Histamine

Cat. No.: HY-B1204

CAS No.: 51-45-6

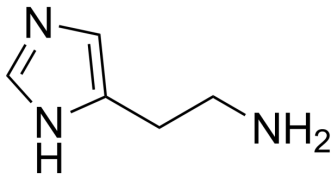
Molecular Formula: $C_5H_9N_3$

Molecular Weight: 111.15

Target: Histamine Receptor; Endogenous Metabolite

Pathway: GPCR/G Protein; Immunology/Inflammation; Neuronal Signaling; Metabolic Enzyme/Protease

Storage: -20°C, stored under nitrogen, away from moisture
* In solvent : -80°C, 6 months; -20°C, 1 month (stored under nitrogen, away from moisture)



SOLVENT & SOLUBILITY

In Vitro

H_2O : ≥ 34 mg/mL (305.89 mM)
* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	8.9969 mL	44.9843 mL	89.9685 mL
5 mM	1.7994 mL	8.9969 mL	17.9937 mL
10 mM	0.8997 mL	4.4984 mL	8.9969 mL

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

In Vivo

1. Add each solvent one by one: PBS
Solubility: 100 mg/mL (899.69 mM); Clear solution; Need ultrasonic

BIOLOGICAL ACTIVITY

Description

Histamine is an organic nitrogenous compound involved in local immune responses as well as regulating physiological function in the gut and acting as a neurotransmitter.

IC_{50} & Target

Human Endogenous Metabolite

In Vivo

Histamine can be used in animal modeling to construct gastrointestinal ulcer models. After intravenous injection of histamine hydrochloride, the maximum concentration and AUC of histamine in liver and liver tumor tissues were higher than those in subcutaneous tissue[1].

Induction of Gastrointestinal Ulcer[2]

- Background

  Histamine can cause increased gastric acid secretion, decreased mucus production, reflux of pancreatic juice, poor gastric blood flow, and thus gastric ulcers. Stress can cause increased gastrointestinal motility, making the gastric folds more susceptible to damage when exposed to acid.

- Specific Mmodeling Methods

  Guinea Pig: male • albino • Administration: 5 mg/kg • i.p. • single dose

  Note

  (1) No eating or drinking is allowed 24 hours before the experiment.
  (2) The animals are sacrificed 2 hours after histamine injection, and treated with 1% formalin to check for gastric ulcers.

- Modeling Indicators

  The ulcers were punctate or elongated. After the model was dissected, the ulcer index (the sum of the lengths of the lesions) was measured under a microscope to be 3.4 mm.

- Correlated Product(s): Serotonin (HY-B1473A)、Reserpine (HY-N0480)
- Opposite Product(s): Cimetidine (HY-14289)

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

CUSTOMER VALIDATION

- Cancer Cell. 2022 Sep 1;S1535-6108(22)00378-6.
- Adv Sci (Weinh). 2023 Jan 15;e2203869.
- Br J Pharmacol. 2021 Jan 27.
- Mbio. 2022 Aug 24;e0200422.
- Front Pharmacol. 2019 Nov 15;10:1380.

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REFERENCES

[1]. Rizell M, Naredi P, Lindnér P, Hellstrand K, Sarno M, Jansson PA. Histamine pharmacokinetics in tumor and host tissues after bolus-dose administration in the rat. Life Sci. 2002 Jan 11;70(8):969-76.

[2]. Okabe S, et al. Effects of cimetidine, a histamine H2-receptor antagonist, on various experimental gastric and duodenal ulcers. Am J Dig Dis. 1977 Aug;22(8):677-84.

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