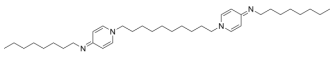
Octenidine

Cat. No.:	HY-B2170
CAS No.:	71251-02-0
Molecular Formula:	$C_{36}H_{62}N_4$
Molecular Weight:	550.9
Target:	Bacterial
Pathway:	Anti-infection
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

Octenidine is a potent antibacterial agent, possessing activity against multidrug-resistant Gram-negative pathogens. Octenidine can inhibit the expression of biofilm genes and destroy the formation of biofilms[1][3].

In Vitro

Octenidine has antimicrobial activity against multidrug-resistant Gram-negative pathogens[1].

	Escherichia coli					*Pseudomonas aeruginosa*				
	WT	CTX-M-1	CTX-M-15	NDM-1	VIM-15	WT	PER-1	VEB-1	OprD	VIM-2
MIC (mg/L)	0.5	2.5	1.2	5	2.5	10	40	40	40	40

Octenidine (0-20 h) retardants P. aeruginosa growth in prolonged exposure condition[2].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

Octenidine reduces bacterial counts on mice wounds and inhibit meticillin-resistant Staphylococcus aureus (MRSA)[3].

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Animal Model:	Mice (a six-millimetre punch full-thickness wound was inoculated with MRSA suspension) [3]
Dosage:	
Administration:	Administrated once 24 hours post-wounding
Result:	Accelerated healing and reduced by >3.6 log cfu/g bacterial counts on the wounds relative to the PBS-treated control. Exhibited lower burden of the inflammatory cells, more mature collagen fibres and well-defined epithelialisation. Inhibited the expression of MRSA and its biofilm genes by nearly 100%.

REFERENCES

[1]. Alvarez-Marin R, et al. Antimicrobial activity of octenidine against multidrug-resistant Gram-negative pathogens. Eur J Clin Microbiol Infect Dis. 2017 Dec;36(12):2379-2383.

[2]. Conceição T, et al. Efficacy of octenidine against antibiotic-resistant Staphylococcus aureus epidemic clones. J Antimicrob Chemother. 2016 Oct;71(10):2991-4.

[3]. Huang J, et al. Octenidine dihydrochloride treatment of a meticillin-resistant Staphylococcus aureus biofilm-infected mouse wound. J Wound Care. 2021 Feb 2;30(2):106-114.

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA