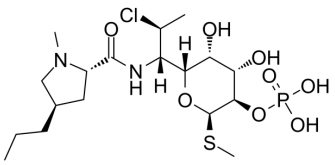
Clindamycin phosphate

Cat. No.:	HY-B1064
CAS No.:	24729-96-2
Molecular Formula:	$C_{18}H_{34}ClN_2O_8PS$
Molecular Weight:	504.96
Target:	Bacterial; Antibiotic; Parasite
Pathway:	Anti-infection
Storage:	Powder -20°C 3 years 4°C 2 years In solvent -80°C 2 years -20°C 1 year



SOLVENT & SOLUBILITY

In Vitro

H_2O : 100 mg/mL (198.04 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	1.9804 mL	9.9018 mL	19.8035 mL
5 mM	0.3961 mL	1.9804 mL	3.9607 mL
10 mM	0.1980 mL	0.9902 mL	1.9804 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: PBS
   Solubility: 50 mg/mL (99.02 mM); Clear solution; Need ultrasonic

BIOLOGICAL ACTIVITY

Description

Clindamycin phosphate (Clindamycin 2-phosphate) is a broad-spectrum bacteriostatic lincosamide antibiotic. Clindamycin phosphate is the proagent of Clindamycin (HY-B1455) with no antimicrobial activity in vitro but can be rapidly converted in vivo to the active parent agent, Clindamycin, by phosphatase ester hydrolysis. Clindamycin phosphate can be used for researching acne and bacterial vaginosis[1][2][3].Clindamycin phosphate has no cytotoxicity Combined with platelet rich fibrin (PRF), PRF-Clindamycin phosphate enhances antimicrobial properties[4].

IC_{50} & Target

Antibiotic, Bacterial[1][3]

In Vitro

Clindamycin phosphate (10 mg/ml; 24,48 h) 3T3 [4]
Clindamycin phosphate (S.aureus ; S. epidermidis; S. aureus; S. epidermidis) MIC 125-250 μg/mL PRF_Clindamycin phosphate MIC 52.1-62.5 μg/mL[4]
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Cytotoxicity Assay[4]

Cell Line:	3T3 mouse fibroblasts
Concentration:	10 mg/mL PRF_Clindamycin phosphat:0.01-1 mg/mL
Incubation Time:	24, 48 h
Result:	Showed no significant cytotoxicity. At 24 and 48 hours, both Clindamycin phosphat and PRF_Clindamycin phosphat samples maintained cell viability above 70%. PRF_Clindamycin phosphat did not show significant differences in cell viability between different dilutions.

CUSTOMER VALIDATION

- EBioMedicine. 2022 Apr;78:103943.
- bioRxiv. 2024 Jan 18.

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REFERENCES

[1]. Li H, et al. Clindamycin hydrochloride and clindamycin phosphate: two drugs or one? A retrospective analysis of a spontaneous reporting system. Eur J Clin Pharmacol. 2017 Feb;73(2):251-253.

[2]. Hayashi N, et al. Clindamycin phosphate 1.2%/benzoyl peroxide 3% fixed-dose combination gel versus topical combination therapy of adapalene 0.1% gel and clindamycin phosphate 1.2% gel in the treatment of acne vulgaris in Japanese patients: A multicenter, randomized, investigator-blind, parallel-group study. J Dermatol. 2018 Aug;45(8):951-962.

[3]. A. Dupre, et al. Proof of concept study of a novel bioadhesive clindamycin phosphate 2% vaginal gel to treat bacterial vaginosis. Clin. Exp. Obstet. Gynecol. 2020, 47(4), 516–518

[4]. Egle K, et al.Injectable Platelet-Rich Fibrin as a Drug Carrier Increases the Antibacterial Susceptibility of Antibiotic-Clindamycin Phosphate. Int J Mol Sci. 2022 Jul 3;23(13):7407

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