

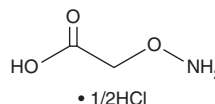
# PRODUCT INFORMATION



## Aminooxyacetic Acid (hydrochloride)

Item No. 28298

**CAS Registry No.:** 2921-14-4  
**Formal Name:** 2-(aminooxy)-acetic acid, hemihydrochloride  
**Synonym:** Aminooxyacetate  
**MF:** C<sub>2</sub>H<sub>5</sub>NO<sub>3</sub> • 1/2HCl  
**FW:** 109.3  
**Purity:** ≥95%  
**Supplied as:** A crystalline solid  
**Storage:** -20°C  
**Stability:** ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

Aminooxyacetic acid (hydrochloride) is supplied as a crystalline solid. A stock solution may be made by dissolving the aminooxyacetic acid (hydrochloride) in the solvent of choice, which should be purged with an inert gas. Aminooxyacetic acid (hydrochloride) is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of aminooxyacetic acid (hydrochloride) in these solvents is approximately 5 and 2 mg/ml, respectively.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of aminooxyacetic acid (hydrochloride) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of aminooxyacetic acid (hydrochloride) in PBS (pH 7.2) is approximately 5 mg/ml. We do not recommend storing the aqueous solution for more than one day.

### Description

Aminooxyacetic acid is a GABA transaminase (GABA-T) inhibitor ( $K_i = 9.16 \mu\text{M}$ ) that induces GABA accumulation in the brain.<sup>1</sup> It also inhibits cystathionine  $\beta$  synthase (CBS) and cystathionine  $\gamma$  lyase (CSE;  $IC_{50}$ s = 8.5 and 1.1  $\mu\text{M}$ , respectively).<sup>2</sup> Aminooxyacetic acid (100 mg/kg) decreases GABA-T activity, without affecting glutamic acid decarboxylase (GAD) activity, and increases GABA levels in all regions of rat brain.<sup>3</sup> It also decreases GABA-T activity and increases GABA in mouse brain when administered at a dose of 13 mg/kg.<sup>4</sup> Aminooxyacetic acid inhibits 3-mercaptopropionic acid-, strychnine-, and pentetrazole-induced seizures in mice ( $ED_{50}$ s = 53, 130, and 85 mg/kg, respectively), however, it exhibits neurotoxicity in the chimney test ( $ED_{50} = 62 \text{ mg/kg}$ ) and is lethal ( $LD_{50} = 105 \text{ mg/kg}$ ) to mice.

### References

1. Wallach, D.P. Studies on the GABA pathway. I. The inhibition of  $\gamma$ -aminobutyric acid- $\alpha$ -ketoglutaric acid transaminase *in vitro* and *in vivo* by U-7524 (amino-oxyacetic acid). *Biochem. Pharmacol.* **5**(4), 323-331 (1961).
2. Asimakopoulou, A., Panopoulos, P., Chasapis, C.T., *et al.* Selectivity of commonly used pharmacological inhibitors for cystathionine  $\beta$  synthase (CBS) and cystathionine  $\gamma$  lyase (CSE). *Br. J. Pharmacol.* **169**(4), 922-932 (2013).
3. Löscher, W., Hönack, D., and Gramer, M. Use of inhibitors of gamma-aminobutyric acid (GABA) transaminase for the estimation of GABA turnover in various brain regions of rats: A reevaluation of aminooxyacetic acid. *J. Neurochem.* **53**(6), 1737-1750 (1989).
4. Löscher, W. A comparative study of the pharmacology of inhibitors of GABA-metabolism. *Naunyn Schmiedebergs Arch. Pharmacol.* **315**(2), 119-128 (1980).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

#### WARRANTY AND LIMITATION OF REMEDY

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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