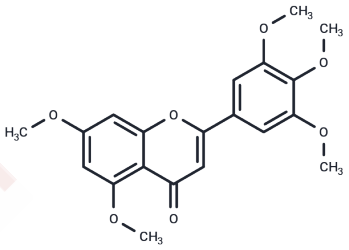
Data Sheet (Cat.No.T2A2486)

TargetMol

3',4',5',5,7-Pentamethoxyflavone

Chemical Properties



CAS No. : 53350-26-8

Formula: C20H20O7

Molecular Weight: 372.37

Storage: Store at low temperature
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	3',4',5',5,7-Pentamethoxyflavone is a naturally occurring brassinosteroid compound from the Rutaceae family that exhibits cancer cell resistance by inhibiting the Nrf2 pathway to overcome chemotherapeutically active molecules.
Targets(IC50)	Nrf2
In vitro	3',4',5',5,7-Pentamethoxyflavone (PMF), a natural flavonoid extracted from Rutaceae plants, sensitized A549/CDDP to CDDP and substantially induced apoptosis compared with that of CDDP alone treated group, and this reversal effect decreased when Nrf2 was downregulated by siRNA. Mechanistically, PMF reduced Nrf2 expression leading to a reduction of Nrf2 downstream genes, and in contrast, this effect was decreased by blocking Nrf2 with siRNA. Taken together, these results demonstrated that PMF could be used as an effective adjuvant sensitizer to increase the efficacy of chemotherapeutic drugs by downregulating Nrf2 signaling pathway.[1]
In vivo	The flavones tricin (4',5,7-trihydroxy-3',5'-dimethoxyflavone) and 3',4',5',5,7-Pentamethoxyflavone (PMF) are under development as potential colorectal cancer chemopreventive agents as they reduced adenoma development in the Apc(Min) mouse model of intestinal carcinogenesis. Plasma concentrations and area under the plasma concentration versus time curve for PMF were higher than those for tricin. A mono-O-desmethyl PMF and several isomeric mono-O-desmethyl PMF glucuronides and sulfonates were major PMF metabolites in murine plasma, liver and intestinal tissue. In murine and human liver fractions, in vitro metabolic removal of tricin was faster than that of PMF[1].

Solubility Information

Solubility	DMSO: 22.5 mg/mL (60.42 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+90% Corn Oil: 2 mg/mL (5.37 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	2.6855 mL	13.4275 mL	26.855 mL
5 mM	0.5371 mL	2.6855 mL	5.371 mL
10 mM	0.2686 mL	1.3428 mL	2.6855 mL
50 mM	0.0537 mL	0.2686 mL	0.5371 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

Hou X, et al. 3',4',5',5,7-pentamethoxyflavone sensitizes Cisplatin-resistant A549 cells to Cisplatin by inhibition of Nrf2 pathway. Mol Cells. 2015;38(5):396-401.
Cai H, et al. Pharmacokinetics in mice and metabolism in murine and human liver fractions of the putative cancer chemopreventive agents 3',4',5',5,7-pentamethoxyflavone and tricin (4',5,7-trihydroxy-3',5'-dimethoxyflavone). Cancer Chemother Pharmacol. 2011;67(2):255-263.
Cai H, et al. Determination of 3',4',5',5,7-pentamethoxyflavone in the plasma and intestinal mucosa of mice by HPLC with UV detection. Biomed Chromatogr. 2009;23(4):335-339.