(R)-Lansoprazole

Cat. No.: HY-13662B

CAS No.: 138530-94-6

Molecular Formula: $C_{16}H_{14}F_3N_3O_2S$

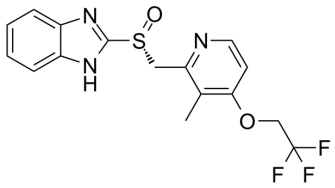
Molecular Weight: 369.36

Target: Proton Pump

Pathway: Membrane Transporter/Ion Channel

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	2 years
	-20°C	1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (270.74 mM; Need ultrasonic)

H_2O : < 0.1 mg/mL (insoluble)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	2.7074 mL	13.5369 mL	27.0739 mL
5 mM	0.5415 mL	2.7074 mL	5.4148 mL
10 mM	0.2707 mL	1.3537 mL	2.7074 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (6.77 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (6.77 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

(R)-Lansoprazole is the R enantiomer of Lansoprazole, Lansoprazole (AG 1749) is an orally active proton pump inhibitor which prevents the stomach from producing acid. Lansoprazole (AG 1749) is a potent brain penetrant neutral sphingomyelinase (N-SMase) inhibitor (exosome inhibitor)[1][2].

In Vitro

The plasma concentrations of (R)-lansoprazole are remarkably higher in all three CYP2C19 genotype groups than those of the corresponding (S)-enantiomer. The $AUC_{0-\infty}$ C_{max} and elimination half-life of (R)-lansoprazole are significantly greater and longer, respectively, than those of the (S)-enantiomer for all three genotype groups[3].

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

CUSTOMER VALIDATION

- SLAS Discov. 2020 Sep;25(8):895-905.
- bioRxiv. 2020 Jun.

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REFERENCES

[1]. Kokufu, T., et al., Effects of lansoprazole on pharmacokinetics and metabolism of theophylline. Eur J Clin Pharmacol, 1995. 48(5): p. 391-5.

[2]. Huarui Zhang, et al. Advances in the discovery of exosome inhibitors in cancer. J Enzyme Inhib Med Chem. 2020 Dec;35(1):1322-1330.

[3]. M Miura, et al. Pharmacokinetic differences between the enantiomers of lansoprazole and its metabolite, 5-hydroxylansoprazole, in relation to CYP2C19 genotypes. Eur J Clin Pharmacol. 2004 Nov;60(9):623-8.

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