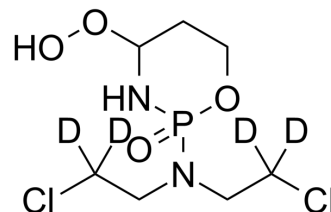


4-Hydroperoxy Cyclophosphamide-d4

Cat. No.:	HY-117433S
CAS No.:	1246816-71-6
Molecular Formula:	C ₇ H ₁₁ D ₄ Cl ₂ N ₂ O ₄ P
Molecular Weight:	297.11
Target:	DNA Alkylator/Crosslinker; Apoptosis; Reactive Oxygen Species; Drug Metabolite
Pathway:	Cell Cycle/DNA Damage; Apoptosis; Immunology/Inflammation; Metabolic Enzyme/Protease; NF-κB
Storage:	-80°C, stored under nitrogen



BIOLOGICAL ACTIVITY

Description	4-Hydroperoxy Cyclophosphamide-d4 is the deuterium labeled 4-Hydroperoxy cyclophosphamide. 4-Hydroperoxy cyclophosphamide is the active metabolite form of the prodrug Cyclophosphamide. 4-Hydroperoxy cyclophosphamide crosslinks DNA and induces T cell apoptosis independent of death receptor activation, but activates mitochondrial death pathways through production of reactive oxygen species (ROS). 4-Hydroperoxy cyclophosphamide has the potential for lymphomas and autoimmune disorders ^{[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 ^[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]. 4-hydroperoxy-cyclophosphamide mediates caspase-independent T-cell apoptosis involving oxidative stress-induced nuclear relocation of mitochondrial apoptogenic factors AIF and EndoG

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

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