

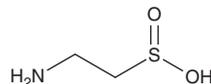
PRODUCT INFORMATION



Hypotaurine

Item No. 29614

CAS Registry No.: 300-84-5
Formal Name: 2-amino-ethanesulfinic acid
MF: C₂H₇NO₂S
FW: 109.1
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

Hypotaurine is supplied as a solid. Aqueous solutions of hypotaurine can be prepared by directly dissolving the solid in aqueous buffers. The solubility of hypotaurine in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Hypotaurine is an endogenous inhibitory amino acid.¹ It inhibits GABA uptake by mouse GABA transporter 1 (GAT1), GAT2, GAT3, and GAT4 (IC₅₀s = 170, 240, 4.9, and 8.1 μM, respectively) and rat GAT1, GAT2, and GAT3 (IC₅₀s = 1,010, 52, and 73 μM, respectively). Hypotaurine also inhibits GABA uptake by betaine/GABA transporter 1 (BGT1) in L-M(TK-) cells expressing the human transporter (IC₅₀ = 380 μM).² It inhibits sodium-stimulated GABA uptake by rabbit choroid plexus slices (IC₅₀ = 21.9 μM).³ It scavenges hypochlorous acid (HOCl) and hydroxyl, but not superoxide, radicals in cell-free assays.⁴ Hypotaurine (1 mM) protects rat TR-TBT 18d-1 placental trophoblasts from hydrogen peroxide-induced cell death.⁵

References

1. Kragler, A., Höfner, G., and Wanner, K.T. Novel parent structures for inhibitors of the murine GABA transporters mGAT3 and mGAT4. *Eur. J. Pharmacol.* **519(1-2)**, 43-47 (2005).
2. Borden, L.A., Smith, K.E., Gustafson, E.L., et al. Cloning and expression of a betaine/GABA transporter from human brain. *J. Neurochem.* **64(3)**, 977-984 (1995).
3. Ramanathan, V.K., Brett, C.M., and Giacomini, K.M. Na⁺-dependent γ-aminobutyric acid (GABA) transport in the choroid plexus of rabbit. *Biochim. Biophys. Acta* **1330(1)**, 94-102 (1997).
4. Aruoma, O.I., Halliwell, B., Hoey, B.M., et al. The antioxidant action of taurine, hypotaurine and their metabolic precursors. *Biochem. J.* **256(1)**, 251-255 (1988).
5. Nishimura, T., Duereh, M., Sugita, Y., et al. Protective effect of hypotaurine against oxidative stress-induced cytotoxicity in rat placental trophoblasts. *Placenta* **36(6)**, 693-698 (2015).

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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