



# SZABO SCANDIC

Part of Europa Biosite

## Produktinformation



Forschungsprodukte & Biochemikalien



Zellkultur & Verbrauchsmaterial



Diagnostik & molekulare Diagnostik



Laborgeräte & Service

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### Lieferung & Zahlungsart

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### Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

### SZABO-SCANDIC HandelsgmbH

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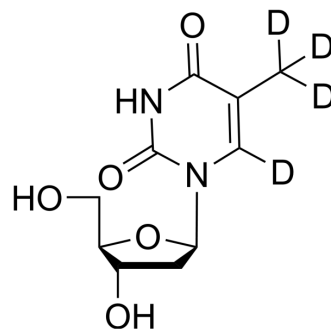
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## Thymidine-d<sub>4</sub>

<b>Cat. No.:</b>	HY-N1150S1		
<b>CAS No.:</b>	347841-67-2		
<b>Molecular Formula:</b>	C <sub>10</sub> H <sub>10</sub> D <sub>4</sub> N <sub>2</sub> O <sub>5</sub>		
<b>Molecular Weight:</b>	246.25		
<b>Target:</b>	DNA/RNA Synthesis; Endogenous Metabolite		
<b>Pathway:</b>	Cell Cycle/DNA Damage; Metabolic Enzyme/Protease		
<b>Storage:</b>	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	6 months
		-20°C	1 month



### BIOLOGICAL ACTIVITY

#### Description

Thymidine-d<sub>4</sub> 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[1][2][3].

#### 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<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;53(2):211-216.
- [2]. 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. 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]. Izeradjene K, et al. Inhibition of thymidine synthesis by folate analogues induces a Fas-Fas ligand-independent deletion of superantigen-reactive peripheral T cells. *Int Immunol.* 2001 Jan;13(1):85-93.
- [4]. Chen G, et al. Cell Synchronization by Double Thymidine Block. *Bio Protoc.* 2018 Sep 5;8(17).

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

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