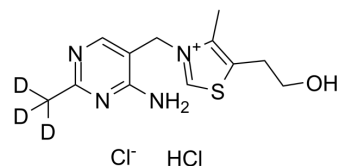


Thiamine-d₃ hydrochloride

Cat. No.:	HY-N0680S1
CAS No.:	2241872-28-4
Molecular Formula:	C ₁₂ H ₁₅ D ₃ Cl ₂ N ₄ OS
Molecular Weight:	340.29
Target:	Endogenous Metabolite; Apoptosis; HBV; Isotope-Labeled Compounds
Pathway:	Metabolic Enzyme/Protease; Apoptosis; Anti-infection; Others
Storage:	-20°C, sealed storage, away from moisture * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



SOLVENT & SOLUBILITY

In Vitro

H₂O : 100 mg/mL (293.87 mM; Need ultrasonic and warming)

Solvent	Mass	Concentration		
		1 mg	5 mg	10 mg
Preparing Stock Solutions	1 mM	2.9387 mL	14.6933 mL	29.3867 mL
	5 mM	0.5877 mL	2.9387 mL	5.8773 mL
	10 mM	0.2939 mL	1.4693 mL	2.9387 mL

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

BIOLOGICAL ACTIVITY

Description

Thiamine-d₃ (hydrochloride) is the deuterium labeled Thiamine hydrochloride. Thiamine hydrochloride (Thiamine chloride hydrochloride) is an essential micronutrient needed as a cofactor for many central metabolic enzymes.

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]. Moulin M, et al. Analysis of Chlamydomonas thiamin metabolism in vivo reveals riboswitch plasticity. *Proc Natl Acad Sci U S A.* 2013 Sep 3;110(36):14622-7.

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

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