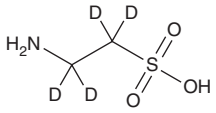
PRODUCT INFORMATION

Taurine-d_4

Item No. 35211

CAS Registry No.:	342611-14-7
Formal Name:	2-amino-ethane-1,1,2,2-d_4-sulfonic acid
Synonym:	β-Aminoethylsulfonic Acid-d_4
MF:	$C_2H_3D_4NO_3S$
FW:	129.2
Chemical Purity:	≥95% (Taurine)
Deuterium Incorporation:	≥99% deuterated forms (d_1-d_4); ≤1% d_0
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

Taurine-d_4 is intended for use as an internal standard for the quantification of taurine (Item No. 27031) by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated *versus* unlabeled).

Description

Taurine is a sulfur-containing amino acid produced endogenously and also ingested in the diet.[1] It is ubiquitously present in most cells and has diverse biological activities, including antioxidative, anticancer, cardioprotective, and neuroprotective properties.[1-4] It scavenges 2,2-diphenyl-1-picrylhydrazyl (DPPH; Item No. 14805) radicals when used at concentrations ranging from 125 to 1,000 µg/ml and decreases the viability of MCF-7 and MDA-MB-231 human breast cancer cells.[2] It prevents left ventricular dysfunction in the mdx mouse model of late-stage Duchenne muscular dystrophy when administered at a dose of 1 g/kg per day for six months.[3] Taurine (100 µM) prevents neurotoxicity induced by amyloid-β (Aβ) or the glutamate receptor agonists glutamate, NMDA (Item No. 14581), or kainic acid (Item No. 78050) in chick embryonic retinal neurons, an effect that can be blocked by the $GABA_A$ receptor antagonist picrotoxin (Item No. 20771).[4]

References

1. Schaffer, S. and Kim, H.W. Effects and mechanisms of taurine as a therapeutic agent. *Biomol. Ther. (Seoul)* **26(3)**, 225-241 (2018).
2. Choi, E.-J., Tang, Y., Lee, C.B., *et al*. Investigation of antioxidant and anticancer potential of taurine by means of multiple chemical and biological assays. *Taurine 9* Eds. Marcinkiewica, J., Schaffer, S.W. *Springer* (2018).
3. Mele, A., Manturano, P., De Bellis, M., *et al.* A long-term treatment with taurine prevents cardiac dysfunction in *mdx* mice. *Transl. Res.* **204**, 82-99 (2019).
4. Louzada, P.R., Lima, A.C.P., Mendonça-Silva, D.L., *et al.* Taurine prevents the neurotoxicity of ß-amyloid and glutamate receptor agonists: Activation of GABA receptors and possible implications for Alzheimer's disease and other neurological disorders. *FASEB J.* **18(3)**, 511-518 (2004).

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