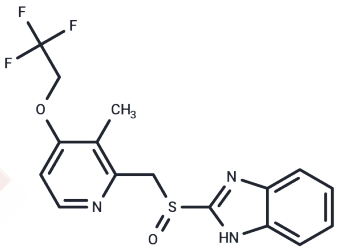
Data Sheet (Cat.No.T0674)

TargetMol

Lansoprazole

Chemical Properties



CAS No. : 103577-45-3

Formula: C16H14F3N3O2S

Molecular Weight: 369.36

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	Lansoprazole (A-65006) is a 2, 2, 2-trifluoroethoxypyridyl derivative of timoprazole that is used in the therapy of STOMACH ULCERS and ZOLLINGER-ELLISON SYNDROME. The drug inhibits H(+)-K(+)-EXCHANGING ATPASE which is found in GASTRIC PARIETAL CELLS. Lansoprazole is a potent brain penetrant neutral sphingomyelinase (N-SMase) inhibitor (exosome inhibitor)
Targets(IC50)	Proton pump,Antibacterial,Phospholipase
In vitro	Lansoprazole significantly attenuates intestinal damage induced by ischemia-reperfusion or indomethacin. Exogenous administration of Lansoprazole can prevent injury to the small intestine caused by ischemia-reperfusion or indomethacin. Lansoprazole inhibits acute inflammatory responses and mucosal injury in rats subjected to ischemia-reperfusion or indomethacin-induced damage.
In vivo	Lansoprazole is a potent antisecretory agent that inhibits gastric acid secretion by blocking the stomach's hydrogen/potassium adenosine triphosphatase (H+, K+-ATPase). It suppresses the upregulation of adhesion molecules in blood vessels, neutrophil activation, and the production of pro-inflammatory cytokines from activated endothelial cells. Furthermore, Lansoprazole induces the expression of various genes in gastric epithelial cells, including Phase II detoxifying enzymes (NADPH-quinone oxidoreductase, glutathione S-transferase) and antioxidative stress proteins (HO-1, thioredoxin reductase, and superoxide dismutase). In rat gastric epithelial cells, Lansoprazole upregulates HO-1 expression and exerts anti-inflammatory effects.

Solubility Information

Solubility	DMSO: 50 mg/mL (135.37 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+90% Saline: < 10 mg/mL (27.07 mM),Lower concentrations may be soluble, but exact solubility limit is unknown. 10% DMSO+40% PEG300+5% Tween 80+45% Saline: 10 mg/mL (27.07 mM),Solution. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.7074 mL	13.5369 mL	27.0739 mL
5 mM	0.5415 mL	2.7074 mL	5.4148 mL
10 mM	0.2707 mL	1.3537 mL	2.7074 mL
50 mM	0.0541 mL	0.2707 mL	0.5415 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

Garnett WR, et al. Ann Pharmacother, 1996, 30(12), 1425-1436.
Kang D, Pang X, Lian W, et al. Discovery of VEGFR2 inhibitors by integrating naïve Bayesian classification, molecular docking and drug screening approaches. RSC Advances. 2018 Jan 8(10): 5286-5297.
Takagi T, et al. J Clin Biochem Nutr, 2009, 45(1), 9-13.
Kang D, Pang X, Lian W, et al. Discovery of VEGFR2 inhibitors by integrating naïve Bayesian classification, molecular docking and drug screening approaches[J]. RSC Advances. 2018 Jan 8(10): 5286-5297.