Salvigenin

Cat. No.: HY-N1318

CAS No.: 19103-54-9

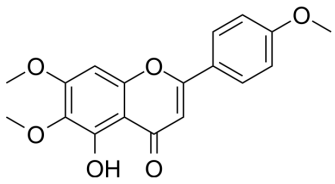
Molecular Formula: $C_{18}H_{16}O_6$

Molecular Weight: 328.32

Target: Autophagy; Apoptosis; ROS Kinase

Pathway: Autophagy; Apoptosis; Protein Tyrosine Kinase/RTK

Storage: 4°C, protect from light
* In solvent : -80°C, 6 months; -20°C, 1 month (protect from light)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 16.67 mg/mL (50.77 mM; ultrasonic and warming and heat to 60°C)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	3.0458 mL	15.2290 mL	30.4581 mL
	5 mM	0.6092 mL	3.0458 mL	6.0916 mL
	10 mM	0.3046 mL	1.5229 mL	3.0458 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
Solubility: 2 mg/mL (6.09 mM); Suspended solution; Need ultrasonic

BIOLOGICAL ACTIVITY

Description

Salvigenin is a natural polyphenolic compound, with neuroprotective effect. Salvigenin has antitumor cytotoxic and immunomodulatory properties. Salvigenin inhibits H_2O_2-induced cell apoptosis[1][2].

In Vitro

Salvigenin (0-100 μM, 3 h) protects SH-SY5Y cells against H_2O_2-induced cell death[1].
Salvigenin (0-100 μM, 2 h) significantly reduces ROS generation, increases the glutathione level, declines the extent of cell apoptosis and increases autophagy in H_2O_2-exposed SH-SY5Y cells[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Viability Assay[1]

Cell Line:	SY5Y cells exposed to H_2O_2 (300 μM)
Concentration:	10, 25, 50, and 100 μM
Incubation Time:	3 h

Result:	Protected SH-SY5Y cells (best in 25 and 50μM) against H_2O_2-induced cell death.

Apoptosis Analysis[1]

Cell Line:	SY5Y cells exposed to H_2O_2 (300 μM)
Concentration:	10, 25, 50, and 100 μM
Incubation Time:	2 h
Result:	Significantly declined the extent of cell apoptosis induced by H_2O_2.

Western Blot Analysis[1]

Cell Line:	SY5Y cells exposed to H_2O_2 (300 μM)
Concentration:	10, 25, 50, and 100 μM
Incubation Time:	2 h
Result:	Reduced cleaved caspase-3 and Bax/Bcl-2 ratio. Reduced caspase-12 and calpain levels. Reduced the level of Atg7, Atg12, and LC3-II/ LC3-I.

In Vivo

Salvigenin (0-9.68 μg/mouse/day; i.p.; 4 or 12 days) shows antitumor and immunomodulatory effects on tumor bearing mice [2].

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Animal Model:	MCF-7 cell bearing inbred female Balb/c mice, aged from six to eight weeks[2]
Dosage:	3.65, 5.85 and 9.68 μg/mouse/day for four days or 12 days
Administration:	Intraperitoneal injection
Result:	Showed a significant increase in DTH response in a dose-dependent manner. Significantly decreased the rate of tumor growth, increased lymphocyte proliferation index, increased the level of IFN-γ and decreased IL-4 production. Exhibited a significant decrease of the splenic $CD4^+CD25^+Foxp^{3+}$ T lymphocytes.

CUSTOMER VALIDATION

- J Nat Prod. 2023 Aug 25.
- European Chemical Bulletin. 2023 Mar 18,12(5), 6118–6128.

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REFERENCES

[1]. Rafatian G, et al. Increase of autophagy and attenuation of apoptosis by Salvigenin promote survival of SH-SY5Y cells following treatment with H_2O_2. Mol Cell Biochem. 2012 Dec;371(1-2):9-22.

[2]. Noori S, et al. Antitumor and immunomodulatory effects of salvigenin on tumor bearing mice. Cell Immunol. 2013 Nov-Dec;286(1-2):16-21.

Caution: Product has not been fully validated for medical applications. For research use only.

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