Esomeprazole potassium salt

Cat. No.: HY-17021B

CAS No.: 161796-84-5

Molecular Formula: $C_{17}H_{18}KN_3O_3S$

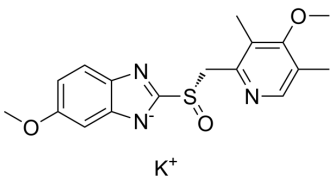
Molecular Weight: 383.51

Target: Proton Pump; Bacterial

Pathway: Membrane Transporter/Ion Channel; Anti-infection

Storage: -20°C, protect from light, stored under nitrogen

* The compound is unstable in solutions, freshly prepared is recommended.



SOLVENT & SOLUBILITY

In Vitro

DMSO : 38.35 mg/mL (100.00 mM; Need ultrasonic and warming)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.6075 mL	13.0375 mL	26.0749 mL
	5 mM	0.5215 mL	2.6075 mL	5.2150 mL
	10 mM	0.2607 mL	1.3037 mL	2.6075 mL

Please refer to the solubility information to select the appropriate solvent.

BIOLOGICAL ACTIVITY

Description

Esomeprazole potassium salt ((S)-Omeprazole potassium salt) is a potent and orally active proton pump inhibitor and reduces acid secretion through inhibition of the H^+, K^+-ATPase in gastric parietal cells. Esomeprazole potassium salt has the potential for symptomatic gastroesophageal reflux disease research[1][2][3].

IC_{50} & Target

H^+, K^+-ATPase[1][2]

In Vitro

Esomeprazole (25-100 μM; 20 hours; MDA-MB-468 cells) treatment suppresses growth of triple-negative breast cancer cell in vitro in a dose-dependent manner through increase in their intracellular acidification[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Viability Assay[1]

Cell Line:	MDA-MB-468 cells
Concentration:	25 μM, 50 μM, 75 μM, 100 μM
Incubation Time:	20 hours

Result:	Suppressed growth of triple-negative breast cancer cell in vitro in a dose-dependent manner.

In Vivo

Esomeprazole (30-300 mg/kg; oral gavage; daily; for 19 or 11 days; C57BL/6J mice) treatment significantly inhibits the progression of fibrosis throughout the lungs of the animals. Esomeprazole also reduces circulating markers of inflammation and fibrosis[2].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	C57BL/6J mice (8-weeks old, 25-30 g) treated with cotton smoke-induced lung injury[2]
Dosage:	30 mg/kg, 300 mg/kg
Administration:	Oral gavage; daily; for 19 or 11 days
Result:	Significantly inhibited the progression of fibrosis throughout the lungs of the animals.

REFERENCES

[1]. Wayne Goh, et al. Use of proton pump inhibitors as adjunct treatment for triple-negative breast cancers. An introductory study. J Pharm Pharm Sci. 2014;17(3):439-46.

[2]. Christina Nelson, et al. Therapeutic Efficacy of Esomeprazole in Cotton Smoke-Induced Lung Injury Model. Front Pharmacol. 2017 Jan 26;8:16.

[3]. Thomas J Johnson, et al. Esomeprazole: a clinical review. Am J Health Syst Pharm. 2002 Jul 15;59(14):1333-9.

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