

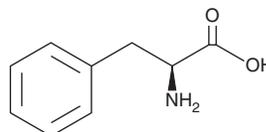
PRODUCT INFORMATION



L-Phenylalanine

Item No. 31498

CAS Registry No.: 63-91-2
Synonyms: NSC 79477, (-)-Phenylalanine
MF: $C_9H_{11}NO_2$
FW: 165.2
Purity: $\geq 98\%$
Supplied as: A crystalline solid
Storage: $-20^{\circ}C$
Stability: ≥ 4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

L-Phenylalanine is supplied as a crystalline solid. Aqueous solutions of L-phenylalanine can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of L-phenylalanine in PBS, pH 7.2, is approximately 5 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

L-Phenylalanine is an essential amino acid.¹⁻³ Blood and brain levels of L-phenylalanine are increased and associated with progressive cognitive impairments, seizures, motor deficits, and autism in patients with phenylketonuria, an inborn error of metabolism characterized by mutations in the gene encoding phenylalanine hydroxylase (PAH). L-Phenylalanine inhibits NMDA-induced currents in primary rat hippocampal neurons ($IC_{50} = 1.71$ mM).¹ It also assembles into fibrils *in vitro* that are cytotoxic to PC12 and CHO cells when used at concentrations ranging from 1.16 to 15 mM.²

References

1. Glushakov, A.V., Dennis, D.M., Morey, T.E., *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* **7(4)**, 359-367 (2002).
2. Adler-Abramovich, L., Vaks, L., Carny, O., *et al.* Phenylalanine assembly into toxic fibrils suggests amyloid etiology in phenylketonuria. *Nat. Chem. Biol.* **8(8)**, 701-706 (2012).
3. Blau, N., van Spronsen, F.J., and Levy, H.L. Phenylketonuria. *Lancet* **376(9750)**, 1417-1427 (2010).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

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