of intra-abdominal abscess formation after lavage surgery. There is no significant difference in the incidence of gross adhesions between groups of mice that have or have not undergone surgery[2].

Solubility Information

Solubility	DMSO: 250 mg/mL (278.47 mM), Sonication is recommended. H ₂ O: 80 mg/mL (89.11 mM), Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.1139 mL	5.5694 mL	11.1388 mL
5 mM	0.2228 mL	1.1139 mL	2.2278 mL
10 mM	0.1114 mL	0.5569 mL	1.1139 mL
50 mM	0.0223 mL	0.1114 mL	0.2228 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

Yi-Ching Li, et al. Assessment of the cytotoxicity of chlorhexidine by employing an in vitro mammalian test system. *Journal of Dental Sciences*. Volume 9, Issue 2, June 2014, Pages 130-135.

Wael E Shams, et al. Peritoneal Lavage Using Chlorhexidine Gluconate at the End of Colon Surgery Reduces Postoperative Intra-Abdominal Infection in Mice. *J Surg Res*. 2015 May 1;195(1):121-7.

Hon-Yeung Cheung, et al. Differential actions of chlorhexidine on the cell wall of *Bacillus subtilis* and *Escherichia coli*. *PLoS One*. 2012;7(5):e36659.

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