Data Sheet (Cat.No.T61445)

TargetMol

Tenatoprazole sodium

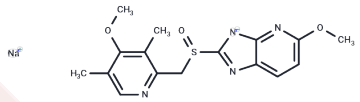
Chemical Properties

CAS No. : 335299-59-7

Formula: C16H17N4NaO3S

Molecular Weight: 368.39

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	Tenatoprazole sodium (TU-199 sodium) is a potent proton pump inhibitor that suppresses hog gastric H+/K+-ATPase activity, a key enzyme in acid secretion, with an IC50 value of 6.2 μM.
Targets(IC50)	Others,Proton pump
In vitro	Tenatoprazole, a prodrug in the proton pump inhibitor class, demonstrates inhibition of gastric H+/K+-ATPase activity in pigs with potency nearly equivalent to omeprazole, exhibiting IC50 values of 6.2 and 4.2 microM, respectively [1]. Upon activation by stomach acid in the secretory canaliculus of stimulated parietal cells, tenatoprazole transforms into an active sulfenamide or sulfenic acid. This active form establishes a disulfide bond with accessible cysteine residues on the gastric H+/K+-ATPase, effectively halting acid secretion. Notably, tenatoprazole associates with the acid pump's catalytic subunit with a binding ratio of 2.6 nmol per mg of enzyme [2].
In vivo	Tenatoprazole effectively inhibits basal gastric acid secretion in pylorus-ligated rats in a dose-dependent manner, with an ED 50 value of 4.2 mg/kg orally. Additionally, at doses of 2.5 and 5 mg/kg intraduodenally, it suppresses gastric acid secretion induced by histamine, carbachol, or tetragastrin in gastric fistula rats. It also protects against various gastric and duodenal lesions induced by stress, pylorus ligation, indomethacin, and mepirizole. Notably, tenatoprazole achieves maximum enzyme binding of 2.9 nmol/mg 2 hours after intravenous administration, with binding sites located in the TM5/6 region at Cys813 and Cys822. The bioavailability of tenatoprazole is significantly enhanced in the (S)-tenatoprazole sodium salt hydrate form, showing a two-fold increase compared to its free form in dogs.

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.7145 mL	13.5726 mL	27.1451 mL
5 mM	0.5429 mL	2.7145 mL	5.429 mL
10 mM	0.2715 mL	1.3573 mL	2.7145 mL
50 mM	0.0543 mL	0.2715 mL	0.5429 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.