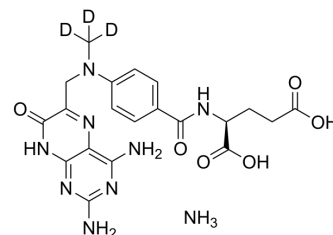


7-Hydroxymethotrexate-d₃ ammonium

Cat. No.:	HY-130569S2
Molecular Formula:	C ₂₀ H ₂₂ D ₃ N ₉ O ₆
Molecular Weight:	490.49
Target:	Drug Metabolite
Pathway:	Metabolic Enzyme/Protease
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	7-Hydroxymethotrexate-d ₃ (ammonium) is the deuterium labeled 7-Hydroxymethotrexate ammonium. 7-Hydroxymethotrexate is a major metabolite of Methotrexate (MTX; HY-14519). Methotrexate, an antimetabolite and antifolate agent, inhibits the enzyme dihydrofolate reductase, thereby preventing the conversion of folic acid into tetrahydrofolate, and inhibiting DNA synthesis[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 ^[3] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

- [1]. L Fahrig, et al. Pharmacokinetics of methotrexate (MTX) and 7-hydroxymethotrexate (7-OH-MTX) in rats and evidence for the metabolism of MTX to 7-OH-MTX. *Cancer Chemother Pharmacol.* 1989;23(3):156-60.
- [2]. Ping Guo, et al. Determination of methotrexate and its major metabolite 7-hydroxymethotrexate in mouse plasma and brain tissue by liquid chromatography-tandem mass spectrometry. *J Pharm Biomed Anal.* 2007 Apr 11;43(5):1789-95.
- [3]. Russak EM, et al. Impact of Deuterium Substitution on the Pharmacokinetics of Pharmaceuticals. *Ann Pharmacother.* 2019;53(2):211-223.

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

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