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Lieferung & Zahlungsart

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Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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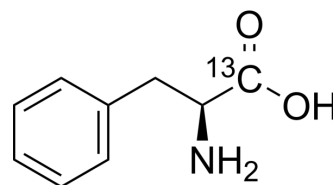
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L-Phenylalanine-¹³C

Cat. No.:	HY-N0215S2
CAS No.:	81201-86-7
Molecular Formula:	C ₈ ¹³ CH ₁₁ NO ₂
Molecular Weight:	166.18
Target:	Calcium Channel; iGluR; Endogenous Metabolite; Isotope-Labeled Compounds
Pathway:	Membrane Transporter/Ion Channel; Neuronal Signaling; Metabolic Enzyme/Protease; Others
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 ₂ O : 25 mg/mL (150.44 mM; Need ultrasonic)					
	Preparing Stock Solutions	Solvent Concentration	Mass	1 mg	5 mg	10 mg
		1 mM	6.0176 mL	30.0879 mL	60.1757 mL	
		5 mM	1.2035 mL	6.0176 mL	12.0351 mL	
		10 mM	0.6018 mL	3.0088 mL	6.0176 mL	
Please refer to the solubility information to select the appropriate solvent.						

BIOLOGICAL ACTIVITY

Description	L-Phenylalanine- ¹³ C is the ¹³ C-labeled L-Phenylalanine. L-Phenylalanine ((S)-2-Amino-3-phenylpropionic acid) is an essential amino acid isolated from Escherichia coli. L-Phenylalanine is a α _{2δ} subunit of voltage-dependent Ca ⁺ channels antagonist with a K _i of 980 nM. L-phenylalanine is a competitive antagonist for the glycine- and glutamate-binding sites of N-methyl-D-aspartate receptors (NMDARs) (K _B of 573 μM) and non-NMDARs, respectively. L-Phenylalanine is widely used in the production of food flavors and pharmaceuticals[1][2][3][4].
IC ₅₀ & Target	NMDA Receptor
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

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- [2]. Glushakov AV, et al. L-phenylalanine selectively depresses currents at glutamatergic excitatory synapses. *J Neurosci Res*. 2003 Apr 1;72(1):116-24.
- [3]. Glushakov AV, et al. Specific inhibition of N-methyl-D-aspartate receptor function in rat hippocampal neurons by L-phenylalanine at concentrations observed during phenylketonuria. *Mol Psychiatry*. 2002;7(4):359-67.
- [4]. Mortell KH, et al. Structure-activity relationships of alpha-amino acid ligands for the alpha2delta subunit of voltage-gated calcium channels. *Bioorg Med Chem Lett*. 2006 Mar 1;16(5):1138-41.
- [5]. Wu WB, et al. Enhancement of l-phenylalanine production in *Escherichia coli* by heterologous expression of *Vitreoscilla* hemoglobin. *Biotechnol Appl Biochem*. 2018 May;65(3):476-483.
- [6]. Russak EM, et al. Impact of Deuterium Substitution on the Pharmacokinetics of Pharmaceuticals. *Ann Pharmacother*. 2019;53(2):211-216.
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Caution: Product has not been fully validated for medical applications. For research use only.

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