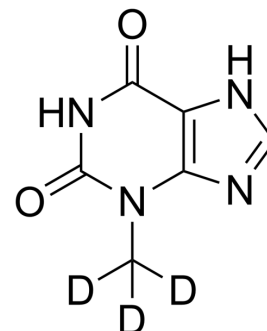


3-Methylxanthine-d₃

| | |
|---------------------------|---|
| Cat. No.: | HY-50723S1 |
| Molecular Formula: | C ₆ H ₃ D ₃ N ₄ O ₂ |
| Molecular Weight: | 169.16 |
| Target: | Endogenous Metabolite; Isotope-Labeled Compounds |
| Pathway: | Metabolic Enzyme/Protease; Others |
| Storage: | Please store the product under the recommended conditions in the Certificate of Analysis. |



BIOLOGICAL ACTIVITY

| | |
|--------------------|--|
| Description | 3-Methylxanthine-d ₃ is deuterated labeled 3-Methylxanthine (HY-50723). 3-Methylxanthine, a xanthine derivative, is a cyclic guanosine monophosphate (GMP) inhibitor, with an IC ₅₀ of 920 μM on guinea-pig isolated trachealis muscle. |
| 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]. Tanaka H, et al. Inhibition of cyclic GMP phosphodiesterase by xanthine derivatives relaxes guinea-pig trachealis smooth muscle. Clin Exp Pharmacol Physiol. 1991 Mar;18(3):163-8.
- [2]. Yamamoto K, et al. Neurotoxic convulsions induced by theophylline and its metabolites in mice. Biol Pharm Bull. 1996 Jun;19(6):869-72.
- [3]. 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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