

Product Data Sheet

Esomeprazole

Cat. No.: HY-17021

CAS No.: 119141-88-7

Molecular Formula: C_{1,7}H_{1,9}N₃O₃S

Molecular Weight: 345.42

Target: Proton Pump; Bacterial

Pathway: Membrane Transporter/Ion Channel; Anti-infection

Storage: Powder -20°C 3 years

In solvent

4°C 2 years -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

 $reflux\ disease\ research^{[1][2][3]}.$

IC₅₀ & Target H⁺, K⁺-ATPase^{[1][2]}

In Vitro Esomeprazole (25-100 μ M; 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].

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 $\label{eq:mce} \mbox{MCE has not independently confirmed the accuracy of these methods. They are for reference only.}$

Cell Viability Assay^[1]

Cell Line:	MDA-MB-468 cells
Concentration:	25 μΜ, 50 μΜ, 75 μΜ, 100 μΜ

	Incubation Time:	20 hours		
	Result:	Suppressed growth of triple-negative breast cancer cell in vitro in a dose-dependent manner.		
In Vivo	progression of fibrosis t and fibrosis ^[2] .	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 inflammatio 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		

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.

Caution: Product has not been fully validated for medical applications. For research use only.

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