

Xanthohumol

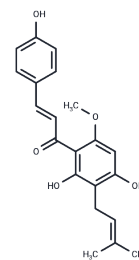
Chemical Properties

CAS No. : 6754-58-1

Formula: C₂₁H₂₂O₅

Molecular Weight: 354.40

Storage: Keep away from moisture, Keep away from direct sunlight, Store under nitrogen
 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	Xanthohumol, also known as 2', 4, 4'-trihydroxy-6'-methoxy-3'-prenylchalcone or desmethylxanthohumol, is a member of the class of compounds known as 3-prenylated chalcones. It inhibits COX-1 and COX-2 activity and shows chemopreventive effects.
Targets(IC50)	Apoptosis, Acyltransferase, HSV, COX, Influenza Virus, Virus Protease
In vitro	Xanthohumol inhibits Cyp1A activity and induces QR activity in mouse hepatoma cell culture. Xanthohumol scavenges reactive oxygen species and inhibits superoxide anion radical and nitric oxide production. In addition, Xanthohumol prevents carcinogenesis via inhibition of DNA synthesis and induction of cell cycle arrest in S phase, apoptosis, and cell differentiation. [1] Xanthohumol shows potent anti-HIV-1 activity. [2]
In vivo	In CETP-Tg mice, xanthohumol (p.o.) prevents cholesterol accumulation leading to atherosclerosis. [3] In TRAMP mice, xanthohumol (p.o.) induces a decrease in the average weight of the urogenital (UG) tract, delays advanced tumor progression and inhibits the growth of poorly differentiated prostate carcinoma. [4]
Kinase Assay	Inhibition of Cox Activity: Inhibition of Cox-1 activity is measured by monitoring oxygen consumption during the conversion of arachidonic acid to PGs using a Clark-type O ₂ -electrode. The reaction mixture contains ~ 0.2 units Cox-1 in 100 µL of microsomal fraction derived from ram seminal vesicles as a crude source of Cox-1 (specific activity 0.2-1 units/mg protein) or 0.23 units of recombinant human Cox-2 (specific activity 43 units/mg protein). For calculation, the rate of O ₂ consumption is compared with a DMSO control (100% activity). Piroxicam, a nonsteroidal anti-inflammatory drug, is used as positive inhibitory substance for Cox-1 activity with an IC ₅₀ of 0.35 ± 0.05 µM (n = 2). Alternatively, nimesulide, a Cox-2 specific inhibitor, inhibits Cox-2 activity by 52 ± 5.7% (n = 2) at a concentration of 50 µM.
Cell Research	HL-60 cells are maintained in RPMI 1640 supplemented with 10% FBS at 37°C in a 5% CO ₂ atmosphere. Log-phase cells with a population doubling time of 14-16 h are used for experiments. Serial 2-fold dilutions of compounds (dissolved in DMSO, final concentration 0.1%) in a final concentration range of 0.2-12.5 µM are prepared in 24-well plates using 1 ml of RPMI/well. Control wells obtain the same amount of solvent. Subsequently, 1 ml of the cell suspension is added to the wells. After 96 h, the experiment is evaluated. Cell numbers are counted using a Casy 1 TTC flow-cytometer. The proliferation of treated cells is expressed as a percentage in comparison with the

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Cell Research	solvent control.(Only for Reference)
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Solubility Information

Solubility	Ethanol: 35.40 mg/mL (99.89 mM),Sonication is recommended. DMSO: 150.00 mg/mL (423.25 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: 4.00 mg/mL (11.29 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	2.8217 mL	14.1084 mL	28.2167 mL
5 mM	0.5643 mL	2.8217 mL	5.6433 mL
10 mM	0.2822 mL	1.4108 mL	2.8217 mL
50 mM	0.0564 mL	0.2822 mL	0.5643 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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