

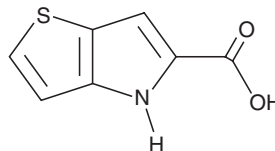
PRODUCT INFORMATION



D-Amino Acid Oxidase Inhibitor

Item No. 23894

CAS Registry No.: 39793-31-2
Formal Name: 4H-thieno[3,2-b]pyrrole-5-carboxylic acid
Synonym: DAAO inhibitor
MF: C₇H₅NO₂S
FW: 167.2
Purity: ≥98%
UV/Vis.: λ_{max}: 222, 286 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

D-Amino acid oxidase inhibitor is supplied as a crystalline solid. A stock solution may be made by dissolving the D-amino acid oxidase inhibitor in the solvent of choice, which should be purged with an inert gas. D-Amino acid oxidase inhibitor is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of D-amino acid oxidase inhibitor is approximately 2 mg/ml in ethanol and approximately 30 mg/ml in DMSO and DMF.

D-Amino acid oxidase inhibitor is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, D-amino acid oxidase inhibitor should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. D-Amino acid oxidase inhibitor has a solubility of approximately 0.3 mg/ml in a 1:2 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

D-Amino acid oxidase inhibitor is an inhibitor of D-amino acid oxidase (DAAO) with IC₅₀ values of 145 and 114 nM in CHO cells expressing human and rat DAAO, respectively.¹ It is selective for DAAO over a panel of 150 enzymes, receptors, and ion channels when used at a concentration of 30 μM. D-Amino acid oxidase inhibitor (10-200 mg/kg, i.p.) inhibits DAAO activity in rat kidney and cerebellum in a dose- and time-dependent manner. It increases levels of D-serine in rat plasma and cerebral spinal fluid (CSF) but has no effect on hyperlocomotion or dopamine efflux in the nucleus accumbens induced by amphetamine (Item No. ISO60188) in rats. DAAO inhibitor reduces formalin-induced paw flinching in rats (EC₅₀ = 0.17 μg per animal) indicating an antinociceptive effect.²

References

1. Smith, S.M., Uslaner, J.M., Yao, L., *et al.* The behavioral and neurochemical effects of a novel D-amino acid oxidase inhibitor compound 8 [4H-thieno [3,2-b]pyrrole-5-carboxylic acid] and D-serine. *J. Pharmacol. Exp. Ther.* **328**(3), 921-930 (2009).
2. Gong, N., Gao, Z.-Y., Wang, Y.-C., *et al.* A series of D-amino acid oxidase inhibitors specifically prevents and reverses formalin-induced tonic pain in rats. *J. Pharmacol. Exp. Ther.* **336**(1), 282-293 (2011).

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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