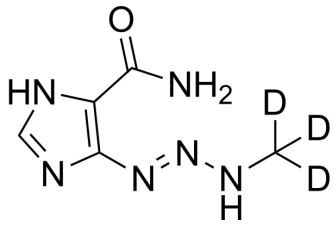
MTIC-d_3

Cat. No.:	HY-119696S
CAS No.:	1185242-69-6
Molecular Formula:	$C_5H_5D_3N_6O$
Molecular Weight:	171.18
Target:	Drug 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	MTIC-d_3 is deuterium labeled MTIC. MTIC is the active metabolite of Temozolomide (TMZ). MITC has lower bioavailability in the brain compared with TMZ, because the agent's permeability through biological barriers and tumor cell membranes affects bioavailability. MITC exhibits low affinity to biological membrane[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]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Ramalho MJ, et al. Biophysical interaction of temozolomide and its active metabolite with biomembrane models: The relevance of drug-membrane interaction for Glioblastoma Multiforme therapy. Eur J Pharm Biopharm. 2019;136:156-163.

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

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

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