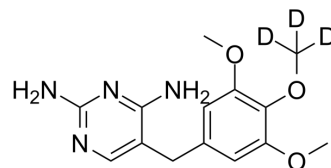


Trimethoprim-d₃

Cat. No.:	HY-B0510S2		
CAS No.:	1189923-38-3		
Molecular Formula:	C ₁₄ H ₁₅ D ₃ N ₄ O ₃		
Molecular Weight:	293.34		
Target:	Antifolate; Bacterial; Antibiotic		
Pathway:	Cell Cycle/DNA Damage; Anti-infection		
Storage:	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	6 months
		-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 50 mg/mL (170.45 mM; Need ultrasonic)
 H₂O : 0.67 mg/mL (2.28 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent	1 mg	5 mg	10 mg
	Concentration			
	1 mM	3.4090 mL	17.0451 mL	34.0901 mL
	5 mM	0.6818 mL	3.4090 mL	6.8180 mL
	10 mM	0.3409 mL	1.7045 mL	3.4090 mL

Please refer to the solubility information to select the appropriate solvent.

BIOLOGICAL ACTIVITY

Description

Trimethoprim-d₃ is the deuterium labeled Trimethoprim. Trimethoprim is a bacteriostatic antibiotic and an orally active dihydrofolate reductase inhibitor. Trimethoprim is active against a wide range of Gram-positive and Gram-negative aerobic bacteria. Trimethoprim has the potential for urinary tract infections, Shigellosis and Pneumocystis pneumonia treatment^{[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^[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]. Laskowska, E., et al., Trimethoprim induces heat shock proteins and protein aggregation in E. coli cells. *Curr Microbiol*, 2003. 47(4): p. 286-9.; Brogden, R.N., et al., Trimethoprim: a review of its antibacterial activity, pharmacokinetics and therapeutic

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

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