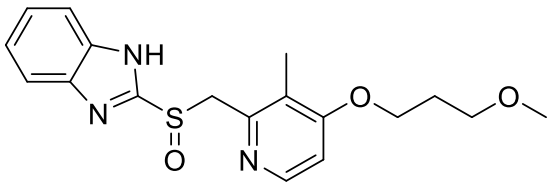
Product data sheet

MedKoo Cat#: 527039 Name: Rabeprazole CAS: 117976-89-3 Chemical Formula: $C_{18}H_{21}N_3O_3S$ Exact Mass: 359.1304 Molecular Weight: 359.44	
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.

Product description:
Rabeprazole is an inhibitor of H(+)-K(+)-exchanging atpase in gastric parietal cells.

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
DMSO	3.59	10

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	2.78 mL	13.91 mL	27.82 mL
5 mM	0.56 mL	2.78 mL	5.56 mL
10 mM	0.28 mL	1.39 mL	2.78 mL
50 mM	0.06 mL	0.28 mL	0.56 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. Gu M, Zhang Y, Zhou X, Ma H, Yao H, Ji F. Rabeprazole exhibits antiproliferative effects on human gastric cancer cell lines. Oncol Lett. 2014 Oct;8(4):1739-1744. doi: 10.3892/ol.2014.2354. Epub 2014 Jul 16. PMID: 25202402; PMCID: PMC4156221.
2. Tamaro I, Genazzani A, Canonico P, Grosa G. Lack of in vitro interactions using human liver microsomes between rabeprazole and anticancer drugs. Eur J Drug Metab Pharmacokinet. 2009 Jan-Mar;34(1):19-26. doi: 10.1007/BF03191379. PMID: 19462924.

In vivo study

1. Chen SQ, Hu BF, Yang YR, He Y, Yue L, Guo D, Wu TN, Feng XW, Li Q, Zhang W, Wen JG. The protective effect of rabeprazole on cisplatin-induced apoptosis and necroptosis of renal proximal tubular cells. Biochem Biophys Res Commun. 2022 Jul 5;612:91-98. doi: 10.1016/j.bbrc.2022.04.107. Epub 2022 Apr 25. PMID: 35512462.
2. Martínez-Pérez Y, Nequiz-Avendaño M, García-Torres I, Gudiño-Zayas ME, López-Velázquez G, Enríquez-Flores S, Mendoza E, Saavedra E, Pérez-Tamayo R, León-Avila G, Olivos-García A. Rabeprazole inhibits several functions of Entamoeba histolytica related with its virulence. Parasitol Res. 2020 Oct;119(10):3491-3502. doi: 10.1007/s00436-020-06868-0. Epub 2020 Sep 4. PMID: 32886229.

7. Bioactivity
Biological target:

Rabeprazole is a proton pump inhibitor (PPI) that irreversibly inactivates gastric H+/K+-ATPase. Rabeprazole induces apoptosis and acts as an uridine nucleoside ribohydrolase (UNH) inhibitor with an IC50 of 0.3 μM.

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In vitro activity

This study found that rabeprazole can attenuate the cell viability of human gastric cancer cells by inactivating the ERK1/2 signaling pathway. These results demonstrate that since rabeprazole inhibits the viability of gastric cancer cells in vitro, it may serve as a novel antineoplastic agent.

Reference: Oncol Lett. 2014 Oct;8(4):1739-1744. https://pubmed.ncbi.nlm.nih.gov/25202402/

In vivo activity

Rabeprazole has no influence on the antitumor effect of cisplatin. Rabeprazole attenuates cisplatin -induced nephrotoxicity mainly through inhibiting OCT2-mediated cisplatin uptake, without interfering with its anti-tumor property of inducing apoptosis and necroptosis.

Reference: Biochem Biophys Res Commun. 2022 Jul 5;612:91-98. https://pubmed.ncbi.nlm.nih.gov/35512462/

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.