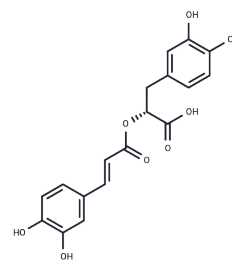


Rosmarinic acid

Chemical Properties

CAS No. :	20283-92-5
Formula:	C ₁₈ H ₁₆ O ₈
Molecular Weight:	360.31
Appearance:	no data available
Storage:	keep away from direct sunlight, keep away from moisture, store at low temperature
	Powder: -20°C for 3 years In solvent: -80°C for 1 year



Biological Description

Description	Rosmarinic acid (Labiatic acid) is widely found in plants and has antioxidant, anti-inflammatory, and antibacterial activities. It inhibits MAO-A, MAO-B, and COMT with IC ₅₀ of 50.1, 184.6, and 26.7 μ M respectively.
Targets(IC ₅₀)	Apoptosis, MAO, Endogenous Metabolite, I κ B/IKK, Monoamine Oxidase, Transferase
In vitro	Rosmarinic acid (RA) exhibits a multifunctional profile characterized by antioxidant effects, and monoamine oxidases (MAO-A and MAO-B) and catechol-O-methyl transferase (COMT) inhibition in vitro. Rosmarinic acid exhibits antioxidant effects against hydroxyl (HO \cdot) and nitric oxide (NO) radicals (IC ₅₀ of 29.4 and 140 μ M, respectively), and inhibition of lipid peroxidation (IC ₅₀ of 19.6 μ M)[1]. Rosmarinic acid (RA) exerts a significant cytoprotective effect by scavenging intracellular ROS induced by UVB. In Water ₂ -treated cells, 2.5 μ M Rosmarinic acid scavenges 60% of intracellular ROS compared to 77% of intracellular ROS scavenging effect in N-acetyl-L-cysteine (NAC)[2].
In vivo	Rosmarinic acid (RA), a prevalent phenolic ester found extensively in the Labiatae family of herbs such as Rosmarinus officinalis, Salvia miltiorrhiza, and Prunella vulgaris, effectively mitigates colonic inflammation in mice induced with dextran sulphate sodium (DSS) through the dual inhibition of NF- κ B and STAT3 pathways. Administering Rosmarinic acid (30, 60 mg/kg, p.o.) significantly reduces cytokine production in the DSS-induced colitis model.
Cell Research	Rosmarinic acid (RA) is dissolved in DMSO and stored, and then diluted with appropriate media before use[2]. Human keratinocytes (HaCaT cells) are treated with Rosmarinic acid (0.625, 1.25, 2.5, or 5 μ M) and exposed to UVB radiation 1 h later. They are then incubated at 37°C for 48 h. At this time, MTT is added to each well to obtain a total reaction volume of 200 μ L. After 4 h incubation, the supernatant is removed by aspiration. The formazan crystals in each well are dissolved in dimethyl sulfoxide (DMSO; 150 μ L), and the absorbance at 540 nm is measured on a scanning multi-well spectrophotometer[2].

Solubility Information

A DRUG SCREENING EXPERT

Solubility	H2O: 36.03 mg/mL (100 mM),Sonication is recommended. DMSO: 72.07 mg/mL (200 mM),Sonication is recommended. 5% DMSO+95% Saline: 1.5 mg/mL (4.16 mM),Solution. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.7754 mL	13.8769 mL	27.7539 mL
5 mM	0.5551 mL	2.7754 mL	5.5508 mL
10 mM	0.2775 mL	1.3877 mL	2.7754 mL
50 mM	0.0555 mL	0.2775 mL	0.5551 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.

Reference

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Structure-based identification of HNF4 α agonists: Rosmarinic acid as a promising candidate for NAFLD treatment

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