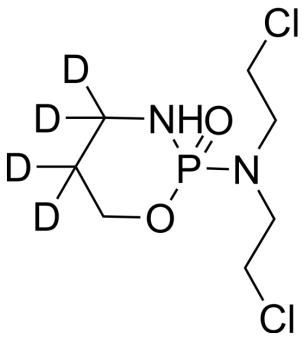
Cyclophosphamide-d_4

Cat. No.:	HY-17420S
CAS No.:	173547-45-0
Molecular Formula:	$C_7H_{11}D_4Cl_2N_2O_2P$
Molecular Weight:	265.11
Target:	DNA Alkylator/Crosslinker
Pathway:	Cell Cycle/DNA Damage
Storage:	Powder -20°C 3 years In solvent -80°C 6 months -20°C 1 month



BIOLOGICAL ACTIVITY

Description	Cyclophosphamide-d_4 is the deuterium labeled Cyclophosphamide. Cyclophosphamide is a synthetic alkylating agent chemically related to the nitrogen mustards with antineoplastic activity, a immunosuppressant[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]. al-Jafari AA, et al. Inhibition of human acetylcholinesterase by cyclophosphamide. Toxicology. 1995 Jan 19;96(1):1-6.

[3]. Harris RN, et al. Carbon tetrachloride-induced increase in the antitumor activity of cyclophosphamide in mice: a pharmacokineticstudy. Cancer Chemother Pharmacol. 1984;12(3):167-72.

[4]. Liu P, et al. Administration of cyclophosphamide changes the immune profile of tumor-bearing mice. J Immunother. 2010 Jan;33(1):53-9.

[5]. Schwartz PS, et al. Cyclophosphamide induces caspase 9-dependent apoptosis in 9L tumor cells. Mol Pharmacol. 2001 Dec;60(6):1268-1279.

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