Esomeprazole

Cat. No.: HY-17021

CAS No.: 119141-88-7

Molecular Formula: $C_{17}H_{19}N_3O_3S$

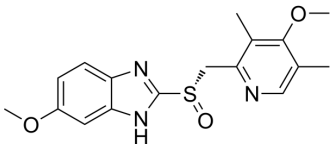
Molecular Weight: 345.42

Target: Proton Pump; Bacterial

Pathway: Membrane Transporter/Ion Channel; Anti-infection

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	6 months
	-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 125 mg/mL (361.88 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.8950 mL	14.4751 mL	28.9503 mL
	5 mM	0.5790 mL	2.8950 mL	5.7901 mL
	10 mM	0.2895 mL	1.4475 mL	2.8950 mL

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

BIOLOGICAL ACTIVITY

Description

Esomeprazole ((S)-Omeprazole) 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 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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