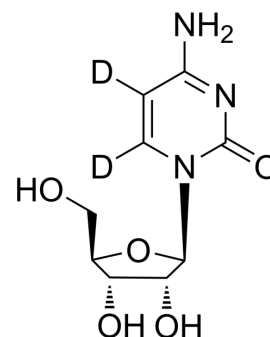


Cytidine-d₂

| | | | |
|---------------------------|---|-------|----------|
| Cat. No.: | HY-B0158S | | |
| CAS No.: | 40632-25-5 | | |
| Molecular Formula: | C ₉ H ₁₁ D ₂ N ₃ O ₅ | | |
| Molecular Weight: | 245.23 | | |
| Target: | Nucleoside Antimetabolite/Analog; Endogenous Metabolite | | |
| Pathway: | Cell Cycle/DNA Damage; Metabolic Enzyme/Protease | | |
| Storage: | Powder | -20°C | 3 years |
| | | 4°C | 2 years |
| | In solvent | -80°C | 6 months |
| | | -20°C | 1 month |



SOLVENT & SOLUBILITY

In Vitro

H₂O : ≥ 50 mg/mL (203.89 mM)
 DMSO : 50 mg/mL (203.89 mM; Need ultrasonic)
 * "≥" means soluble, but saturation unknown.

| Preparing Stock Solutions | Solvent | | 1 mg | 5 mg | 10 mg |
|---------------------------|---------------|------|-----------|------------|------------|
| | Concentration | Mass | | | |
| | 1 mM | | 4.0778 mL | 20.3890 mL | 40.7780 mL |
| | 5 mM | | 0.8156 mL | 4.0778 mL | 8.1556 mL |
| | 10 mM | | 0.4078 mL | 2.0389 mL | 4.0778 mL |

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

BIOLOGICAL ACTIVITY

Description

Cytidine-d₂ is the deuterium labeled Cytidine. Cytidine is a pyrimidine nucleoside and acts as a component of RNA. Cytidine is a precursor of uridine. Cytidine controls neuronal-glial glutamate cycling, affecting cerebral phospholipid metabolism, catecholamine synthesis, and mitochondrial function[1][2][3].

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]. Machado-Vieira R, et al. New therapeutic targets for mood disorders. ScientificWorldJournal. 2010 Apr 13;10:713-26.

[3]. Jonas DA, et al. Safety considerations of DNA in food. Ann Nutr Metab. 2001;45(6):235-54.

[4]. Wurtman RJ, et al. Effect of oral CDP-choline on plasma choline and uridine levels in humans. Biochem Pharmacol. 2000 Oct 1;60(7):989-92.

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

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