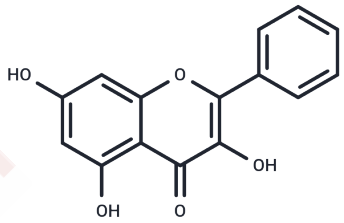
Data Sheet (Cat.No.T3668)

TargetMol

Galangin

Chemical Properties



CAS No. : 548-83-4

Formula: C15H10O5

Molecular Weight: 270.24

Appearance: no data available

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Biological Description

Description	Galangin (Norizalpinin) is an agonist/antagonist of the arylhydrocarbon receptor, and also shows inhibition of CYP1A1 activity.
Targets(IC50)	ERK,NF-κB,Autophagy,Cytochromes P450
In vitro	Through thin-layer chromatography, it has been demonstrated that Galangin impedes the catabolic decomposition of DMBA in a dose-dependent fashion and obstructs the generation of DMBA-DNA adducts, thereby averting DMBA-related suppression of cell proliferation. Additionally, Galangin robustly curtails CYP1A1 enzyme activity in a dose-responsive manner within both intact cells and DMBA-exposed cell-derived microsomes, as ascertained through ethoxyresorufin-O-deethylase activity assays. The inhibition of CYP1A1 by Galangin occurs through a noncompetitive mechanism, as evidenced by double-reciprocal plot analysis. Moreover, Galangin elevates CYP1A1 mRNA levels, suggesting potential aryl hydrocarbon receptor agonism, yet it counteracts the DMBA or TCDD-triggered upregulation of CYP1A1 mRNA and promoter-driven transcription[1]. Furthermore, Galangin administration hampers cell proliferation while propelling autophagy at 130 μM and apoptosis at 370 μM. Specifically, in HepG2 cells, Galangin induces autophagosome accumulation, enhances microtubule-associated protein light chain 3 levels, and augments the proportion of vacuolated cells, alongside a surge in p53 expression. The Galangin-induced autophagic response is mitigated by p53 inhibition in HepG2 cells, while p53 overexpression in Hep3B cells normalizes the elevated vacuole presence[2].
Cell Research	Cells (5.0×103) are seeded and treated with different concentrations of galangin for different periods of time in 96-well plates. The number of viable cells in each well is determined by adding 10 μL of 5 mg/mL MTT solution. Following the 4 hour incubation at 37°C, the cells are dissolved in a 100 μL solution containing 20% SDS and 50% dimethy formamide. The optical densities are quantified at a test wavelength of 570 nm with a reference wavelength of 630 nm using a Varioskan Flash Reader spectrophotometer.

Solubility Information

Solubility	Chloroform, Dichloromethane, Ethyl Acetate, Acetone: Soluble, DMSO: 60 mg/mL (222.02 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.7004 mL	18.5021 mL	37.0041 mL
5 mM	0.7401 mL	3.7004 mL	7.4008 mL
10 mM	0.370 mL	1.8502 mL	3.7004 mL
50 mM	0.074 mL	0.370 mL	0.7401 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

Ciolino HP, et al. The flavonoid galangin is an inhibitor of CYP1A1 activity and an agonist/antagonist of the aryl hydrocarbon receptor. Br J Cancer. 1999 Mar;79(9-10):1340-6.

Lim J, Ferruzzi M G, Hamaker B R. Dietary starch is weight reducing when distally digested in the small intestine. Carbohydrate Polymers. 2021: 118599.

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