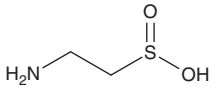
PRODUCT INFORMATION

Hypotaurine

Item No. 29614

CAS Registry No.: 300-84-5
Formal Name: 2-amino-ethanesulfinic acid
MF: $C_2H_7NO_2S$
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 (IC_{50}s = 170, 240, 4.9, and 8.1 µM, respectively) and rat GAT1, GAT2, and GAT3 (IC_{50}s = 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 (IC_{50} = 380 µM).[2] It inhibits sodium-stimulated GABA uptake by rabbit choroid plexus slices (IC_{50} = 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).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.**CAYMANCHEM**.COM