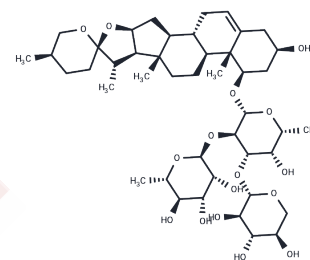


Ophiopogonin-D

Chemical Properties

CAS No. :	41753-55-3
Formula:	C44H70O16
Molecular Weight:	855.02
Storage:	Keep away from direct sunlight, Keep away from moisture Powder: -20°C for 3 years In solvent: -80°C for 1 year <i>Actual storage temperature shall be subject to the COA.</i>



Biological Description

Description	Ophiopogonin-D significantly inhibited the in vitro and in vivo growth of prostate cells via RIPK1. Ophiopogonin-D may be developed as a potential anti-prostate cancer agent.
Targets(IC50)	ROS
In vitro	Ophiopogonin D(OPD) was shown to exert potent anti-tumor activity against PC3 cells. It induced apoptosis via a RIPK1-related pathway, increased the protein expression levels of RIPK1 and Bim, and decreased the levels of cleaved-RIPK1, caspase 8, cleaved-caspase 8, Bid, caspase 10, and cleaved-caspase 10. OPD' also increased the mRNA expression of Bim. The protein expression of Bim was decreased when cells were pre-treated with necrostatin-1[1].
In vivo	Ophiopogonin D(OPD)' treatment led to significant tumor growth inhibition at a dose of 5.0 mg/kg bodyweight, beginning on Day 6 of treatment (p = 0.034). At the end of the study (Day 24), the tumor tissues were excised, photographed, and weighed. Treatment with 5.0 mg/kg bodyweight OPD' resulted in significant (p = 0.000) tumor growth inhibition by approximately 79.8% on Day 24 compared to the vehicle treatment. The 5.0 mg/kg dose led to significantly stronger tumor growth inhibition than the 2.5 mg/kg dose (p = 0.000). There was not a significant loss of body weight in any of the groups[1].
Cell Research	The CCK-8 assay was used to assess the viability of prostate cancer cells. The cell morphology was examined by an ultrastructural analysis via transmission electron microscopy. Cells in apoptosis (early and late stages) were detected using an Annexin V-FITC/propidium iodide kit with a FACSCaliber flow cytometer. JC-1, a cationic lipophilic probe, was employed to measure the mitochondrial membrane potential (MMP) of PC3 cells. Changes in the protein expression of RIPK1, C-RIPK1, caspase 8, cleaved-caspase 8, Bim, Bid, caspase 10, and cleaved-caspase 10 were evaluated by Western blotting. The mRNA expression of Bim was examined by quantitative real-time reverse transcription polymerase chain reaction. Z-VAD-FMK (a caspase inhibitor) and necrostatin-1 (a specific inhibitor of RIPK1) were utilized to determine whether the cell death was mediated by RIPK1 or caspases[1].
Animal Research	One week after tumor cell inoculation, mice bearing palpable tumors were randomly divided into control and treatment groups (8 mice/group). OPD' was dissolved in the vehicle, PEG400:Saline:Ethanol (400:300:200, v/v/v), and administered (via i.p.

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Animal Research	injection) at doses of 2.5 or 5.0 mg/kg bodyweight 5 days a week for 24 days.?The control group received vehicle only.?The mice were sacrificed by cervical dislocation on Day 24, and the tumor tissues were removed and weighed[1].
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Solubility Information

Solubility	DMSO: 30 mg/mL (35.09 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.1696 mL	5.8478 mL	11.6956 mL
5 mM	0.2339 mL	1.1696 mL	2.3391 mL
10 mM	0.117 mL	0.5848 mL	1.1696 mL
50 mM	0.0234 mL	0.117 mL	0.2339 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

Zongliang L , He W , Mingxing Z , et al. Ophiopogonin D', a Natural Product From Radix Ophiopogonis, Induces in Vitro and in Vivo RIPK1-Dependent and Caspase-Independent Apoptotic Death in Androgen-Independent Human Prostate Cancer Cells[J]. *Frontiers in Pharmacology*, 2018, 9:432-.

Ma X Y , Wen X X , Yang X J , et al. Ophiopogonin D improves osteointegration of titanium alloy implants under diabetic conditions by inhibition of ROS overproduction via Wnt/ β -catenin signaling pathway[J]. *Biochimie*, 2018.

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