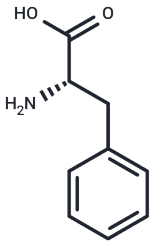
Data Sheet (Cat.No.T3377)

TargetMol

L-Phenylalanine

Chemical Properties



CAS No. : 63-91-2

Formula: C9H11NO2

Molecular Weight: 165.19

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	L-Phenylalanine (3-Phenyl-L-alanine) is an essential amino acid and the precursor of the amino acid tyrosine, acts as an antagonist at α2δ calcium channels.
Targets(IC50)	Calcium Channel,Endogenous Metabolite,iGluR

Solubility Information

Solubility	DMSO: insoluble H2O: 12.5 mg/mL (75.67 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	6.0536 mL	30.2682 mL	60.5364 mL
5 mM	1.2107 mL	6.0536 mL	12.1073 mL
10 mM	0.6054 mL	3.0268 mL	6.0536 mL
50 mM	0.1211 mL	0.6054 mL	1.2107 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Mortell, K.H., et al., Structure-activity relationships of alpha-amino acid ligands for the alpha2delta subunit of voltage-gated calcium channels. Bioorg Med Chem Lett, 2006. 16(5): p. 1138-41

Glushakov,A.V.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): p. 359-67.

Glushakov, A.V., et al., L-phenylalanine selectively depresses currents at glutamatergic excitatory synapses. J Neurosci Res, 2003. 72(1): p. 116-24

Glushakov, A.V., et al., Long-term changes in glutamatergic synaptic transmission in phenylketonuria. Brain, 2005. 128(Pt 2): p. 300-7.

Moller, H.E., et al., Brain imaging and proton magnetic resonance spectroscopy in patients with phenylketonuria. Pediatrics, 2003. 112(6 Pt 2): p. 1580-3.

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.