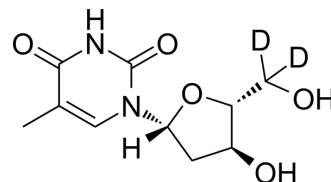


## Thymidine-d2

Cat. No.:	HY-N1150S6
CAS No.:	132376-92-2
Molecular Formula:	C <sub>10</sub> H <sub>12</sub> D <sub>2</sub> N <sub>2</sub> O <sub>5</sub>
Molecular Weight:	244.24
Target:	DNA/RNA Synthesis; Endogenous Metabolite; Orthopoxvirus
Pathway:	Cell Cycle/DNA Damage; Metabolic Enzyme/Protease; Anti-infection
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



### BIOLOGICAL ACTIVITY

<b>Description</b>	Thymidine-d2 is the deuterium labeled Thymidine. Thymidine, a specific precursor of deoxyribonucleic acid, is used as a cell synchronizing agent. Thymidine is a DNA synthesis inhibitor that can arrest cell at G1/S boundary, prior to DNA replication <sup>[1]</sup>
<b>In Vitro</b>	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 <sup>[1]</sup> . 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 Feb;53(2):211-216.

[2]. Chen G, et al. Cell Synchronization by Double Thymidine Block. *Bio Protoc*. 2018 Sep 5;8(17).; FIRKET H, et al. Autoradiographic visualization of synthesis of deoxyribonucleic acid in tissue culture with tritium-labelled thymidine. *Nature*. 1958 Jan 24;181(4)

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

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