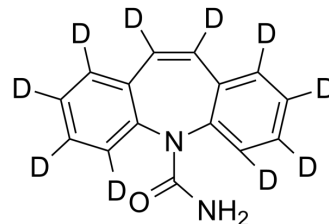


Carbamazepine-d₁₀

| | | |
|---------------------------|---|----------------|
| Cat. No.: | HY-B0246S | |
| CAS No.: | 132183-78-9 | |
| Molecular Formula: | C ₁₅ H ₂ D ₁₀ N ₂ O | |
| Molecular Weight: | 246.33 | |
| Target: | Sodium Channel; Autophagy; Mitophagy | |
| Pathway: | Membrane Transporter/Ion Channel; Autophagy | |
| Storage: | Powder | -20°C 3 years |
| | In solvent | -80°C 6 months |
| | | -20°C 1 month |



SOLVENT & SOLUBILITY

In Vitro

DMF : ≥ 25 mg/mL (101.49 mM)
 DMSO : ≥ 25 mg/mL (101.49 mM)
 Ethanol : ≥ 3 mg/mL (12.18 mM)
 DMSO:PBS (pH 7.2) (1:1) : ≥ 0.5 mg/mL (2.03 mM)
 * "≥" means soluble, but saturation unknown.

| | Solvent Concentration | Mass | | |
|------------------------------|--------------------------|-----------|------------|------------|
| | | 1 mg | 5 mg | 10 mg |
| Preparing Stock Solutions | 1 mM | 4.0596 mL | 20.2980 mL | 40.5959 mL |
| | 5 mM | 0.8119 mL | 4.0596 mL | 8.1192 mL |
| | 10 mM | 0.4060 mL | 2.0298 mL | 4.0596 mL |

Please refer to the solubility information to select the appropriate solvent.

BIOLOGICAL ACTIVITY

Description

Carbamazepine-d₁₀ is the deuterium labeled Carbamazepine. Carbamazepine (CBZ), a sodium channel blocker, is an anticonvulsant agent^{[1][2]}.

In Vitro

Stable heavy isotopes of hydrogen, carbon, and other elements have been incorporated into drug molecules, largely as tracers for quantitation during the drug development process. Deuteration has gained attention because of its potential to affect the pharmacokinetic and metabolic profiles of drugs^[1].
 MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Russak EM, et al. Impact of Deuterium Substitution on the Pharmacokinetics of Pharmaceuticals. *Ann Pharmacother.* 2019;53(2):211-216.

[2]. Willow, M. and W.A. Catterall, Inhibition of binding of [3H]batrachotoxinin A 20-alpha-benzoate to sodium channels by the anticonvulsant drugs diphenylhydantoin and carbamazepine. Mol Pharmacol, 1982. 22(3): p. 627-35.

[3]. Okada, M., et al., Biphasic effects of carbamazepine on the dopaminergic system in rat striatum and hippocampus. Epilepsy Res, 1997. 28(2): p. 143-53.

Caution: Product has not been fully validated for medical applications. For research use only.

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