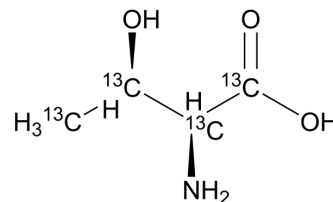


## L-Threonine-<sup>13</sup>C<sub>4</sub>

<b>Cat. No.:</b>	HY-N0658S6
<b>CAS No.:</b>	55443-53-3
<b>Molecular Formula:</b>	<sup>13</sup> C <sub>4</sub> H <sub>9</sub> NO <sub>3</sub>
<b>Molecular Weight:</b>	123.09
<b>Target:</b>	Endogenous Metabolite
<b>Pathway:</b>	Metabolic Enzyme/Protease
<b>Storage:</b>	4°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

H<sub>2</sub>O : 125 mg/mL (1015.52 mM; Need ultrasonic)

Concentration	Mass			
	1 mg	5 mg	10 mg	
1 mM	8.1241 mL	40.6207 mL	81.2414 mL	
5 mM	1.6248 mL	8.1241 mL	16.2483 mL	
10 mM	0.8124 mL	4.0621 mL	8.1241 mL	

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

### BIOLOGICAL ACTIVITY

#### Description

L-Threonine-<sup>13</sup>C<sub>4</sub> is the <sup>13</sup>C labeled L-Threonine[1]. L-Threonine is a natural amino acid, can be produced by microbial fermentation, and is used in food, medicine, or feed[2].

#### 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 Feb;53(2):211-216.

[2]. Zhao H, et al. Increasing L-threonine production in *Escherichia coli* by engineering the glyoxylate shunt and the L-threonine biosynthesis pathway. *Appl Microbiol Biotechnol*. 2018 Jul;102(13):5505-5518.

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

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