

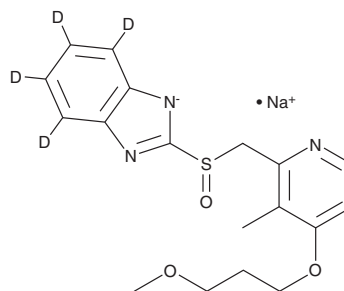
# PRODUCT INFORMATION



## Rabeprazole-d<sub>4</sub> (sodium salt)

Item No. 26118

**Formal Name:** 2-[[[4-(3-methoxypropoxy)-3-methyl-2-pyridinyl]methyl]sulfinyl]-1H-benzimidazole-4,5,6,7-d<sub>4</sub>, monosodium salt  
**MF:** C<sub>18</sub>H<sub>16</sub>D<sub>4</sub>N<sub>3</sub>O<sub>3</sub>S • Na  
**FW:** 385.4  
**Chemical Purity:** ≥98% (Rabeprazole)  
**Deuterium Incorporation:** ≥99% deuterated forms (d<sub>1</sub>-d<sub>4</sub>); ≤1% d<sub>0</sub>  
**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<sub>4</sub> (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<sub>4</sub> (sodium salt) is supplied as a solid. A stock solution may be made by dissolving the rabeprazole-d<sub>4</sub> (sodium salt) in the solvent of choice. Rabeprazole-d<sub>4</sub> (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<sub>4</sub> (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<sup>+</sup>/K<sup>+</sup> ATPase (IC<sub>50</sub> = 72 nM).<sup>1</sup> 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).<sup>2</sup> Rabeprazole (30 mg/kg) inhibits gastric acid secretion in pylorus-ligated rats and a rat model of gastric fistula.<sup>3</sup> It also inhibits the growth of several strains of *H. pylori in vitro* (MIC<sub>50s</sub> = 1.57-3.13 µg/ml).<sup>2</sup> 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<sup>+</sup>,K<sup>+</sup>-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).

#### 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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