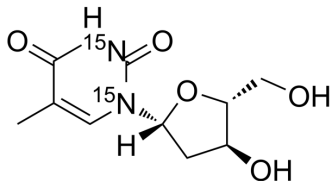
Thymidine-$^{15}N_2$

Cat. No.:	HY-N1150S9
Molecular Formula:	$C_{10}H_{14}{}^{15}N_2O_5$
Molecular Weight:	244.22
Target:	DNA/RNA Synthesis; Endogenous Metabolite; Orthopoxvirus
Pathway:	Cell Cycle/DNA Damage; Metabolic Enzyme/Protease; Anti-infection
Storage:	4°C, sealed storage, away from moisture and light * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture and light)



BIOLOGICAL ACTIVITY

Description	Thymidine-$^{15}N_2$ is the ^{15}N labeled Thymidine[1]. 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[2][3][4].
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 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(4604):274-5.

[3]. FIRKET H, et al. Autoradiographic visualization of synthesis of deoxyribonucleic acid in tissue culture with tritium-labelled thymidine. Nature. 1958 Jan 24;181(4604):274-5.

[4]. Izeradjene K, et al. Inhibition of thymidine synthesis by folate analogues induces a Fas-Fas ligand-independentdeletion of superantigen-reactive peripheral T cells. Int Immunol. 2001 Jan13(1):85-93.

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