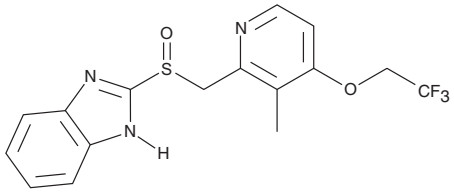
PRODUCT INFORMATION

Lansoprazole

Item No. 13627

CAS Registry No.:	103577-45-3
Formal Name:	2-[[[3-methyl-4-(2,2,2-trifluoroethoxy)-2-pyridinyl]methyl]sulfinyl]-1H-benzimidazole
Synonym:	AG-1749
MF:	$C_{16}H_{14}F_3N_3O_2S$
FW:	369.4
Purity:	≥98%
UV/Vis.:	λ_{max}: 202, 284 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

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

Lansoprazole is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, lansoprazole should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Lansoprazole 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

Lansoprazole is a proton pump inhibitor that inhibits the H^+/K^+-ATPase.[1] It inhibits K^+ and H^+ accumulation in gastric microsomes in a concentration-dependent manner (IC_{50}s = 6.3 and 7.0 µM, respectively) and inhibits H^+/K^+-ATPase activity by approximately 60% when used at a concentration of 10 µM. Lansoprazole inhibits the H^+/K^+-ATPase in parietal cells, thus inhibiting gastric acid secretion and increasing intragastric pH.[2] It is a substituted benzimidazole that binds covalently to proton pumps, providing complete and prolonged inhibition of acid secretion.[3,4] Formulations containing lansoprazole have been used as a proton pump inhibitor and in combination with antibiotics in the treatment of *H. pylori* infections and duodenal ulcer disease.

References

1. Nagaya, H., Satoh, H., Kubo, K., *et al.* Possible mechanism for the inhibition of gastric (H+ + K+)-adenosine triphosphatase by the proton pump inhibitor AG-1749. *J. Pharmacol. Exp. Ther.* **248(2)**, 799-805 (1989).
2. Schubert, M.L. Pharmacotherapy for acid/peptic disorders. *Yale J. Biol. Med.* **69(2)**, 197-201 (1996).
3. Richardson, P., Hawkey, C.J., and Stack, W.A. Proton pump inhibitors. Pharmacology and rationale for use in gastrointestinal disorders. *Drugs* **56(3)**, 307-335 (1998).
4. Klotz, U. Pharmacokinetic considerations in the eradication of *Helicobacter pylori*. *ClinicalPharmacokinetics* **38(3)**, 243-270 (2000).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.**CAYMANCHEM**.COM