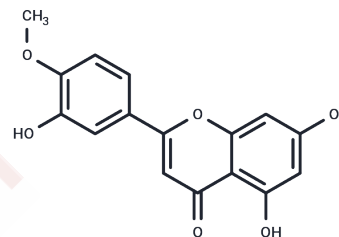


Diosmetin

Chemical Properties

CAS No. :	520-34-3
Formula:	C ₁₆ H ₁₂ O ₆
Molecular Weight:	300.26
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	Diosmetin (Luteolin 4-methyl ether) has been found to act as a weak TrkB receptor agonist.
Targets(IC50)	Cytochromes P450, Trk receptor
In vivo	After 6 h, 9 h, 12 h of the first cerulein injection, the severity of acute pancreatitis was evaluated biochemically and morphologically. Pretreatment with diosmetin significantly reduced serum levels of amylase and lipase; the histological injury; the secretion of tumor necrosis factor (TNF)- α , interleukin (IL)-1 β , and IL-6; myeloperoxidase (MPO) activity, trypsinogen activation peptide (TAP) level, the expression of inducible nitric oxide synthase (iNOS); and the nuclear factor (NF)- κ B activation in cerulein-induced AP. This study showed that administration of diosmetin demonstrated a beneficial effect on the course of cerulein-induced AP in mice. Therefore, diosmetin may become a new therapeutic agent in future clinical trials for treatment of AP.
Kinase Assay	Topoisomerase I Assay: One unit (the minimum amount for full relaxation of 0.5 μ g SV40 DNA under the conditions of this study) of topoisomerase I, 0.5 μ L of the test compounds, and 0.5 μ g SV40 DNA are added sequentially to the reaction buffer, which is composed of 25 mM Tris-HCl (pH 7.5), 50 mM KCl, 5 mM MgCl ₂ , 0.25 mM EDTA disodium salt, 0.25 mM dithiothreitol, 15 μ g /mL bovine serum albumin, and 5% glycerol. Then, the reaction mixture (50 μ L) is incubated for 10 min at 37 °C, and the reaction is terminated by treatment with 7.5 μ L of a solution consisting of 1% sodium dodecyl sulfate, 20 mM EDTA disodium salt, and 0.5 mg/mL proteinase K for an additional 30 min at 37°C. The samples are mixed with 5 μ L of the loading buffer containing 10 mM Na ₂ HPO ₄ , 31.3% sucrose, and 0.3% bromophenol blue. Relaxed (form I _r) DNA is separated from supercoiled (form I) and nicked (form II) DNA by electrophoresis on 0.8% agarose gel at 50 mA and 20 V for 17 h in the presence of 2 μ g/mL chloroquine, 10 mM EDTA, 30 mM NaH ₂ PO ₄ , and 36 Mm Tris-HCl (pH 7.8). After electrophoresis, the gel is stained with 0.05% ethidium bromide and photographed with UV light (302 nm). The amount of DNA is quantified using a densitometer.
Cell Research	Diosmetin is dissolved in DMSO which is maintained at a constant concentration in control samples (2%). HepG2 cells are maintained in a humidified atmosphere of 5% CO ₂ at 37°C, and cultured in RPMI-1640 medium supplemented with 10% (v/v) fetal bovine serum, 100 U/mL penicillin and 100 U/mL streptomycin. HepG2 cell density is adjusted to 2 \times 10 ⁴ cells/100 μ L, and the cells are seeded into 96-well plates and placed

Cell Research	in an incubator overnight (37°C in 5% CO ₂) to allow for attachment and recovery. MTT analyses are performed. Briefly, cells are pretreated with 5, 10, 15 and 20 µg/mL diosmetin for 24 h. A total of 20 µL MTT solution (5 mg/mL in PBS) solution is transferred to each well to yield a final 120 µL/well and to separate wells a total of 10 µL CCK8 (5 mg/mL in PBS) is transferred. The plates are incubated for 4 h at 37°C in 5% CO ₂ and the absorbance is recorded at wavelengths of 595 nm and 450 nm, respectively. The half maximal inhibitory concentration (IC ₅₀) of diosmetin is calculated[1].
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Solubility Information

Solubility	H ₂ O: < 1 mg/mL (insoluble or slightly soluble), DMSO: 39 mg/mL (129.89 mM),Sonication is recommended. Ethanol: < 1 mg/mL (insoluble or slightly soluble), (< 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 (6.66 mM),Sonication is recommended. <i>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.</i>

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.3304 mL	16.6522 mL	33.3045 mL
5 mM	0.6661 mL	3.3304 mL	6.6609 mL
10 mM	0.333 mL	1.6652 mL	3.3304 mL
50 mM	0.0666 mL	0.333 mL	0.6661 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

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