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Diagnostik & molekulare Diagnostik



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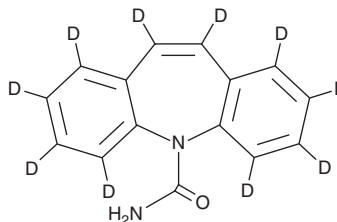
PRODUCT INFORMATION



Carbamazepine-d₁₀

Item No. 33486

CAS Registry No.: 132183-78-9
Formal Name: 5H-dibenz[b,f]azepine-1,2,3,4,6,7,8,9,10,11-d₁₀-5-carboxamide
Synonym: Carbamazepine-d₁₀, CBZ-d₁₀
MF: C₁₅H₂D₁₀N₂O
FW: 246.3
Chemical Purity: ≥98% (Carbamazepine)
Deuterium Incorporation: ≥99% deuterated forms (d₁-d₁₀); ≤1% d₀
Supplied as: A solid
Storage: -20°C
Stability: ≥3 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Carbamazepine-d₁₀ is intended for use as an internal standard for the quantification of carbamazepine 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).

Carbamazepine-d₁₀ is supplied as a solid. A stock solution may be made by dissolving the carbamazepine-d₁₀ in the solvent of choice, which should be purged with an inert gas. Carbamazepine-d₁₀ is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of carbamazepine-d₁₀ in these solvents is approximately 3 mg/ml in ethanol and approximately 25 mg/ml in DMSO and DMF.

Description

Carbamazepine is an anticonvulsant.^{1,2} It reduces the occurrence of seizures in mouse models of tonic-clonic, or maximal electroshock-induced, seizures (ED₅₀s = 15.46 and ~13 mg/kg, respectively). Dietary administration of carbamazepine (0.75% w/w) reduces immobility time in the tail suspension test.³ It also attenuates clonidine-induced aggressive behavior in mice.⁴ Formulations containing carbamazepine have been used in the treatment of epilepsy and bipolar disorder.

References

1. Łuszczki, J.J., Marzeda, P., Gut-Lepiech, A., *et al.* New derivative of 1,2,4-triazole-3-thione (TP427) potentiates the anticonvulsant action of valproate, but not that of carbamazepine, phenytoin or phenobarbital in the mouse tonic-clonic seizure model. *Pharmacol. Rep.* **71**(2), 299-305 (2019).
2. Borowicz-Reutt, K.K., Banach, M., and Rudkowska, M. Nebivolol attenuates the anticonvulsant action of carbamazepine and phenobarbital against the maximal electroshock-induced seizures in mice. *Pharmacol. Rep.* **72**(1), 80-86 (2020).
3. Kara, N.Z., Karpel, O., Toker, L., *et al.* Chronic oral carbamazepine treatment elicits mood-stabilising effects in mice. *Acta Neuropsychiatr.* **26**(1), 29-34 (2014).
4. Fujiwara, Y., Takeda, T., Kazahaya, Y., *et al.* Inhibitory effects of carbamazepine on clonidine-induced aggressive behavior in mice. *Int. J. Neurosci.* **42**(1-2), 77-84 (1988).

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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