

PRODUCT INFORMATION

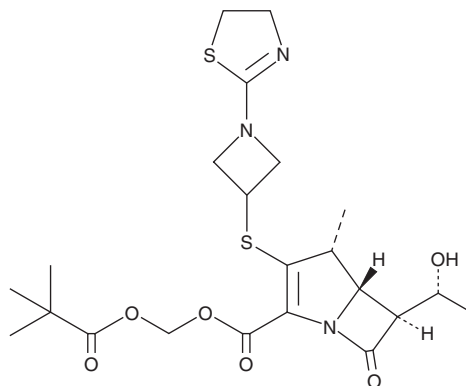


Tebipenem Pivoxil

Item No. 30613

CAS Registry No.: 161715-24-8
Formal Name: (4R,5S,6S)-3-[[[1-(4,5-dihydro-2-thiazolyl)-3-azetidiny]thio]-6-[(1R)-1-hydroxyethyl]-4-methyl-7-oxo-1-azabicyclo[3.2.0]hept-2-ene-2-carboxylic acid, (2,2-dimethyl-1-oxopropoxy)methyl ester

Synonym: TBPM-PI
MF: C₂₂H₃₁N₃O₆S₂
FW: 497.6
Purity: ≥98%
UV/Vis.: λ_{max}: 216, 321 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Tebipenem pivoxil is supplied as a crystalline solid. A stock solution may be made by dissolving the tebipenem pivoxil in the solvent of choice, which should be purged with an inert gas. Tebipenem pivoxil is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of tebipenem pivoxil in these solvents is approximately 30 mg/ml.

Tebipenem pivoxil is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, tebipenem pivoxil should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Tebipenem pivoxil has a solubility of approximately 0.14 mg/ml in a 1:6 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Tebipenem pivoxil is a prodrug form of the carbapenem antibiotic tebipenem.¹ Tebipenem pivoxil is metabolized by carboxylesterase (CES) in intestinal epithelial cells to form tebipenem.² Tebipenem pivoxil is active against methicillin-sensitive and -resistant *S. aureus* (MRSA; MIC₉₀s = ≤0.125 and 16 µg/ml, respectively), as well as *E. faecalis*, *E. coli*, *K. pneumoniae*, *E. aerogenes*, *H. influenzae*, and *P. aeruginosa* (MIC₉₀s = 32, 1, 0.5, ≤0.125, 0.25, and 64 µg/ml, respectively).¹ It increases survival in mouse models of sepsis induced by *S. aureus*, *E. coli*, or *P. aeruginosa* when administered at doses of 50 and 100 mg/kg.

References

1. Yao, Q., Wang, J., Cui, T., *et al.* Antibacterial properties of tebipenem pivoxil tablet, a new oral carbapenem preparation against a variety of pathogenic bacteria *in vitro* and *in vivo*. *Molecules* **21**(1), 62 (2016).
2. Cielecka-Piontek, J., Zalewski, P., and Paczkowska, M. The chromatographic approach to kinetic studies of tebipenem pivoxil. *J. Chromatogr. Sci.* **53**(2), 325-330 (2015).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 11/11/2022

CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD

ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897

[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM

WWW.CAYMANCHEM.COM