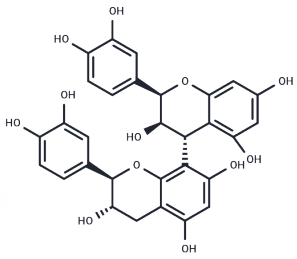
Data Sheet (Cat.No.TQ0205)

TargetMol

Procyanidin B1

Chemical Properties



CAS No. : 20315-25-7

Formula: C30H26O12

Molecular Weight: 578.52

Storage: Keep away from direct sunlight,Keep away from moisture
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	Procyanidin B1, isolated from commonly eaten fruits, binds to the TLR4/MD-2 complex and has anti-inflammatory activity.
Targets(IC50)	TLR
In vitro	Procyanidin B1 (100 μg/mL) inhibits LPS-induced TNF-α production, and expression of MD-2, TRAF6, NF-κB mRNA, phosphorylated p38 MAPK and NF-κB protein in THP1 cells [1]. Procyanidin B1 (50-100 μM) protects against Aβ oligomer-induced neuronal death. Procyanidin B1 potently inhibits the activation of caspase-3 at 100 μM, caspase-8 at concentrations of 30, 50, and 100 μM and caspase-9 at concentrations of 10, 30, 50, and 100 μM [2]. Procyanidin B1 (10, 20, 30 μM) significantly and dose-dependently induces expression of ACO and CPT1, with no obvious effect on mRNA expression of PPARα [3].
Cell Research	To investigate the cytotoxic effect of Procyanidin B1, the viability of THP1 cells is assessed using the CCK8 assay. THP1 cells are treated with Procyanidin B1 for 18 h, and 10 μL of CCK8 solution is then added to each well and the cultures are incubated for 4 h at 37°C. The optical density (OD) at 450 nm is measured using an ELx808 Absorbance Microplate Reader. The Procyanidin B1 concentration tested ranges from 50 to 200 μg/mL. Each sample is tested in triplicate [1].

Solubility Information

Solubility	DMSO: 23 mg/mL (39.76 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 2 mg/mL (3.46 mM),Sonication is recommended. *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	1.7285 mL	8.6427 mL	17.2855 mL
5 mM	0.3457 mL	1.7285 mL	3.4571 mL
10 mM	0.1729 mL	0.8643 mL	1.7285 mL
50 mM	0.0346 mL	0.1729 mL	0.3457 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

Xing J, et al. Anti-inflammatory effect of procyanidin B1 on LPS-treated THP1 cells via interaction with the TLR4-MD-2 heterodimer and p38 MAPK and NF-κB signaling. Mol Cell Biochem. 2015 Sep;407(1-2):89-95.
Kanno H, et al. Protective effects of glycycoumarin and procyanidin B1, active components of traditional Japanese medicine yokukansan, on amyloid β oligomer-induced neuronal death. J Ethnopharmacol. 2015 Jan 15;159:122-8.
Shimada T, et al. Flavangenol (pine bark extract) and its major component procyanidin B1 enhance fatty acid oxidation in fat-loaded models. Eur J Pharmacol. 2012 Feb 29;677(1-3):147-53.