MAT2A inhibitor 2

Cat. No.: HY-112569

CAS No.: 13299-99-5

Molecular Formula: $C_{18}H_{24}ClN_3O_3$

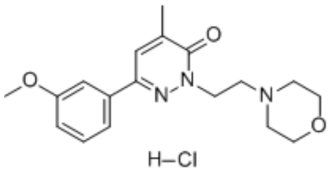
Molecular Weight: 365.85

Target: Methionine Adenosyltransferase (MAT); NF-κB; p38 MAPK

Pathway: Epigenetics; Metabolic Enzyme/Protease; NF-κB; MAPK/ERK Pathway

Storage: 4°C, sealed storage, away from moisture

* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 75 mg/mL (205.00 mM; Need ultrasonic)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	2.7334 mL	13.6668 mL	27.3336 mL
	5 mM	0.5467 mL	2.7334 mL	5.4667 mL
	10 mM	0.2733 mL	1.3667 mL	2.7334 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 (6.83 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (6.83 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (6.83 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

MAT2A inhibitor 2 is an inhibitor of methionine adenosine transferase 2A (MAT2A) with oral activity. MAT2A inhibitor 2 can be used in osteoporosis study[1]

IC_{50} & Target

MAT2A[1]

In Vitro

MAT2A inhibitor 2 (0.5, 1,2.5 μM, 48 h) inhibits ROS levels and the activation of NF-κB and MAPK pathways in osteoclasts[1].

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

Western Blot Analysis[1]

Cell Line:	BMMs
Concentration:	0.5, 1, 2.5 μM
Incubation Time:	72 h
Result:	Increased the protein levels of Nrf2, HO1, and NQO1. Decreased phosphorylation level of p65, IκBα, p-p38, p-JNK and p-ERK.

Real Time qPCR[1]

Cell Line:	BMMs
Concentration:	0.5, 1, 2.5 μM
Incubation Time:	48 h
Result:	Inhibited the mRNA expression levels of NFATc1, c-FOS, TRAP, CTSK, and MMP9 in a concentration-dependent manner.

In Vivo

MAT2A inhibitor 2 (30, 100 mg/kg, orally, for 6 weeks) can prevent bone loss induced by ovariectomy (OVX) in mice[1].

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

Animal Model:	Ovariectomy (OVX)-induced osteoporosis model in C57/BL mice[1]
Dosage:	30, 100 mg/kg
Administration:	p.o. for 6 weeks
Result:	Attenuated trabecular thickness and osteoclast surface/bone surface ratio (Oc.S/BS).

REFERENCES

[1]. Kang H, et al. Inhibition of MAT2A suppresses osteoclastogenesis and prevents ovariectomy-induced bone loss. FASEB J. 2022 Feb;36(2):e22167.

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