Fenobam

Cat. No.: HY-101478

CAS No.: 57653-26-6

Molecular Formula: $C_{11}H_{11}ClN_4O_2$

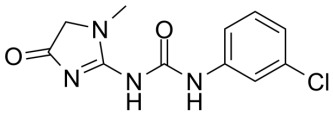
Molecular Weight: 266.68

Target: mGluR; Apoptosis

Pathway: GPCR/G Protein; Neuronal Signaling; Apoptosis

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 : 100 mg/mL (374.98 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	3.7498 mL	18.7491 mL	37.4981 mL
	5 mM	0.7500 mL	3.7498 mL	7.4996 mL
	10 mM	0.3750 mL	1.8749 mL	3.7498 mL

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

BIOLOGICAL ACTIVITY

Description

Fenobam is a selective and orally active mGluR5 antagonist (IC_{50}=84 nM) that can penetrate the blood-brain barrier. Fenobam shows the K_d values of 54 nM and 31 nM on rat and human recombinant mGlu5 receptors, respectively. Fenobam has anxiolytic activity, inhibits self-administration behavior in mice, and induces apoptosis in cancer cells. Fenobam can be used for research on neurological diseases, cancer and drug addiction[1][2][3].

IC_{50} & Target

mGluR5	rat mGluR5	human mGluR5
84 nM (IC_{50})	54 nM (Kd)	31 nM (Kd)

In Vitro

Fenobam (300 μM; 72 h) significantly inhibits proliferation and induces apoptosis in LM7 cells[2].

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

Apoptosis Analysis[2]

Cell Line:	LM7 cells
Concentration:	300 μM

Incubation Time:	72 h
Result:	Significantly reduced total number of cells, proliferating cells, and induced apoptosis.

In Vivo

Fenobam (30-60 mg/kg; p.o.; 3 times a week) significantly inhibits self-administration behavior in rats[3].

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

Animal Model:	Male Long-Evans rats (250-300 g)[3].
Dosage:	30-60 mg/kg
Administration:	Oral administration; 3 times a week.
Result:	Inhibited self-administration.

REFERENCES

[1]. Liao S, et al. Osteosarcoma cell proliferation and survival requires mGluR5 receptor activity and is blocked by Riluzole. PLoS One. 2017 Feb 23;12(2):e0171256.

[2]. Porter RH, et al. Fenobam: a clinically validated nonbenzodiazepine anxiolytic is a potent, selective, and noncompetitive mGlu5 receptor antagonist with inverse agonist activity. J Pharmacol Exp Ther. 2005 Nov;315(2):711-21.

[3]. Keck TM, et al. Fenobam sulfate inhibits cocaine-taking and cocaine-seeking behavior in rats: implications for addiction treatment in humans. Psychopharmacology (Berl). 2013;229(2):253-265.

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