Cyclophosphamide-d_8 hydrate

Cat. No.: HY-17420AS

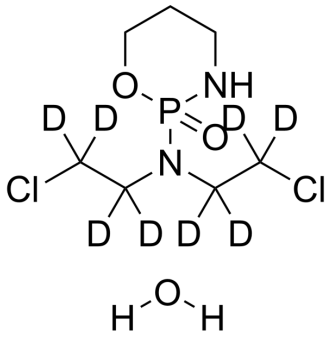
Molecular Formula: $C_7H_9D_8Cl_2N_2O_3P$

Molecular Weight: 287.15

Target: DNA Alkylator/Crosslinker; Isotope-Labeled Compounds

Pathway: Cell Cycle/DNA Damage; Others

Storage: Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Cyclophosphamide-d_8 (hydrate) is the deuterium labeled Cyclophosphamide hydrate. Cyclophosphamide hydrate is a synthetic alkylating agent chemically related to the nitrogen mustards with antineoplastic and immunosuppressive activities[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]. 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.

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

[4]. al-Jafari AA, et al. Inhibition of human acetylcholinesterase by cyclophosphamide. Toxicology. 1995 Jan 19;96(1):1-6.

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

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