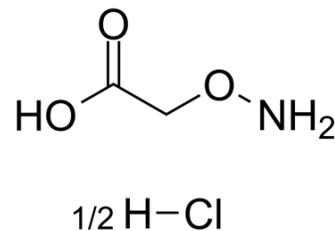


Aminoxyacetic acid hemihydrochloride

Cat. No.:	HY-107994
CAS No.:	2921-14-4
Molecular Formula:	NH ₂ OCH ₂ COOH·0.5HCl
Molecular Weight:	109.3
Target:	GABA Receptor
Pathway:	Membrane Transporter/Ion Channel; Neuronal Signaling
Storage:	4°C, protect from light * In solvent : -80°C, 6 months; -20°C, 1 month (protect from light)



SOLVENT & SOLUBILITY

In Vitro	H ₂ O : 100 mg/mL (914.91 mM; Need ultrasonic)				
	DMSO : 42.9 mg/mL (392.50 mM; Need ultrasonic and warming)				
	Preparing Stock Solutions	Solvent	1 mg	5 mg	10 mg
		Concentration			
		1 mM	9.1491 mL	45.7457 mL	91.4913 mL
5 mM		1.8298 mL	9.1491 mL	18.2983 mL	
10 mM	0.9149 mL	4.5746 mL	9.1491 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: ≥ 2.58 mg/mL (23.60 mM); Clear solution				
	2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: ≥ 2.58 mg/mL (23.60 mM); Clear solution				
	3. Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: ≥ 2.58 mg/mL (23.60 mM); Clear solution				

BIOLOGICAL ACTIVITY

Description	Aminoxyacetic acid hemihydrochloride is a malate-aspartate shuttle (MAS) inhibitor which also inhibits the GABA degrading enzyme GABA-T.
IC ₅₀ & Target	MAS ^[1] , GABA-T ^[2]
In Vitro	Aminoxyacetic acid hemihydrochloride (AOAA) dose-dependently decreases the survival of C6 glioma cells. Aminoxyacetic acid hemihydrochloride treatment produces a significant increase in the percentage of the cells arrested in the stage of G0/G1, as well as a significant decrease in the percentage of the cells at S phase and G2/M phase. Aminoxyacetic acid

hemihydrochloride treatment leads to an obvious decrease in the number of the cells in the phase of cell division. Aminooxyacetic acid hemihydrochloride significantly increases the percentage of the cells in both early-stage apoptosis and necrosis. Treatment of the cells with 1 mM or 5 mM Aminooxyacetic acid hemihydrochloride leads to decreased levels of aging of the cells^[1]. Glutamine-dependent cell lines show greater inhibition of cell growth by Aminooxyacetic acid hemihydrochloride (AOA) compare with cells that are less glutamine dependent^[3].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

The accumulation of GABA in cerebellum and whole brain is initially very rapid, being significantly increased already 5 min after the injection of Aminooxyacetic acid hemihydrochloride (AOAA). The rapid initial accumulation becomes gradually slower and maximal levels (400 to 600 % of the control levels) are reached 2 to 6 h after Aminooxyacetic acid hemihydrochloride. Still 24 h after Aminooxyacetic acid hemihydrochloride the GABA levels are elevated by about 250%. From 2 to 6 h after Aminooxyacetic acid hemihydrochloride the convulsions are completely blocked. Twenty four hours after Aminooxyacetic acid hemihydrochloride the convulsions are almost identical to the controls^[2].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

PROTOCOL

Kinase Assay ^[3]

Enzyme activity of aspartate transaminase is measured by a colorimetric assay assessing formation of pyruvate from oxaloacetate, a product of GOT1/2 (also called AST1/2) activity, as described previously. In brief, cells grown in 6-well plates are collected after 6, 24, or 48 hours of Aminooxyacetic acid hemihydrochloride (AOA) treatment and washed with cold PBS, lysed, and supernatant used for analysis^[3].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Assay ^[3]

Breast cancer cell lines are used in this study. Cells are plated in 96-well plates at 1,500 to 5,000 cells per well in 100 μ L media. New medium with varying concentration of Aminooxyacetic acid hemihydrochloride (AOA) is added after 12 hours. The assay is performed after 48 hours^[3].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Administration ^[2]

Female albino rats (150 to 200 g) bred at our department are used. Aminooxyacetic acid hemihydrochloride (AOAA) is injected into a tail vein (2 mL/kg body weight). For this purpose the rat is placed in a plastic tube and the tail warmed in water 42°C^[2].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Am J Transl Res. 2018 Dec 15;10(12):4247-4257.

See more customer validations on www.MedChemExpress.com

REFERENCES

- [1]. Wang C, et al. Malate-aspartate shuttle inhibitor aminooxyacetic acid leads to decreased intracellular ATP levels and altered cell cycle of C6 glioma cells by inhibiting glycolysis. *Cancer Lett.* 2016 Aug 1;378(1):1-7.
- [2]. Pagliusi SR, et al. Aminooxyacetic acid induced accumulation of GABA in the rat brain. Interaction with GABA receptors and distribution in compartments. *Naunyn Schmiedebergs Arch Pharmacol.* 1983 Apr;322(3):210-5.
- [3]. Korangath P, et al. Targeting Glutamine Metabolism in Breast Cancer with Aminooxyacetate. *Clin Cancer Res.* 2015 Jul 15;21(14):3263-73.

Caution: Product has not been fully validated for medical applications. For research use only.

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