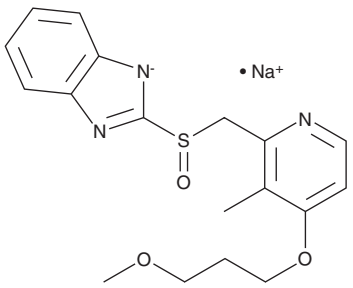
PRODUCT INFORMATION

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: E 3810, LY307640
MF: $C_{18}H_{20}N_3O_3S \bullet Na$
FW: 381.4
Purity: ≥98%
UV/Vis.: λ_{max}: 285 nm
Supplied as: A crystalline 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 (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, which should be purged with an inert gas. Rabeprazole (sodium salt) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of rabeprazole (sodium salt) in ethanol and DMF is approximately 30 mg/ml and approximately 25 mg/ml in DMSO.

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.

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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