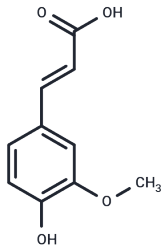
Data Sheet (Cat.No.T5679)

TargetMol

(E)-Ferulic acid

Chemical Properties



CAS No. : 537-98-4

Formula: C10H10O4

Molecular Weight: 194.18

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	(E)-Ferulic acid ((E)-Coniferic acid) causes the phosphorylation of β-catenin, resulting in proteasomal degradation of β-catenin and increases the expression of pro-apoptotic factor Bax and decreases the expression of pro-survival factor survivin.t(E)-Ferulic acid exert both anti-proliferation and anti-migration effects in the human lung cancer cell line H1299.
Targets(IC50)	Bcl-2 Family,Ferroptosis,Endogenous Metabolite,Wnt/beta-catenin
In vitro	trans-Ferulic acid exerted potent antioxidant effects. However, trans-Ferulic acid increased intracellular ROS levels, including hydrogen peroxide and superoxide anion, in H1299 cells. trans-Ferulic acid treatment inhibited cellular proliferation and induced moderate apoptotic cell death at the highest concentration used (0.6 mM). Furthermore, trans-Ferulic acid moderately inhibited the migration of H1299 cells at the concentrations of 0.3 and 0.6 mM and attenuated MMP-2 and MMP-9 activity. trans-Ferulic acid caused the phosphorylation of β-catenin, resulting in proteasomal degradation of β-catenin. Conversely, trans-Ferulic acid treatment increased the expression of pro-apoptotic factor Bax and decreased the expression of pro-survival factor survivin.
Cell Research	The 2,2-diphenyl-1-picrylhydrazyl assay was used to determine free radical scavenging capability. Assessment of intracellular reactive oxygen species (ROS) was evaluated using oxidized 2',7'-dichlorofluorescin diacetate and dihydroethidium staining. Trypan blue exclusion, colony formation, and anchorage-independent growth assays were used to determine cellular proliferation. Annexin V staining assay was used to assess cellular apoptosis by flow cytometry. Wound healing and Boyden's well assays were used to detect the migration and invasion of cells. Gelatin zymography was used to detect matrix metalloproteinase (MMP-2 and MMP-9) activity. Western blotting was used to detect expression levels of various signaling pathway proteins.

Solubility Information

Solubility	DMSO: 250 mg/mL (1287.47 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: 2 mg/mL (10.3 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	5.1499 mL	25.7493 mL	51.4986 mL
5 mM	1.030 mL	5.1499 mL	10.2997 mL
10 mM	0.515 mL	2.5749 mL	5.1499 mL
50 mM	0.103 mL	0.515 mL	1.030 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

Fong Y , Tang C C , Hu H T , et al. Inhibitory effect oftrans-ferulic acid on proliferation and migration of human lung cancer cells accompanied with increased endogenous reactive oxygen species and β-catenin instability[J]. Chinese Medicine, 2016, 11(1):45.