L-Glutamine-13C5

Cat. No.: HY-N0390S1

CAS No.: 184161-19-1

Molecular Formula: $^{13}C_5H_{10}N_2O_3$

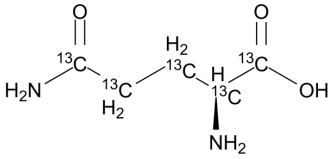
Molecular Weight: 151.11

Target: mGluR; Ferroptosis; Endogenous Metabolite

Pathway: GPCR/G Protein; Neuronal Signaling; Apoptosis; Metabolic Enzyme/Protease

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	6 months
	-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

H_2O : 31.25 mg/mL (206.80 mM; ultrasonic and warming and heat to 60°C)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	6.6177 mL	33.0885 mL	66.1770 mL
	5 mM	1.3235 mL	6.6177 mL	13.2354 mL
	10 mM	0.6618 mL	3.3088 mL	6.6177 mL

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

In Vivo

1. Add each solvent one by one: PBS
   Solubility: 16.67 mg/mL (110.32 mM); Clear solution; Need ultrasonic and warming and heat to 60°C

BIOLOGICAL ACTIVITY

Description

L-Glutamine-$^{13}C_5$ is the ^{13}C-labeled L-Glutamine. L-Glutamine (L-Glutamic acid 5-amide) is a non-essential amino acid present abundantly throughout the body and involved in many metabolic processes. L-Glutamine provides a source of carbons for oxidation in some cells[1][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]. Mary Corless , et al. Glutamine Regulates Expression of Key Transcription Factor, Signal Transduction, Metabolic Gene, and Protein Expression in a Clonal Pancreatic Beta-Cell Line. J Endocrinol. 2006 Sep;190(3):719-27.

[2]. Newsholme P, et al. Glutamine and glutamate as vital metabolites. Braz J Med Biol Res. 2003 Feb;36(2):153-63. Epub 2003 Jan 29.

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

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