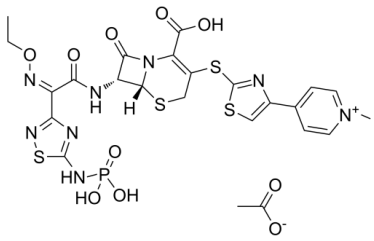
Data Sheet

Product Name:	Ceftaroline fosamil
Cat. No.:	CS-2823
CAS No.:	400827-46-5
Molecular Formula:	$C_{24}H_{25}N_8O_{10}PS_4$
Molecular Weight:	744.74
Target:	Antibiotic; Bacterial
Pathway:	Anti-infection
Solubility:	DMSO : 200 mg/mL (268.55 mM; Need ultrasonic)



BIOLOGICAL ACTIVITY:

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

PROTOCOL (Extracted from published papers and Only for reference)

Animal Administration: Ceftaroline fosamil is reconstituted with 20 mL of sterile water for injection. The solution is subsequently diluted with 0.9% normal saline to achieve the required concentrations. The Ceftaroline fosamil solution is stored under refrigeration and discarded within 24 h of reconstitution.[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].

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.

CAIndexNames:

Pyridinium, 4-[2-[[(6R,7R)-2-carboxy-7-[[(2Z)-2-(ethoxyimino)-2-[5-(phosphonoamino)-1,2,4-thiadiazol-3-yl]acetyl]amino]-8-oxo-5-thia-1-azabicyclo[4.2.0]oct-2-en-3-yl]thio]-4-thiazolyl]-1-methyl-, acetate (1:1)

SMILES:

O=C1[C@@H](NC(/C(C2=NSC(NP(O)(O)=O)=N2)=N\OCC)=O)[C@@]3([H])SCC(SC4=NC(C5=CC=[N+](C)C=C5)=CS4)=C(C(O)=O)N13.CC([O-])=O

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

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