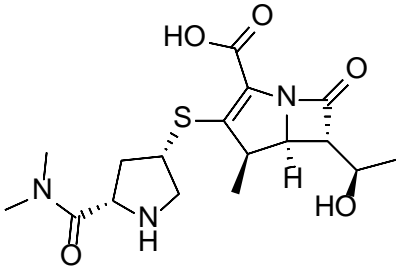


Product data sheet



MedKoo Cat#: 315139 Name: Meropenem CAS: 96036-03-2 (free) Chemical Formula: C ₁₇ H ₂₅ N ₃ O ₅ S Molecular Weight: 383.463	
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:

Meropenem is an ultra-broad spectrum injectable antibiotic used to treat a wide variety of infections, including meningitis and pneumonia. It is a beta-lactam and belongs to the subgroup of carbapenem, similar to imipenem and ertapenem. Meropenem was originally developed by Sumitomo Pharmaceuticals. It is marketed outside Japan by AstraZeneca with the brand names Merrem and Meronem. Other brand names include Zwipen (India, Marketed by Nucleus) Mepem (Taiwan) Meropen (Japan, Korea) and Neopenem (NEOMED India). It gained FDA approval in July 1996. It penetrates well into many tissues and body fluids including the cerebrospinal fluid, bile, heart valves, lung, and peritoneal fluid.

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
Water	77.0	200.80

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	2.61 mL	13.04 mL	26.08 mL
5 mM	0.52 mL	2.61 mL	5.22 mL
10 mM	0.26 mL	1.30 mL	2.61 mL
50 mM	0.05 mL	0.26 mL	0.52 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

- Slaney L, Chubb H, Mohammed Z, Ronald A. In-vitro activity of meropenem against *Neisseria gonorrhoeae*, *Haemophilus influenzae* and *H. ducreyi* from Canada and Kenya. *J Antimicrob Chemother.* 1989 Sep;24 Suppl A:183-6. doi: 10.1093/jac/24.suppl_a.183. PMID: 2509415.
- Jones RN, Barry AL, Thornsberry C. In-vitro studies of meropenem. *J Antimicrob Chemother.* 1989 Sep;24 Suppl A:9-29. doi: 10.1093/jac/24.suppl_a.9. PMID: 2808218.

In vivo study

- Wang Y, Liu L, Wu Q, Yin Q, Xie F. Defining Exposure Predictors of Meropenem That Are Associated with Improved Survival for Severe Bacterial Infection: A Preclinical PK/PD Study in Sepsis Rat Model. *Antibiotics (Basel).* 2022 Nov 19;11(11):1660. doi: 10.3390/antibiotics11111660. PMID: 36421304; PMCID: PMC9686672.
- Ateskan U, Mas MR, Yasar M, Devenci S, Babaoglu E, Comert B, Mas NN, Doruk H, Tasci I, Ozkomur ME, Kocar IH. Deferoxamine and meropenem combination therapy in experimental acute pancreatitis. *Pancreas.* 2003 Oct;27(3):247-52. doi: 10.1097/00006676-200310000-00010. PMID: 14508131.

Product data sheet



7. Bioactivity

Biological target:

Meropenem (SM 7338) is a carbapenem antibiotic with broad-spectrum antibacterial activity.

In vitro activity

Meropenem, a new parenteral carbapenem demonstrated increased activity as compared to imipenem against 336 strains of *Neisseria gonorrhoeae*, 119 strains of *Haemophilus influenzae*, and 110 strains of *H. ducreyi*.

Reference: J Antimicrob Chemother. 1989 Sep;24 Suppl A:183-6. <https://pubmed.ncbi.nlm.nih.gov/2509415/>

In vivo activity

Group 3 was injected with meropenem 60 mg/kg/d i.p, group 4 with deferoxamine 80 mg/kg/d s.c and group 5 with combination of these 2 agents at the same doses. While meropenem was started 2 hours later, all treatments were started immediately after the induction of pancreatitis. All rats were killed at the 48th hour of the treatment and blood and tissue samples were collected for amylase determinations, pathologic examinations, and culture. Meropenem significantly reduced the incidence of pancreatic infection.

Reference: Pancreas. 2003 Oct;27(3):247-52. <https://pubmed.ncbi.nlm.nih.gov/14508131/>

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.