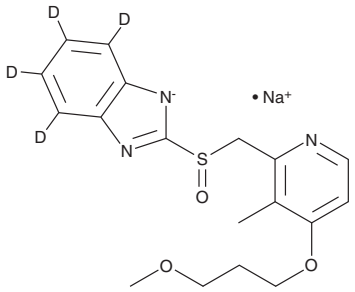
PRODUCT INFORMATION

Rabeprazole-d_4 (sodium salt)

Item No. 26118

Formal Name: 2-[[[4-(3-methoxypropoxy)-3-methyl-2-pyridinyl]methyl]sulfinyl]-1H-benzimidazole-4,5,6,7-d_4, monosodium salt
MF: $C_{18}H_{16}D_4N_3O_3S \bullet Na$
FW: 385.4
Chemical Purity: ≥98% (Rabeprazole)
Deuterium Incorporation: ≥99% deuterated forms (d_1-d_4); ≤1% d_0
Supplied as: A solid
Storage: -20°C
Stability: ≥4 years



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

Laboratory Procedures

Rabeprazole-d_4 (sodium salt) is intended for use as an internal standard for the quantification of rabeprazole (Item No. 14939) 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).

Rabeprazole-d_4 (sodium salt) is supplied as a solid. A stock solution may be made by dissolving the rabeprazole-d_4 (sodium salt) in the solvent of choice. Rabeprazole-d_4 (sodium salt) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of rabeprazole-d_4 (sodium salt) in ethanol and DMF is approximately 30 mg/ml and approximately 25 mg/ml in DMSO.

Description

Rabeprazole is a proton pump inhibitor that selectively and irreversibly inhibits the gastric H^+/K^+ ATPase (IC_{50} = 72 nM).[1] It can be activated more rapidly and over a greater pH range than other proton pump inhibitors such as omeprazole (Item No. 14880), lansoprazole (Item No. 13627), and pantoprazole (Item No. 21345).[2] Rabeprazole (30 mg/kg) inhibits gastric acid secretion in pylorus-ligated rats and a rat model of gastric fistula.[3] It also inhibits the growth of several strains of *H. pylori in vitro* (MIC_{50}s = 1.57-3.13 µg/ml).[2] Formulations containing rabeprazole have been used in the treatment of ulcers, pathological hypersecretory conditions, and gastroesophageal reflux disease (GERD).

References

1. Morii, M., Takata, H., Fujisaki, H., *et al.* The potency of substituted benzimidazoles such as E3810, omeprazole, Ro 18-5364 to inhibit gastric H^+,K^+-ATPase is correlated with the rate of acid-activation of the inhibitor. *Biochem. Pharmacol.* **39(4)**, 661-667 (1990).
2. Williams, M.P. and Pounder, R.E. Review article: The pharmacology of rabeprazole. *Aliment. Pharmacol. Ther.* **13(3)**, 3-10 (1999).
3. Tomiyama, Y., Morii, M., and Takeguchi, N. Specific proton pump inhibitors E3810 and lansoprazole affect the recovery process of gastric secretion in rats differently. *Biochem. Pharmacol.* **48(11)**, 2049-2055 (1994).

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