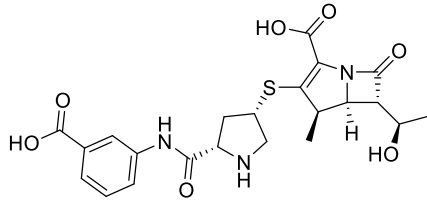


Product data sheet



MedKoo Cat#: 562875 Name: Ertapenem CAS#: 153832-46-3 Chemical Formula: C ₂₂ H ₂₅ N ₃ O ₇ S Exact Mass: 475.1413 Molecular Weight: 475.51		
Product supplied as:		Powder
Purity (by HPLC):		≥ 98%
Shipping conditions		Ambient temperature
Storage conditions:		Powder: -20°C 3 years; 4°C 2 years. In solvent: -80°C 3 months; -20°C 2 weeks.

1. Product description:

Ertapenem is a parenteral carbapenem that is highly resistant to inactivation by a wide variety of beta-lactamases and that has a broad spectrum of antimicrobial activity.

2. CoA, QC data, SDS, and handling instruction

SDS and handling instruction, CoA with copies of QC data (NMR, HPLC and MS analytical spectra) can be downloaded from the product web page under “QC And Documents” section. Note: copies of analytical spectra may not be available if the product is being supplied by MedKoo partners. Whether the product was made by MedKoo or provided by its partners, the quality is 100% guaranteed.

3. Solubility data

Solvent	Max Conc. mg/mL	Max Conc. mM
TBD	TBD	TBD

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	2.10 mL	10.52 mL	21.03 mL
5 mM	0.42 mL	2.10 mL	4.21 mL
10 mM	0.21 mL	1.05 mL	2.10 mL
50 mM	0.04 mL	0.21 mL	0.42 mL

5. Molarity Calculator, Reconstitution Calculator, Dilution Calculator

Please refer the product web page under section of “Calculator”

6. Recommended literature which reported protocols for in vitro and in vivo study

In vitro study

1. Zhanel GG, Baudry P, Vashisht V, Laing N, Noreddin AM, Hoban DJ. Pharmacodynamic activity of ertapenem versus multidrug-resistant genotypically characterized extended-spectrum beta-lactamase-producing *Escherichia coli* using an in vitro model. *J Antimicrob Chemother.* 2008 Mar;61(3):643-6. doi: 10.1093/jac/dkm533. Epub 2008 Jan 31. PMID: 18238885.
2. Borbone S, Cascone C, Santagati M, Mezzatesta ML, Stefani S. Bactericidal activity of ertapenem against major intra-abdominal pathogens. *Int J Antimicrob Agents.* 2006 Nov;28(5):396-401. doi: 10.1016/j.ijantimicag.2006.07.018. Epub 2006 Oct 11. PMID: 17045463.

In vivo study

1. Göl Serin B, Köse Ş, Yılmaz O, Yıldırım M, Akbulut I, Serin Senger S, Akkoçlu G, Diniz G, Serin S. An evaluation of the effect of ertapenem in rats with sepsis created by cecal ligation and puncture. *Ulus Travma Acil Cerrahi Derg.* 2019 Sep;25(5):427-432. English. doi: 10.5505/tjes.2018.26050. PMID: 31475323.

7. Bioactivity

Biological target:

Ertapenem (L-749345), a long-acting Carbapenem, is a β -lactam antibiotic with a broad antibacterial spectrum.

In vitro activity

Product data sheet



The pharmacodynamic activity of ertapenem against MDR ESBL-producing *E. coli*, simulating free serum concentrations, is displayed in Table 2. Ertapenem T.MIC 98% (ertapenem MICs 0.25 mg/L) resulted in bactericidal (3 log₁₀ killing) activity at 6, 12, 24 and 48 h against all six strains. With all six strains, rapid eradication of the organisms from the in vitro model (below the level of detection) occurred by the 2 h mark (data not shown), which was followed by slow regrowth of the majority of the strains (5 of 6) over 12, 24 and 48 h time points (despite re-dosing ertapenem at 24 h) (Table 2). Despite limited regrowth, ertapenem achieved a bactericidal effect against all strains at all tested time points over the 48 h study period (Table 2). The observed MICs for *E. coli* of ertapenem studied in the in vitro model did not change during the 48 h period, even for strains where minor regrowth occurred (Table 2).

Reference: J Antimicrob Chemother. 2008 Mar;61(3):643-6. <https://pubmed.ncbi.nlm.nih.gov/18238885/>

In vivo activity

No rat died or lost more than 20% of its body weight during the experiment. The adhesion scores of the groups were determined as median 2.5 (range: 1–3) in group 1, 11.4 (range: 6–15) in group 2, 4.67 (range: 1–6) in group 3, and 2.5 (range: 1–3) in group 4. The adhesion scores of the groups are shown in Figure 1. At the end of the antibiotic treatment, the decrease in the adhesion score was statistically significant ($p < 0.001$). All the isolated microorganisms were identified as sensitive to ertapenem.

Reference: Ulus Travma Acil Cerrahi Derg. 2019 Sep;25(5):427-432. <https://pubmed.ncbi.nlm.nih.gov/31475323/>

Note: The information listed here was extracted from literature. MedKoo has not independently retested and confirmed the accuracy of these methods. Customer should use it just for a reference only.