Famotidine

Cat. No.: HY-B0377

CAS No.: 76824-35-6

Molecular Formula: $C_8H_{15}N_7O_2S_3$

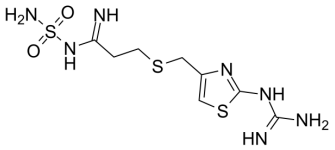
Molecular Weight: 337.45

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 : ≥ 100 mg/mL (296.34 mM)

H_2O : < 0.1 mg/mL (insoluble)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	2.9634 mL	14.8170 mL	29.6340 mL
5 mM	0.5927 mL	2.9634 mL	5.9268 mL
10 mM	0.2963 mL	1.4817 mL	2.9634 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 (7.41 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (7.41 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (7.41 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Famotidine (MK-208) is a competitive histamine H2-receptor antagonist. Its main pharmacodynamic effect is the inhibition of gastric secretion.

IC_{50} & Target

Histamine H2 Receptor[1].

In Vitro	Famotidine (MK-208) is a histamine H2-receptor antagonist that inhibits stomach acid production, and it is commonly used in the treatment of peptic ulcer disease (PUD) and gastroesophageal reflux disease (GERD/GORD). Famotidine (MK-208) Group(2 mg/kg/day) were significantly lower than the equivalent parameters for the Control Group on both the third and seventh days post-surgery. Famotidine (MK-208) exerts detrimental effects on the anastomotic bursting pressure and hydroxyproline content of perianastomotic tissues in the colon of rats[1]. Famotidine (MK-208) increased the transgastric potential difference (PD) and promoted the recovery of decreased transgastric PD induced by acidified ethanol in rats. The preventive effect of famotidine on gastric lesions is attributable not only to suppression of acid secretion but to activation of the gastric mucosal defensive mechanisms[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- EMBO Rep. 2022 Apr 11;e53932.
- Clin Sci (Lond). 2019 Feb 12;133(3):483-495.
- Cancers (Basel). 2021 Aug 6;13(16):3978.

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REFERENCES

[1]. Inan, A., et al., Effects of the histamine H2 receptor antagonist famotidine on the healing of colonic anastomosis in rats. Clinics (Sao Paulo), 2009. 64(6): p. 567-70.

[2]. Miyata, K., et al., Studies on the mechanism for the gastric mucosal protection by famotidine in rats. Jpn J Pharmacol, 1991. 55(2): p. 211-22.

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