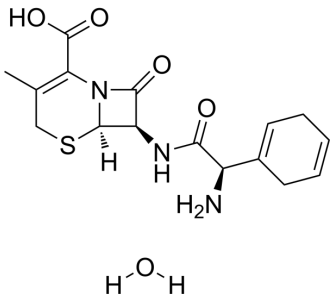
Cephradine monohydrate

Cat. No.:	HY-128449
CAS No.:	75975-70-1
Molecular Formula:	$C_{16}H_{21}N_3O_5S$
Molecular Weight:	367.42
Target:	Bacterial; Antibiotic; TOPK
Pathway:	Anti-infection; Cell Cycle/DNA Damage
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Cephradine (Cefradine) monohydrate is a broad-spectrum and orally active cephalosporin. Cephradine monohydrate is active against both grampositive and gram-negative pathogens and effective in eradicating most penicillinase-producing organisms known to be resistant to penicillin G, penicillin V, and ampicillin. Cephradine monohydrate has been used in the research of genitourinary, gastrointestinal and respiratory tract infections, and in infections of the skin and soft tissues. Cephradine monohydrate blocks solar-ultraviolet induced skin inflammation through direct inhibition of TOPK[1][2][3].
IC_{50} & Target	β-lactam
In Vitro	Cephradine (0~8 μg/mL; 12 hours) makes bacterial viability rapidly increased at antibiotic concentrations below the MIC (minimum inhibitory concentration) of 0.70 μg/mL at both pH 7.4 and pH 5.5[4]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Cephradine (25 mg/kg; s.c.; 11 days) reduces the bacterial density and counts in the abscesses[4]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Nondiabetic mice
Dosage:	25 mg/kg
Administration:	S.c.; 11 days
Result:	Reduced the bacterial density and counts in the abscesses.

CUSTOMER VALIDATION

- Chemosphere. 2019 Jun;225:378-387.

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REFERENCES

[1]. Schwinghammer TL, et al. Pharmacokinetics of cephradine administered intravenously and orally to young and elderly subjects. J Clin Pharmacol. 1990;30(10):893-899

[2]. Caloza DL Jr, et al. Intravenous use of cephradine and cefazolin against serious infections. Antimicrob Agents Chemother. 1979;15(1):119-122.

[3]. Kang S, et al. In Vitro and In Vivo Antimicrobial Activity of Antibiotic-Conjugated Carriers with Rapid pH-Responsive Release Kinetics. Adv Healthc Mater. 2019;8(14):e1900247.

[4]. Fan X, et al. Cefradine blocks solar-ultraviolet induced skin inflammation through direct inhibition of T-LAK cell-originated protein kinase. Oncotarget. 2016;7(17):24633-24645.

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