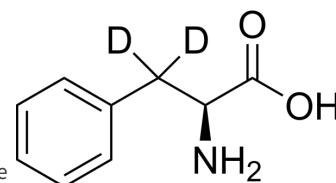


L-Phenylalanine-d₂

Cat. No.:	HY-N0215S3		
CAS No.:	221346-31-2		
Molecular Formula:	C ₉ H ₉ D ₂ NO ₂		
Molecular Weight:	167.2		
Target:	Calcium Channel; iGluR; Endogenous Metabolite		
Pathway:	Membrane Transporter/Ion Channel; Neuronal Signaling; 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

DMSO : 2.5 mg/mL (14.95 mM; ultrasonic and warming and heat to 60°C)

Concentration	Solvent	Mass		
		1 mg	5 mg	10 mg
Preparing Stock Solutions	1 mM	5.9809 mL	29.9043 mL	59.8086 mL
	5 mM	1.1962 mL	5.9809 mL	11.9617 mL
	10 mM	0.5981 mL	2.9904 mL	5.9809 mL

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

BIOLOGICAL ACTIVITY

Description

L-Phenylalanine-d₂ is the deuterium labeled L-Phenylalanine. L-Phenylalanine ((S)-2-Amino-3-phenylpropionic acid) is an essential amino acid isolated from Escherichia coli. L-Phenylalanine is a α₂δ 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].

IC₅₀ & 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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- [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.
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Caution: Product has not been fully validated for medical applications. For research use only.

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