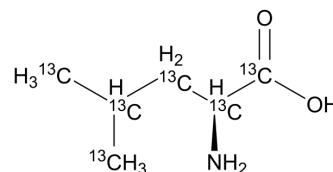


L-Leucine-¹³C₆

Cat. No.:	HY-N0486S15
CAS No.:	201740-84-3
Molecular Formula:	¹³ C ₆ H ₁₃ NO ₂
Molecular Weight:	137.13
Target:	mTOR; Endogenous Metabolite
Pathway:	PI3K/Akt/mTOR; Metabolic Enzyme/Protease
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



SOLVENT & SOLUBILITY

In Vitro

H₂O : 8.33 mg/mL (60.75 mM; Need ultrasonic)
 PBS : ≥ 1 mg/mL (7.29 mM)
 * "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent Concentration	Mass	1 mg	5 mg	10 mg
		1 mM	7.2923 mL	36.4618 mL	72.9235 mL
5 mM	1.4585 mL	7.2923 mL	14.5847 mL		
10 mM	0.7292 mL	3.6462 mL	7.2923 mL		

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

BIOLOGICAL ACTIVITY

Description

L-Leucine-¹³C₆ is the ¹³C labeled L-Leucine[1]. L-Leucine is an essential branched-chain amino acid (BCAA), which activates the mTOR signaling pathway[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^[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]. Baoshan Xu, et al. Stimulation of mTORC1 with L-leucine rescues defects associated with Roberts syndrome. *PLoS Genet*. 2013;9(10):e1003857.

[3]. Bruckbauer A, et al. Synergistic effects of leucine and resveratrol on insulin sensitivity and fat metabolism in adipocytes and mice. *Nutr Metab (Lond)*. 2012 Aug 229(1):77.

[4]. Rachdi L, et al. L-leucine alters pancreatic β -cell differentiation and function via the mTor signaling pathway. *Diabetes*. 2012 Feb 61(2):409-17.

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

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