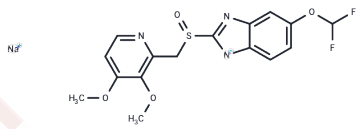
Data Sheet (Cat.No.T6929)

TargetMol

Pantoprazole sodium

Chemical Properties



CAS No. : 138786-67-1

Formula: C16H14F2N3NaO4S

Molecular Weight: 405.35

Appearance: no data available

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Biological Description

Description	Pantoprazole sodium (Pantecta) is the sodium salt form of a substituted benzimidazole with proton pump inhibitor activity. Pantoprazole sodium is a lipophilic, weak base that crosses the parietal cell membrane and enters the acidic parietal cell canaliculus where it becomes protonated, producing the active metabolite sulfenamide, which forms an irreversible covalent bond with two sites of the H+/K+-ATPase enzyme located on the gastric parietal cell, thereby inhibiting both basal and stimulated gastric acid production.
Targets(IC50)	Apoptosis,Proton pump,HIF,Autophagy
In vitro	pantoprazole (PPZ) inhibits tumor cells proliferation, inducs apoptosis and decreases the expression of HIF-1α protein[2]. Pantoprazole affects the intracellular distribution of HIF-1α in SGC-7901 cells, which might be one of the mechanisms of its chemosensitizing effect on cancer cells[3].
In vivo	After PPZ treatment, apoptotic cell death is seen selectively in cancer cells and is accompanied with extracellular signal-regulated kinase deactivation. By contrast, normal gastric mucosal cells show the resistance to PPZ-induced apoptosis through the overexpression of antiapoptotic regulators including HSP70 and HSP27. In a xenograft model of nude mice, administration of PPZ significantly inhibits tumorigenesis and induces large-scale apoptosis of tumor cells[4].
Cell Research	Pantoprazole sodium salts are resuspended in normal saline (0.85%) at 5 mg/ml immediately prior to use. When the SGC-7901 cells have reached 60–70% confluence, PPZ is added at a final concentration of 20 μg/ml, and the cells are cultured for additional experiments. For example, The SGC-7901 cells are seeded in 100 μl of medium per well, at a density of 1×104/well, in 96-well plates and treated with PPZ for 24 h. (Only for Reference)

Solubility Information

Solubility	DMSO: 55 mg/mL (135.69 mM),Sonication is recommended. H2O: 74 mg/mL (182.56 mM),Sonication is recommended. Ethanol: 75 mg/mL (185.03 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.467 mL	12.335 mL	24.670 mL
5 mM	0.4934 mL	2.467 mL	4.934 mL
10 mM	0.2467 mL	1.2335 mL	2.467 mL
50 mM	0.0493 mL	0.2467 mL	0.4934 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.

Reference

Shen Y, et al. Oncol Lett. 2016, 11(1):717-722.
Shen Y, et al. Neoplasma. 2012, 59(2):142-149.
Y Wu, et al. Chinese Journal of Gastroenterology. 2010, 15(4):205-208.
Yeo M, et al. Clin Cancer Res. 2004, 10(24):8687-8696.