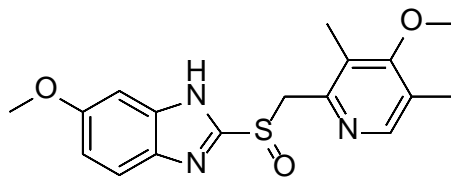


Product data sheet



MedKoo Cat#: 318387 Name: Omeprazole CAS: 73590-58-6 (free form) Chemical Formula: C ₁₇ H ₁₉ N ₃ O ₃ S Exact Mass: 345.1147 Molecular Weight: 345.4161	
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:

Omeprazole is a medication used in the treatment of gastroesophageal reflux disease, peptic ulcer disease, and Zollinger–Ellison syndrome. It is also used to prevent upper gastrointestinal bleeding in people who are at high risk. Omeprazole is a proton pump inhibitor and as such blocks the release of stomach acid.

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
DMF	30.0	86.85
DMSO	66.33	192.04
DMSO:PBS (pH 7.2) (1:1)	0.5	1.45
Ethanol	9.0	26.06
Water	0.67	1.94

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	2.90 mL	14.48 mL	28.95 mL
5 mM	0.58 mL	2.90 mL	5.79 mL
10 mM	0.29 mL	1.45 mL	2.90 mL
50 mM	0.06 mL	0.29 mL	0.58 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

- Scaringi L, Cornacchione P, Fettucciari K, Rosati E, Rossi R, Marconi P, Capodicasa E. Activity inhibition of cytolytic lymphocytes by omeprazole. *Scand J Immunol.* 1996 Sep;44(3):204-14. doi: 10.1046/j.1365-3083.1996.d01-300.x. PMID: 8795713.
- Jonkers D, Stobberingh E, Stockbrügger R. Omeprazole inhibits growth of gram-positive and gram-negative bacteria including *Helicobacter pylori* in vitro. *J Antimicrob Chemother.* 1996 Jan;37(1):145-50. doi: 10.1093/jac/37.1.145. PMID: 8647756.

In vivo study

- Sri Rethinavel H, Selvaraj DB, Balakrishnan SJ, Vergil Andrews JF, Joseph JHM, Kandasamy M. Omeprazole treatment manifests anxiolytic effects in a cysteamine hydrochloride induced mouse model of gastrointestinal disorder. *Heliyon.* 2022 Jun 24;8(6):e09787. doi: 10.1016/j.heliyon.2022.e09787. PMID: 35800723; PMCID: PMC9253648.

Product data sheet



2. Rudra DS, Pal U, Chowdhury N, Maiti NC, Bagchi A, Swarnakar S. Omeprazole prevents stress induced gastric ulcer by direct inhibition of MMP-2/TIMP-3 interactions. *Free Radic Biol Med*. 2022 Mar;181:221-234. doi: 10.1016/j.freeradbiomed.2022.02.007. Epub 2022 Feb 10. PMID: 35150824.

7. Bioactivity

Biological target:

Omeprazole (H 16868) is a proton pump inhibitor (PPI).

In vitro activity

The antibacterial effects of omeprazole (100, 200 and 300 mg/L) were assessed using bacterial growth curves. A dose-related permanent inhibition was seen with actively growing Gram-positive cocci. A reduced and only temporary effect was observed with Gram-negative bacilli. After 1 day the bacterial count of *Helicobacter pylori* in the presence of omeprazole 200 mg/L was reduced from 10(4) cfu/mL for the control to zero.

Reference: *J Antimicrob Chemother*. 1996 Jan;37(1):145-50. <https://pubmed.ncbi.nlm.nih.gov/8647756/>

In vivo activity

This study revisited the effect of omeprazole treatment on the degree of anxiety-like behaviours in a cysteamine hydrochloride (HCl) induced mouse model of GI disorder using open field test (OFT), light-dark box (LDB) test and elevated plus maze (EPM). Results revealed that omeprazole treatment mitigates anxiety-related behaviours in the cysteamine HCl induced animal model of GI disorder. Thus, this study assuredly supports and validates the anxiolytic properties of omeprazole.

Reference: *Heliyon*. 2022 Jun 24;8(6):e09787. <https://pubmed.ncbi.nlm.nih.gov/35800723/>

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.