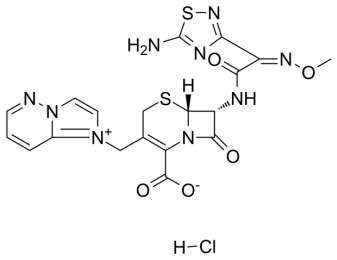
Cefozopran hydrochloride

Cat. No.:	HY-B0771A
CAS No.:	113981-44-5
Molecular Formula:	$C_{19}H_{18}ClN_9O_5S_2$
Molecular Weight:	551.99
Target:	Bacterial; Antibiotic
Pathway:	Anti-infection
Storage:	-20°C, sealed storage, away from moisture * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



H−Cl

SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (181.16 mM; Need ultrasonic)

H_2O : ≥ 52 mg/mL (94.20 mM)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	1.8116 mL	9.0581 mL	18.1163 mL
5 mM	0.3623 mL	1.8116 mL	3.6233 mL
10 mM	0.1812 mL	0.9058 mL	1.8116 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (4.53 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (4.53 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Cefozopran (SCE-2787) hydrochloride is a semi-synthetic, parenteral, fourth-generation cephalosporin. Cefozopran hydrochloride, an antibiotic, has a broad spectrum of antibacterial activity, inhibiting most of the gram-negative and gram-positive organisms[1][2].

In Vitro

Cefozopran (SCE-2787) is a fourth-generation cephalosporin that has good activity against gram-positive organisms including methicillin-susceptible staphylococci, enterococci, and viridans group streptococci; and against gram-negative organisms including hemophilus influenza. Moreover, cefozopran has comparatively good activity against enterococci and P. aeruginosa, which are refractory to other cephalosporins[2].

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

In Vivo	Cefozopran (SCE-2787) (5-80 mg/kg; s.c.; twice a day for 5 days; four-week-old ICR male mice) is effective against acute respiratory tract infections caused by Kiebsiella pneumonia DT-S. In the model of chronic respiratory tract infection caused by K. pneumoniae 27, Cefozopran (20-80 mg/kg; s.c.; twice a day for 7 days; five-week-old CBA/J female mice) is as effective as Ceftazidime[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Sato T, et al. A prospective, randomized study comparing cefozopran with piperacillin-tazobactam plus ceftazidime as empirical therapy for febrile neutropenia in children with hematological disorders. Pediatr Blood Cancer. 2008;51(6):774-777.

[2]. Iizawa Y, et al. Therapeutic effect of cefozopran (SCE-2787), a new parenteral cephalosporin, against experimental infections in mice. Antimicrob Agents Chemother. 1993;37(1):100-105.

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