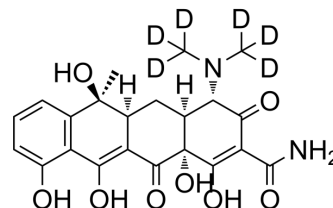


Tetracycline-d₆-1

| | |
|---------------------------|---|
| Cat. No.: | HY-A0107S2 |
| Molecular Formula: | C ₂₂ H ₁₈ D ₆ N ₂ O ₈ |
| Molecular Weight: | 450.47 |
| Target: | Antibiotic; Bacterial; Isotope-Labeled Compounds |
| Pathway: | Anti-infection; Others |
| Storage: | Please store the product under the recommended conditions in the Certificate of Analysis. |



BIOLOGICAL ACTIVITY

| | |
|--------------------|---|
| Description | Tetracycline-d ₆ -1 is deuterated labeled 2-Isobutyl-3-methoxypyrazine (HY-W017141). 2-Isobutyl-3-methoxypyrazine is an aroma constituent in grapes and wines, green pepper and asparagus ^[1] . |
| 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] . Tetracycline shows susceptibility of <i>V. vulnificus</i> strain B3547 with MIC value of 0.5 g/mL ^[3] . Tetracycline inhibits the L-amyloid aggregates formation and disassembles the pre-formed fibrils ^[4] . MCE has not independently confirmed the accuracy of these methods. They are for reference only. |
| In Vivo | Tetracycline (3 mg/kg; i.p. every 12 h until survive) survives mice from bacteremia ^[3] . MCE has not independently confirmed the accuracy of these methods. They are for reference only. |

REFERENCES

- [1]. Chopra I, et al. Tetracycline antibiotics: mode of action, applications, molecular biology, and epidemiology of bacterial resistance. *Microbiol Mol Biol Rev.* 2001 Jun;65(2):232-60.
- [2]. Bowdre JH, et al. Antibiotic efficacy against *Vibrio vulnificus* in the mouse: superiority of tetracycline. *J Pharmacol Exp Ther.* 1983 Jun;225(3):595-8.
- [3]. Forloni G, et al. Anti-amyloidogenic activity of tetracyclines: studies in vitro. *FEBS Lett.* 2001 Jan 5;487(3):404-7.
- [4]. Russak EM, et al. Impact of Deuterium Substitution on the Pharmacokinetics of Pharmaceuticals. *Ann Pharmacother.* 2019 Feb;53(2):211-216.

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

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