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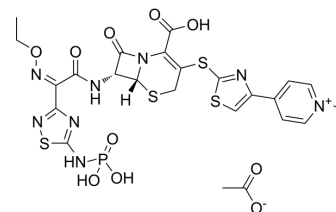
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Ceftaroline fosamil

Cat. No.:	HY-14737
CAS No.:	400827-46-5
Molecular Formula:	C ₂₄ H ₂₅ N ₈ O ₁₀ PS ₄
Molecular Weight:	744.74
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)



SOLVENT & SOLUBILITY

In Vitro	DMSO : 100 mg/mL (134.28 mM; Need ultrasonic)					
	Preparing Stock Solutions	Solvent Concentration	Mass	1 mg	5 mg	10 mg
		1 mM		1.3428 mL	6.7138 mL	13.4275 mL
		5 mM		0.2686 mL	1.3428 mL	2.6855 mL
		10 mM		0.1343 mL	0.6714 mL	1.3428 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: ≥ 2.08 mg/mL (2.79 mM); Clear solution					
	2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: ≥ 2.08 mg/mL (2.79 mM); Clear solution					
	3. Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: ≥ 2.08 mg/mL (2.79 mM); Clear solution					

BIOLOGICAL ACTIVITY

Description	Ceftaroline fosamil (TAK-599), a cephalosporin derivative, is an N-phosphono proagent of anti-methicillin-resistant Staphylococcus aureus (MRSA) T-91825. Ceftaroline fosamil can be used for the research of MRSA infection ^{[1][2][3]} .
IC ₅₀ & Target	β-lactam
In Vivo	Ceftaroline fosamil (s.c.) shows protective effects against experimental systemic infection caused by S. aureus N133 in mice, with ED₅₀s of 1.60-2.37 mg/kg^[1]. ?Ceftaroline fosamil (10 mg/kg; s.c.) disappears rapidly and converts smoothly into T-91825 in blood of rats and monkeys^[1].

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

PROTOCOL

Animal Administration ^[1]

Seventeen clinical *S. aureus* isolates (2 MSSA, 15 MRSA) are studied using the neutropenic lung infection model. Beginning 3 h after inoculation, groups of six mice receive treatment with Ceftaroline fosamil over a 24 h period. Ceftaroline fosamil doses are administered as 0.2 mL subcutaneous injections. Control animals are administered normal saline at the same volume, route, and frequency as the treatment regimens^[1].

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

CUSTOMER VALIDATION

- Int J Antimicrob Agents. 2021 Sep 12;106434.
- Clin Chem. 2019 Dec;65(12):1522-1531.

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REFERENCES

- [1]. Ishikawa T, et, al. TAK-599, a novel N-phosphono type prodrug of anti-MRSA cephalosporin T-91825: synthesis, physicochemical and pharmacological properties. Bioorg Med Chem. 2003 May 29;11(11):2427-37.
- [2]. Jacqueline C, et, al. In vivo efficacy of ceftaroline (PPI-0903), a new broad-spectrum cephalosporin, compared with linezolid and vancomycin against methicillin-resistant and vancomycin-intermediate *Staphylococcus aureus* in a rabbit endocarditis model. Antimicrob Agents Chemother. 2007 Sep;51(9):3397-400.
- [3]. Parish D, et, al. Ceftaroline fosamil, a cephalosporin derivative for the potential treatment of MRSA infection. Curr Opin Investig Drugs. 2008 Feb;9(2):201-9.

Caution: Product has not been fully validated for medical applications. For research use only.

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