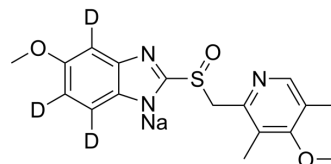


Omeprazole-d₃ sodium

Cat. No.:	HY-B0113S4
Molecular Formula:	C ₁₇ H ₁₅ D ₃ N ₃ NaO ₃ S
Molecular Weight:	370.42
Target:	Autophagy; Phospholipase; Proton Pump; Bacterial; Isotope-Labeled Compounds
Pathway:	Autophagy; Metabolic Enzyme/Protease; Membrane Transporter/Ion Channel; Anti-infection; Others
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Omeprazole-d ₃ sodium is deuterated labeled Omeprazole (HY-B0113). Omeprazole (H 16868), a proton pump inhibitor (PPI), is available for treatment of acid-related gastrointestinal disorders. Omeprazole shows competitive inhibition of CYP2C19 activity with a K _i of 2 to 6 μM ^[1] . Omeprazole also inhibits growth of Gram-positive and Gram-negative bacteria ^[2] . Omeprazole is a potent brain penetrant neutral sphingomyelinase (N-SMase) inhibitor (exosome inhibitor) ^[3] .
In Vitro	Stable heavy isotopes of hydrogen, carbon, and other elements have been incorporated into drug molecules, largely as tracers for quantitation during the drug development process. Deuteration has gained attention because of its potential to affect the pharmacokinetic and metabolic profiles of drugs ^[1] . Omeprazole (H 16868) is a proton pump inhibitor used in the treatment of dyspepsia, peptic ulcer disease, gastroesophageal reflux disease, laryngopharyngeal reflux, and Zollinger-Ellison syndrome. Omeprazole shows inhibition of gastric acid secretion which is an acid-labile compound ^[3] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

- [1]. Huarui Zhang, et al. Advances in the discovery of exosome inhibitors in cancer. *J Enzyme Inhib Med Chem*. 2020 Dec;35(1):1322-1330.
- [2]. Li XQ, et al. Comparison of inhibitory effects of the proton pump-inhibiting drugs omeprazole, esomeprazole, lansoprazole, pantoprazole, and rabeprazole on human cytochrome P450 activities. *Drug Metab Dispos*. 2004 Aug;32(8):821-7.
- [3]. Jonkers D, et al. Omeprazole inhibits growth of gram-positive and gram-negative bacteria including *Helicobacter pylori* in vitro. *J Antimicrob Chemother*. 1996 Jan;37(1):145-50.
- [4]. Russak EM, et al. Impact of Deuterium Substitution on the Pharmacokinetics of Pharmaceuticals. *Ann Pharmacother*. 2019 Feb;53(2):211-216.

Caution: Product has not been fully validated for medical applications. For research use only.

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