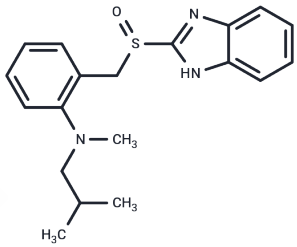
Data Sheet (Cat.No.T27812)

TargetMol

Leminoprazole

Chemical Properties



CAS No. : 104340-86-5

Formula: C19H23N3OS

Molecular Weight: 341.47

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	Leminoprazole is an orally available H+,K(+)-ATPase inhibitor that protects gastric mucosal cells from various cellular damages.
Targets(IC50)	ATPase
In vitro	Leminoprazole, when given orally at doses of 10-100 mg/kg, was able to dose-dependently inhibit H+, K(+)-ATPase activity at 3 and 6 hours after administration. Specifically, Leminoprazole (60 mg/kg, p.o.) inhibited H+, K(+)-ATPase for a much longer duration than omeprazole (30 mg/kg, p.o.). In pylorus ligated rats, the inhibitory effect of Leminoprazole on gastric acid secretion and its inhibitory rate on H+, K(+)-ATPase activity showed a good correlation, suggesting that the inhibitory efficacy of Leminoprazole in inhibiting gastric acid secretion via H+, K(+)-ATPase activity is comparable to that of omeprazole. The inhibitory effect was comparable to that of omeprazole. In addition, Leminoprazole (100 mg/kg) directly inhibited H+, K(+)-ATPase activity even when administered intragastrically after pyloric ligation, demonstrating the ability of this compound to inhibit H+, K(+)-ATPase activity directly from the gastric lumen. Further studies showed that continuous administration of Leminoprazole (100 mg/kg, p.o.) for 2 or 4 weeks had the same inhibitory effect on H+, K(+)-ATPase as a single dose.
In vivo	Leminoprazole, when given orally at doses of 10-100 mg/kg, was able to dose-dependently inhibit H+, K(+)-ATPase activity at 3 and 6 hours after administration. Specifically, Leminoprazole (60 mg/kg, p.o.) inhibited H+, K(+)-ATPase for a much longer duration than omeprazole (30 mg/kg, p.o.). In pylorus ligated rats, the inhibitory effect of Leminoprazole on gastric acid secretion and its inhibitory rate on H+, K(+)-ATPase activity showed a good correlation, suggesting that the inhibitory efficacy of Leminoprazole in inhibiting gastric acid secretion via H+, K(+)-ATPase activity is comparable to that of omeprazole. The inhibitory effect was comparable to that of omeprazole. In addition, Leminoprazole (100 mg/kg) directly inhibited H+, K(+)-ATPase activity even when administered intragastrically after pyloric ligation, demonstrating the ability of this compound to inhibit H+, K(+)-ATPase activity directly from the gastric lumen. Further studies showed that continuous administration of Leminoprazole (100 mg/kg, p.o.) for 2 or 4 weeks had the same inhibitory effect on H+, K(+)-ATPase as a single dose.

Solubility Information

Solubility	DMSO: 50 mg/mL (146.43 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.9285 mL	14.6426 mL	29.2851 mL
5 mM	0.5857 mL	2.9285 mL	5.857 mL
10 mM	0.2929 mL	1.4643 mL	2.9285 mL
50 mM	0.0586 mL	0.2929 mL	0.5857 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Matsukura H, et al. Effect of a new antiulcer drug, leminoprazole, on the gastric mucosal H+,K(+)-ATPase activity in rats. Nihon Yakurigaku Zasshi. 1994 Aug;104(2):91-100.
Takahashi S, et al. Effects of acid-degraded products of leminoprazole on acid secretion, mucus secretion and synthesis, and indomethacin-induced damage in cell culture. J Physiol Pharmacol. 1998 Mar;49(1):99-110.
Okabe S, et al. Antisecretory effect of leminoprazole on histamine-stimulated gastric acid secretion in dogs: potent local effect. Jpn J Pharmacol. 1995 Oct;69(2):91-100.
Takahashi S, et al. The cytoprotective effect of leminoprazole on indomethacin-induced damage to rabbit gastric mucosal cells. J Pharmacol Exp Ther. 1996 Nov;279(2):975-82.