

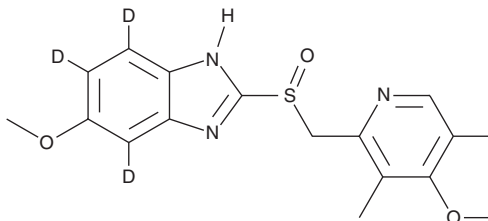
PRODUCT INFORMATION



Omeprazole-d₃

Item No. 22087

CAS Registry No.: 934293-92-2
Formal Name: 6-methoxy-2-[[[4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-1H-benzimidazole-4,5,7-d₃
Synonyms: OMEP-d₃, OMP-d₃, OMZ-d₃
MF: C₁₇H₁₆D₃N₃O₃S
FW: 348.4
Chemical Purity: ≥98% (Omeprazole)
Deuterium Incorporation: ≥99% deuterated forms (d₁-d₃); ≤1% d₀
Supplied as: A solid
Storage: Room temperature
Stability: ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Omeprazole-d₃ is intended for use as an internal standard for the quantification of omeprazole (Item No. 14880) by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated versus unlabeled).

Description

Omeprazole is an inhibitor of gastric H⁺/K⁺ ATPase (IC₅₀ = 1.1 μM for the pig ATPase).¹ It is a racemic mixture of esomeprazole (Item No. 17303) and (R)-omeprazole (Item No. 18874).² Omeprazole (100 μM) decreases zymosan-induced oxygen free radical production in isolated human neutrophils.³ It is active against 17 strains of *H. pylori* (MIC₅₀s = 12.5-50 μg/ml).⁴ It decreases histamine-induced acid secretion in dogs (ED₅₀ = 0.35 μmol/kg).⁵ Formulations containing omeprazole have been used in the treatment of duodenal and gastric ulcers, gastroesophageal reflux disease, and erosive esophagitis.

References

1. Smolka, A.J., Goldenring, J.R., Gupta, S., *et al.* Inhibition of gastric H,K-ATPase activity and gastric epithelial cell IL-8 secretion by the pyrrolizine derivative ML 3000. *BMC Gastroenterol.* **4**(4), 1-11 (2004).
2. Lind, T., Rydberg, L., Kylebäck, A., *et al.* Esomeprazole provides improved acid control vs. omeprazole in patients with symptoms of gastro-oesophageal reflux disease. *Aliment. Pharmacol. Ther.* **14**(7), 861-867 (2000).
3. Suzuki, M., Mori, M., Miura, S., *et al.* Omeprazole attenuates oxygen-derived free radical production from human neutrophils. *Free Radic. Biol. Med.* **21**(5), 727-731 (1996).
4. Iwahi, T., Satoh, H., Nakao, M., *et al.* Lansoprazole, a novel benzimidazole proton pump inhibitor, and its related compounds have selective activity against *Helicobacter pylori*. *Antimicrob. Agents Chemother.* **35**(3), 490-496 (1991).
5. Larsson, H., Carlsson, E., Junggren, U., *et al.* Inhibition of gastric acid secretion by omeprazole in the dog and rat. *Gastroenterology* **85**(4), 900-907 (1983).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

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