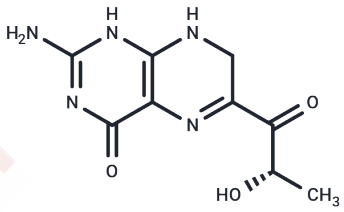
Data Sheet (Cat.No.T38250)

TargetMol

L-Sepiapterin

Chemical Properties



CAS No. : 17094-01-8

Formula: C9H11N5O3

Molecular Weight: 237.22

Storage: Keep away from direct sunlight
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-Sepiapterin is an activator of phenylalanine hydroxylase and also a synthetic precursor of tetrahydrobiopterin, a cofactor of endothelial nitric oxide synthase. L-Sepiapterin can improve endothelial dysfunction in mesenteric arterioles of db/db mice and induce angiogenesis; meanwhile, L-Sepiapterin can also inhibit the proliferation and migration of ovarian cancer cells by downregulating p70S6K-dependent VEGFR-2 expression. Based on the above biological activities, L-Sepiapterin can be applied to mechanistic studies related to hyperphenylalaninemia.
Targets(IC50)	Endogenous Metabolite
In vitro	Methods: Cells were treated with L-Sepiapterin (0.1-10μM) for 24hours. Results: L-Sepiapterin induced cell proliferation in a dose-dependent manner. Methods: Cells were first induced with VEGF-A (50ng/mL), then treated with L-Sepiapterin (1-50μM) for 20minutes. Results: L-Sepiapterin significantly inhibited VEGF-A-induced p70S6K phosphorylation. Methods: Relevant intervention experiments were performed using cell proliferation assays. Results: L-Sepiapterin inhibited VEGF-A-induced protein phosphorylation, cell proliferation and migration through an NO-independent mechanism[1].
In vivo	Methods: db/db mice were intragastrically administered L-Sepiapterin (10 mg/kg; via powdered food) once daily for 8 consecutive weeks. Results: L-Sepiapterin significantly improved the relaxation response of superior mesenteric arteries (SMA) to acetylcholine (Ach) in db/db mice[2].

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	4.2155 mL	21.0775 mL	42.155 mL
5 mM	0.8431 mL	4.2155 mL	8.431 mL
10 mM	0.4215 mL	2.1077 mL	4.2155 mL
50 mM	0.0843 mL	0.4215 mL	0.8431 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

Pannirselvam M, et al. Chronic oral supplementation with sepiapterin prevents endothelial dysfunction and oxidative stress in small mesenteric arteries from diabetic (db/db) mice. Br J Pharmacol. 2003;140(4):701-706.
Cho YR, et al. Sepiapterin inhibits cell proliferation and migration of ovarian cancer cells via down-regulation of p70S6K-dependent VEGFR-2 expression. Oncol Rep. 2011;26(4):861-867.