

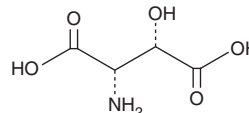
PRODUCT INFORMATION



DL-threo-β-Hydroxyaspartic Acid

Item No. 35274

CAS Registry No.: 4294-45-5
Formal Name: *rel*-3R-hydroxy-D-aspartic acid
Synonyms: DL-THA, DL-threo-3-Hydroxyaspartic Acid
MF: C₄H₇NO₅
FW: 149.1
Purity: ≥95%
Supplied as: A 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

DL-threo-β-Hydroxyaspartic acid is supplied as a solid. A stock solution may be made by dissolving the DL-threo-β-hydroxyaspartic acid in the solvent of choice, which should be purged with an inert gas. DL-threo-β-Hydroxyaspartic acid is slightly soluble in acetonitrile, chloroform, ethanol, DMSO, and dimethyl formamide.

DL-threo-β-Hydroxyaspartic acid is slightly soluble in aqueous solutions. To enhance aqueous solubility, dilute the organic solvent solution into aqueous buffers or isotonic saline. If performing biological experiments, ensure the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. We do not recommend storing the aqueous solution for more than one day.

Description

DL-threo-β-Hydroxyaspartic acid is an inhibitor of excitatory amino acid transporters (EAATs).^{1,2} It inhibits glutamate uptake in COS-1 cells expressing human EAAT1 or EAAT2 (IC₅₀s = 96 and 31 μM, respectively) as well as inward currents induced by L-aspartate in EAAT4-expressing *Xenopus* oocytes (K_i = 0.6 μM) and by L-glutamate in EAAT5-expressing oocytes (K_i = 2.5 μM) voltage-clamped at -60 mV. Intrathecal administration of DL-threo-β-hydroxyaspartic acid (7.5 and 15 μg/animal) reduces the number of flinches and shakes in the second phase of the formalin test in rats.³

References

1. Shimamoto, K., Lebrun, B., Yasuda-Kamatani, Y., *et al.* DL-threo-β-benzyloxyaspartate, a potent blocker of excitatory amino acid transporters. *Mol. Pharmacol.* **53**(2), 195-201 (1998).
2. Shigeri, Y., Shimamoto, K., Yasuda-Kamatani, Y., *et al.* Effects of threo-β-hydroxyaspartate derivatives on excitatory amino acid transporters (EAAT4 and EAAT5). *J. Neurochem.* **79**(2), 297-302 (2001).
3. Yaster, M., Guan, X., Petralia, R.S., *et al.* Effect of inhibition of spinal cord glutamate transporters on inflammatory pain induced by formalin and complete Freund's adjuvant. *Anesthesiology* **114**(2), 412-423 (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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