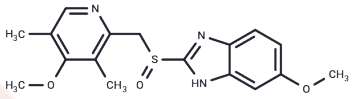
Data Sheet (Cat.No.T0757)

TargetMol

Omeprazole

Chemical Properties



CAS No. : 73590-58-6

Formula: C17H19N3O3S

Molecular Weight: 345.42

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	Omeprazole (Losec) is a proton pump inhibitor (PPI), Omeprazole(Losec) is a potent brain penetrant neutral sphingomyelinase (N-SMase) inhibitor (exosome inhibitor).
Targets(IC50)	Proton pump,Antibacterial,Autophagy,Phospholipase
In vitro	Omeprazole transiently alters the kinetic properties of parietal cells in rabbits, leading to premature cell death and expedited growth. By inhibiting H(+)-K(+)-ATPase, omeprazole enhances the clearance of degenerative changes and macrophage-mediated removal of parietal cells, as well as promoting the increase of progenitor cells at the apical ridge.
In vivo	Omeprazole diminishes the activation of osteoclasts in vitro, while enhancing the activation of osteoblasts, leading to osteosclerosis-like effects to some extent. In human hepatocellular carcinoma cells, omeprazole induces the transcription of reporter genes through dioxin receptor elements recognized by ligand-activated aryl hydrocarbon receptors. It effectively induces the expression of cytochrome P4501A1 mRNA in primary human hepatocytes, but this induction is not detected in mouse primary hepatocytes. Omeprazole significantly suppresses the basal natural killer (NK) activity in splenocytes (SC) from untreated CD2F1 mice. It exerts rapid and robust effects on various types of cytotoxic lymphocytes, ranging from the inhibition of cytotoxicity to irreversible cellular damage. Furthermore, omeprazole notably inhibits the cytotoxicity of all types of effector cells after 30 minutes of incubation.

Solubility Information

Solubility	Ethanol: 20 mg/mL (57.9 mM),Sonication is recommended. DMSO: 100 mg/mL (289.5 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 4 mg/mL (11.58 mM),Sonication is recommended. *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	2.895 mL	14.4751 mL	28.9503 mL
5 mM	0.579 mL	2.895 mL	5.7901 mL
10 mM	0.2895 mL	1.4475 mL	2.895 mL
50 mM	0.0579 mL	0.2895 mL	0.579 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

Dzeletovic N, et al. J Biol Chem, 1997, 272(19), 12705-12713.
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.
Scaringi L, et al. Scand J Immunol, 1996, 44(3), 204-214.
Hyun JJ, et al. Int J Mol Med, 2010, 26(6), 877-883.
Karam SM, et al. Am J Physiol, 1994, 266(4 Pt 1), G745-758.
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.