
Product Data Sheet

Product Name: L-Leucine-15N

Cat. No.: GC63833

Chemical Properties

Cas. No. 59935-31-8

Formula C₆H₁₃N₂O₂

M.Wt 132.17

Solubility H₂O : 10 mg/mL (75.66 mM; ultrasonic and warming and heat to 60°C)

Storage Store at -20°C

General tips For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.

Structure **Background**

L-Leucine-15N is the 15N-labeled L-Leucine. L-Leucine is an essential branched-chain amino acid (BCAA), which activates the mTOR signaling pathway[1][2].

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].

[1]. Russak EM, et al. Impact of Deuterium Substitution on the Pharmacokinetics of Pharmaceuticals. *Ann Pharmacother.* 2019;53(2):211-216. [2]. 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.

[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 22;9(1):77.

[4]. Baoshan Xu, et al. Stimulation of mTORC1 with L-leucine rescues defects associated with Roberts syndrome. *PLoS Genet.* 2013;9(10):e1003857.

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

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