Nizatidine

Cat. No.: HY-B0310

CAS No.: 76963-41-2

Molecular Formula: $C_{12}H_{21}N_5O_2S_2$

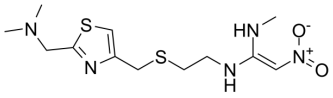
Molecular Weight: 331.46

Target: Histamine Receptor

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

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 : ≥ 50 mg/mL (150.85 mM)

H_2O : 20 mg/mL (60.34 mM; Need ultrasonic)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	3.0170 mL	15.0848 mL	30.1696 mL
5 mM	0.6034 mL	3.0170 mL	6.0339 mL
10 mM	0.3017 mL	1.5085 mL	3.0170 mL

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

In Vivo

1. Add each solvent one by one: PBS
   Solubility: 50 mg/mL (150.85 mM); Clear solution; Need ultrasonic
2. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 3.5 mg/mL (10.56 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 3.5 mg/mL (10.56 mM); Clear solution
4. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 3.5 mg/mL (10.56 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Nizatidine is a potent and orally active histamine H_2 receptor antagonist, can be used for the research of stomach and intestines ulcers. Nizatidine works by decreasing the secretion of gastric acid the stomach makes and prevent ulcers from coming back after they have healed in animal models[1].

IC_{50} & Target	H_2 Receptor
In Vivo	Nizatidine (oral gavage; 27 mg/kg; once daily; at 12 weeks of age and were sacrificed at 30 weeks after development of HCC in the setting of nonalcoholic steatohepatitis (NASH)) results in a 35% reduction of tumor nodules relative to controls. Nizatidine results in a 60% reduction in tumor nodules, reduces collagen proportional area and expression of profibrotic markers in DEN-injured rats[2]. Nizatidine (oral gavage; 27 mg/kg; once daily; 4 weeks) decreases the incidence of gastric ulceration, and significantly decreases the mean ulcer score and ulcer index in male albino rats[3]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Male albino rats[3]
Dosage:	27 mg/kg
Administration:	Oral gavage; 27 mg/kg; once daily; 4 weeks
Result:	Was effective in the management of NSAIDs induced peptic ulcer in rats.

REFERENCES

[1]. T M Lin, et al. Actions of nizatidine, a selective histamine H2-receptor antagonist, on gastric acid secretion in dogs, rats and frogs. J Pharmacol Exp Ther. 1986 Nov;239(2):406-10.

[2]. Shen Li, et al. Abstract 4004: The H2 receptor antagonist nizatidine inhibits carcinogenesis in two rodent models of hepatocellular carcinoma. Tumor Biology. Cancer research.

[3]. Ahmed S. Alazzouni, et al. Comparative histological and histochemical studies between ranitidine and nizatidine in treatment of peptic ulcer with evaluation of their adverse effects on male sex hormones. The Journal of Basic and Applied Zoology volume

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