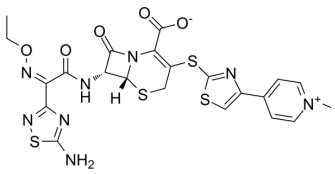
T-91825

Cat. No.:	HY-105049
CAS No.:	189345-04-8
Molecular Formula:	$C_{22}H_{20}N_8O_5S_4$
Molecular Weight:	604.7
Target:	Bacterial
Pathway:	Anti-infection
Storage:	-20°C, sealed storage, away from moisture and light * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture and light)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 85 mg/mL (140.57 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	1.6537 mL	8.2686 mL	16.5371 mL
	5 mM	0.3307 mL	1.6537 mL	3.3074 mL
	10 mM	0.1654 mL	0.8269 mL	1.6537 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 4.25 mg/mL (7.03 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (4.13 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

T-91825 (PPI-0903M), an N-phosphono-type cephalosporin, is the active form of TAK-599. T-91825 is active against both gram-positive and gram-negative bacteria[1][2].

In Vitro

PPI-0903M is very active against S. aureus (MIC_{50}=0.25 μg/mL), including methicillin-resistant (MRSA) strains (MIC_{50}=1 μg/mL)[1].
?PPI-0903M is active against hetero-vancomycin-intermediate S. aureus (100 strains), with MIC_{50}s ranging from 0.25 to 4 μg/mL[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

AK-599 (20 mg/kg; s.c. three times a day for 2 days) decreases the bacterial cell counts in lungs more than 99.9% in a mouse pneumonia model caused by MRSA[2].

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

REFERENCES

[1]. Sader HS, et, al. Antimicrobial activity and spectrum of PPI-0903M (T-91825), a novel cephalosporin, tested against a worldwide collection of clinical strains. Antimicrob Agents Chemother. 2005 Aug;49(8):3501-12.

[2]. Iizawa Y, et, al. In vitro antimicrobial activity of T-91825, a novel anti-MRSA cephalosporin, and in vivo anti-MRSA activity of its prodrug, TAK-599. J Infect Chemother. 2004 Jun;10(3):146-56.

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