

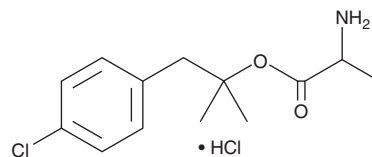
# PRODUCT INFORMATION



## Alaproclate (hydrochloride)

Item No. 27770

**CAS Registry No.:** 60719-83-7  
**Formal Name:** alanine, 2-(4-chlorophenyl)-1,1-dimethylethyl ester, monohydrochloride  
**Synonyms:** GEA 654, A03  
**MF:** C<sub>13</sub>H<sub>18</sub>ClNO<sub>2</sub> • HCl  
**FW:** 292.2  
**Purity:** ≥95%  
**UV/Vis.:** λ<sub>max</sub>: 222 nm  
**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

Alaproclate (hydrochloride) is supplied as a crystalline solid. A stock solution may be made by dissolving the alaproclate (hydrochloride) in water. We do not recommend storing the aqueous solution for more than one day.

### Description

Alaproclate is a selective serotonin reuptake inhibitor (SSRI).<sup>1,2</sup> It inhibits depletion of serotonin (5-HT) induced by 4-methyl- $\alpha$ -ethyl-*m*-tyramine in rat cerebral cortex, hippocampus, hypothalamus, and striatum (EC<sub>50</sub>s = 18, 4, 8, and 12 mg/kg, respectively).<sup>1</sup> Alaproclate inhibits NMDA-evoked currents and depolarization-induced voltage-dependent potassium currents in rat hippocampal neurons (IC<sub>50</sub>s = 1.1 and 6.9  $\mu$ M, respectively) and does not inhibit GABA-evoked currents when used at concentrations up to 100  $\mu$ M.<sup>2</sup> It increases sirtuin 1 (SIRT1) levels in N2a murine neuroblastoma cells expressing apolipoprotein E4 (ApoE4; IC<sub>50</sub> = 2.3  $\mu$ M) and in the hippocampus in the FXFAD-ApoE4 transgenic mouse model of Alzheimer's disease when administered at a dose of 20 mg/kg twice daily.<sup>3</sup> Alaproclate (40 mg/kg) decreases immobility time in the forced swim test in rats, indicating antidepressant-like activity.<sup>4</sup>

### References

- Ögren, S.-O., Holm, A.-C., Hall, H., *et al.* Alaproclate, a new selective 5-HT uptake inhibitor with therapeutic potential in depression and senile dementia. *J. Neural Transm.* **59(4)**, 265-288 (1984).
- Svensson, B.E., Werkman, T.R., and Rogawski, M.A. Alaproclate effects on voltage-dependent K<sup>+</sup> channels and NMDA receptors: Studies in cultured rat hippocampal neurons and fibroblast cells transformed with Kv1.2 K<sup>+</sup> channel cDNA. *Neuropharmacology* **33(6)**, 795-804 (1994).
- Campagna, J., Soilman, P., Jagodzinska, B., *et al.* A small molecule ApoE4-targeted therapeutic candidate that normalizes sirtuin 1 levels and improves cognition in an Alzheimer's disease mouse model. *Sci. Rep.* **8(1)**, 17574 (2018).
- Danysz, W.P., A., Kostowski, W., Malatynska, E., *et al.* Comparison of desipramine, amitriptyline, zimeldine and alaproclate in six animal models used to investigate antidepressant drugs. *Pharmacol. Toxicol.* **62(1)**, 42-50 (1988).

#### 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.

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