Cimetidine sulfoxide

Cat. No.: HY-136338

CAS No.: 54237-72-8

Molecular Formula: $C_{10}H_{16}N_6OS$

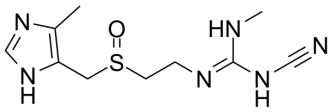
Molecular Weight: 268.34

Target: Histamine Receptor

Pathway: GPCR/G Protein; Immunology/Inflammation; Neuronal Signaling

Storage:

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



SOLVENT & SOLUBILITY

In Vitro

DMSO : 83.33 mg/mL (310.54 mM; ultrasonic and warming and heat to 60°C)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	3.7266 mL	18.6331 mL	37.2662 mL
	5 mM	0.7453 mL	3.7266 mL	7.4532 mL
	10 mM	0.3727 mL	1.8633 mL	3.7266 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 (9.32 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (9.32 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (9.32 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Cimetidine sulfoxide (Cimetidine sulphoxide) is a sulfoxide metabolite of Cimetidine. Cimetidine is a histamine H_2-receptor antagonist. Cimetidine has the potential for peptic ulcer disease and upper gastrointestinal haemorrhage treatment[1].

IC_{50} & Target

Histamine H_2-receptor[1]

In Vitro

Active transport of Cimetidine across the rat small intestine is observable at lower substrate concentrations (40 and 200 μM), but is masked by passive transfer at higher concentrations (400 μM). Cimetidine sulfoxide is detected after some incubations [2].

	MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	The enantiomeric composition of Cimetidine sulfoxide is also determined in rat urine (24 h) following the administration of Cimetidine (30 mg/kg; po) to male Wistar rats. The enantiomeric ratio in this case is found to be (+/−) 57:43[3]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Larsson R, et al. The pharmacokinetics of cimetidine and its sulphoxide metabolite in patients with normal and impaired renal function. Br J Clin Pharmacol. 1982;13(2):163-170.

[2]. HE Barber, et al. The Transport of Cimetidine Across the Rat Small Intestine in Vitro. B r J Pharmacol. 1979 Jul;66(3):496P-497P.

[3]. Ryta A. Kuzel, et al. Investigations into the chirality of the metabolic sulfoxidation of cimetidine. Chirality (1994), 6(8), 607-14.

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA