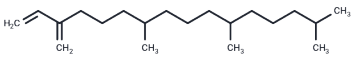
Data Sheet (Cat.No.T40586)

TargetMol

Neophytadiene

Chemical Properties



CAS No. : 504-96-1

Formula: C20H38

Molecular Weight: 278.52

Storage: Store at low temperature,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	Neophytadiene is a diterpene compound extracted from Turbinaria ornate, with anti-inflammatory, antidepressant, anxiolytic-like, anticonvulsant, antioxidant, and cardioprotective effects. It inhibits LPS-induced inflammation in RAW 264.7 macrophages and Sprague-Dawley rats and can be used in neurological disease research.
Targets(IC50)	Antioxidant
In vitro	Neophytadiene has an IC50 value of 50 μM for RAW 264.7 cells. Neophytadiene (25, 50, and 100 μM) pretreated LPS-induced RAW 264.7 cells to inhibit NO production and down-regulate the production of inducable nitric oxide synthase (iNOS). Neophytadiene (25, 50, and 100 μM) significantly reduced the production of TNF-α and NF-κB proteins in LPS-induced cells. [1]
In vivo	Neophytadiene (12, 25, and 50 mg/kg, orally administered once daily for 7 days) showed that Neophytadiene improved CKMB levels in LPS treated rats in a dose-dependent manner. Restores SOD and catalase activity and reduces levels of pro-inflammatory cytokines such as IL1β, IL6 and IL10. [1]

Solubility Information

Solubility	DMSO: 250 mg/mL (897.6 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+90% Saline: 10 mg/mL (35.9 mM),Solution. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.5904 mL	17.952 mL	35.9041 mL
5 mM	0.7181 mL	3.5904 mL	7.1808 mL
10 mM	0.359 mL	1.7952 mL	3.5904 mL
50 mM	0.0718 mL	0.359 mL	0.7181 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

Meenakshi Bhardwaj, et al. Neophytadiene from Turbinaria ornata Suppresses LPS-Induced Inflammatory Response in RAW 264.7 Macrophages and Sprague Dawley Rats. Inflammation. 2020 Jun;43(3):937-950.