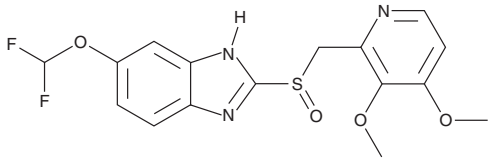
PRODUCT INFORMATION

Pantoprazole

Item No. 21345

CAS Registry No.:	102625-70-7
Formal Name:	6-(difluoromethoxy)-2-[[(3,4-dimethoxy-2-pyridinyl)methyl]sulfinyl]-1H-benzimidazole
Synonyms:	BY 1023, SKF 96022
MF:	$C_{16}H_{15}F_2N_3O_4S$
FW:	383.4
Purity:	≥98%
UV/Vis.:	λ_{max}: 291 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

Pantoprazole is supplied as a crystalline solid. A stock solution may be made by dissolving the pantoprazole in the solvent of choice, which should be purged with an inert gas. Pantoprazole is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of pantoprazole in ethanol is approximately 5 mg/ml and approximately 30 mg/ml in DMSO and DMF.

Pantoprazole is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, pantoprazole should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Pantoprazole has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Pantoprazole is a proton pump inhibitor that inhibits H^+/K^+-ATPase activity in porcine gastric membrane vesicles with an IC_{50} value of 6.8 µM.[1] It reduces basal gastric acid secretion in pylorus-ligated rats (ED_{50} = 1.3 mg/kg) and inhibits mepirizole-induced increases in gastric acid secretion in an anesthetized rat model of gastric fistula (ED_{50} = 0.8 mg/kg).[2] Pantoprazole inhibits formation of mepirizole-induced duodenal lesions in rats (ED_{50} = 0.5 mg/kg). Formulations containing pantoprazole have been used in the treatment of gastroesophageal reflux disease (GERD) and hypersecretory conditions, including Zollinger-Ellison Syndrome.

References

1. Beil, W., Staar, U., and Sewing, K.F. Pantoprazole: A novel $H^+/K^{(+)}$-ATPase inhibitor with an improved pH stability. *Eur. J. Pharmacol.* **218(2-3)**, 265-271 (1992).
2. Takeuchi, K., Konaka, A., Nishijima, M., *et al.* Effects of pantoprazole, a novel H^+/K^+-ATPase inhibitor, on duodenal ulcerogenic and healing responses in rats: A comparative study with omeprazole and lansoprazole. *J. Gastroenterol. Hepatol.* **14(3)**, 251-257 (1999).

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