Metoprine

Cat. No.: HY-129441

CAS No.: 7761-45-7

Molecular Formula: $C_{11}H_{10}Cl_2N_4$

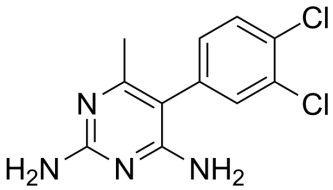
Molecular Weight: 269.13

Target: Histone Methyltransferase; Antifolate

Pathway: Epigenetics; Cell Cycle/DNA Damage

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	6 months
	-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 20.83 mg/mL (77.40 mM; ultrasonic and warming and heat to 60°C)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	3.7157 mL	18.5784 mL	37.1568 mL
5 mM	0.7431 mL	3.7157 mL	7.4314 mL
10 mM	0.3716 mL	1.8578 mL	3.7157 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: ≥ 2.08 mg/mL (7.73 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (7.73 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Metoprine (BW 197U) is a potent histamine N-methyltransferase (HMT) inhibitor. Metoprine, a diaminopyrimidine derivative, can cross the blood-brain barrier and increase brain histamine levels by inhibiting HMT[1][2]. Metoprine is an antifolate and antitumor agent[3].

In Vivo

Metoprine (BW 197U; 2-10 mg/kg; IP) ameliorates the memory deficits induced by nucleus basalis magnocellularis (NBM) lesions in a dose-dependent manner[2].

Intraperitoneal administration of Metoprine produces various behavioral effects, including decreases in food intake and increases in water consumption[1].

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

Animal Model:	Male Sprague-dawley rats (200-280g)[2]
Dosage:	2, 5, 10 mg/kg
Administration:	IP
Result:	Ameliorated the memory deficits induced by nucleus basalis magnocellularis (NBM) lesions in a dose-dependent manner and significanty prolonged transfer latency at a high dose of 10 mg/kg.

REFERENCES

[1]. Junichi Kitanaka, et al. Brain Histamine N-Methyltransferase As a Possible Target of Treatment for Methamphetamine Overdose. Drug Target Insights. 2016 Mar 2;10:1-7.

[2]. Zhong Chen, et al. Effects of brain histamine on memory deficit induced by nucleus basalis-lesion in rats. Acta Pharmacol Sin. 2002 Jan;23(1):66-70.

[3]. John R Horton, et al. Structural basis for inhibition of histamine N-methyltransferase by diverse drugs. J Mol Biol. 2005 Oct 21;353(2):334-344.

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