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## Product Data Sheet

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Product Name: Omeprazole-13CD3

Cat. No.: GC63335

### Chemical Properties

Cas. No. 1261395-28-1

Formula  $C_{16}^{13}CH_{16}D_3N_3O_3S$

M.Wt 349.43

Solubility

Storage

Store at -20°C

General tips For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT, or blue ice upon request.

Structure

### Background

Omeprazole-13CD3 (H 16868-13CD3) is a 13C-labeled and deuterium labeled Omeprazole. 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  $\mu M$ [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].

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].

[1]. Russak EM, et al. Impact of Deuterium Substitution on the Pharmacokinetics of Pharmaceuticals. *Ann Pharmacother.* 2019;53(2):211-216. [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.; Jonkers D, et al. Omeprazole inhibits growth of gram-positive and gram-negative bacteria including *Helicobacter pylori* in vitro. *J*

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

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Antimicrob Chemother. 1996 Jan;37(1):145-50.;Huarui Zhang, et al. Advances in the discovery of exosome inhibitors in cancer. J Enzyme Inhib Med Chem. 2020 Dec;35(1):1322-1330.

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