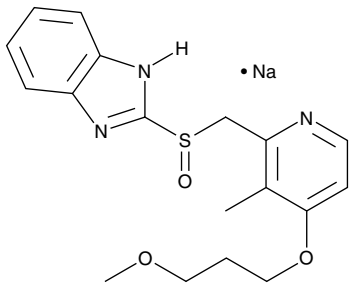
Product Information

Rabeprazole (sodium salt)

Item No. 14939

CAS Registry No.: 117976-90-6
Formal Name: 2-[[[4-(3-methoxypropoxy)-3-methyl-2-pyridinyl]methyl]sulfinyl]-1H-benzimidazole, monosodium salt
Synonyms: Aciphex™, E 3810, LY307640, Pariet™, Pepcia, Rabicip
MF: $C_{18}H_{21}N_3O_3S \bullet Na$
FW: 382.4
Purity: ≥98%
Stability: ≥2 years at -20°C
Supplied as: A crystalline solid
UV/Vis.: λ_{max}: 285 nm



Laboratory Procedures

For long term storage, we suggest that rabeprazole (sodium salt) be stored as supplied at -20°C. It should be stable for at least two years.

Rabeprazole (sodium salt) is supplied as a crystalline solid. A stock solution may be made by dissolving the rabeprazole (sodium salt) in the solvent of choice. Rabeprazole (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 (sodium salt) in ethanol and DMF is approximately 30 mg/ml and in DMSO it is approximately 25 mg/ml.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of rabeprazole (sodium salt) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of rabeprazole (sodium salt) in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Rabeprazole is a selective and irreversible inhibitor of the gastric H^+/K^+ ATPase pump (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.[2] Rabeprazole is metabolized by the cytochrome P450 (CYP) isomers CYP2C19 and CYP3A4.[3] It also has *in vitro* antibacterial activity against *H. pylori* (IC_{50} = 0.29 µM).[2,4]

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. Shi, S. and Klotz, U. Proton pump inhibitors: An update of their clinical use and pharmacokinetics. *Eur. J. Clin. Pharmacol.* **64**, 935-951 (2008).
4. Klotz, U. Pharmacokinetic considerations in the eradication of *Helicobacter pylori*. *Clin. Pharmacokinet.* **38(3)**, 243-270 (2000).

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Cayman Chemical

Mailing address
1180 E. Ellsworth Road
Ann Arbor, MI
48108 USA

Phone
(800) 364-9897
(734) 971-3335

Fax
(734) 971-3640

E-Mail
custserv@caymanchem.com

Web
www.caymanchem.com