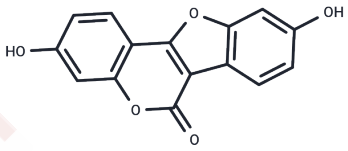
Data Sheet (Cat.No.TQ0295)

TargetMol

Coumestrol

Chemical Properties



CAS No. : 479-13-0

Formula: C15H8O5

Molecular Weight: 268.22

Storage: Keep away from moisture
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	Coumestrol that existed in soybean products suppresses the proliferation of ES2 cells (IC50: 50 μM). It exhibits activities against neurological disorders, cancers and autoimmune diseases.
Targets(IC50)	Estrogen Receptor/ERR
In vitro	Coumestrol inhibits proliferation and induces apoptosis in MCF-7 cells, which is prevented by copper chelator neocuproine and ROS scavengers. Coumestrol treatment induces ROS generation coupled to DNA fragmentation, up-regulation of p53/p21, cell cycle arrest at G1/S phase, mitochondrial membrane depolarization and caspases 9/3 activation [1]. Coumestrol inhibits viability and invasion and induces apoptosis of ES2 (clear cell-/serous carcinoma origin) cells. In addition, immunoreactive PCNA and ERBB2, markers of the proliferation of ovarian carcinoma, are attenuated in their expression in coumestrol-induced death of ES2 cells. Phosphorylation of AKT, p70S6K, ERK1/2, JNK1/2, and p90RSK is inactivated by coumestrol treatment in a dose- and time-dependent manner [2].

Solubility Information

Solubility	DMSO: 25 mg/mL (93.21 mM),Sonication is recommended. Methanol: 20 mg/mL (74.57 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+90% Saline: 2 mg/mL (7.46 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	3.7283 mL	18.6414 mL	37.2828 mL
5 mM	0.7457 mL	3.7283 mL	7.4566 mL
10 mM	0.3728 mL	1.8641 mL	3.7283 mL
50 mM	0.0746 mL	0.3728 mL	0.7457 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

Zafar A, et al. Cytotoxic activity of soy phytoestrogen coumestrol against human breast cancer MCF-7 cells: Insights into the molecular mechanism. Food Chem Toxicol. 2017 Jan;99:149-161.
Lim W, et al. Coumestrol suppresses proliferation of ES2 human epithelial ovarian cancer cells. J Endocrinol. 2016 Mar;228(3):149-60.