Wogonoside

Cat. No.: HY-N0399

CAS No.: 51059-44-0

Molecular Formula: $C_{22}H_{20}O_{11}$

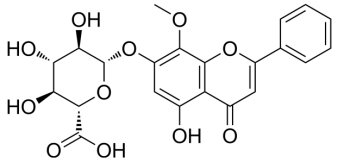
Molecular Weight: 460.39

Target: Autophagy

Pathway: Autophagy

Storage: 4°C, protect from light

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



SOLVENT & SOLUBILITY

In Vitro

DMSO : 125 mg/mL (271.51 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.1721 mL	10.8604 mL	21.7207 mL
	5 mM	0.4344 mL	2.1721 mL	4.3441 mL
	10 mM	0.2172 mL	1.0860 mL	2.1721 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: ≥ 2.08 mg/mL (4.52 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Wogonoside, a flavonoid glycoside isolated from Huangqin, possesses anti-inflammatory effects. Wogonoside induces autophagy in breast cancer cells by regulating MAPK-mTOR pathway[1][2].

In Vitro

Wogonoside (0-50 μM, 24 h) inhibits the production of inflammatory mediators (NO, PGE2), and pro-inflammatory cytokines (TNF-α and IL-6) in LPS-induced RAW264.7 cells[1].
Wogonoside (0-400 μM, 24 h) inhibits growth of MDA-MB-231 and MCF-7[2].
Wogonoside (100 μM, 9-24 h) induces autophagy in MDA-MB-231 cells[2].
Wogonoside (50-150 μM, 48-96 h) inhibits proliferation, induces G1 phase arrest, and differentiation in U937 and HL-60 cells [5].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Western Blot Analysis[2]

Cell Line:	MDA-MB-231 cells

Concentration:	100 μM
Incubation Time:	9-24 h
Result:	Increased the expression of LC3-II and Beclin-1 expression. Inhibited the phosphorylation levels of mTOR at Ser2448 and p70S6K at Ser-389.

In Vivo

Wogonoside (80 mg/kg, oral gavage, once every other day) inhibits tumor growth and metastasis in MDA-MB-231 orthotopic model[3].

Wogonoside (40 or 80 mg/kg, i.p., every three days) inhibits tumor growth and reduces Bcl-2/Bax ratio in A549 cell xenograft mice[4].

Wogonoside (80 mg/kg, i.P., every other day for 14 days) also inhibits tumor growth in U937 xenograft model[5].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	MDA-MB-231 orthotopic model[3]
Dosage:	80 mg/kg
Administration:	oral gavage, once every other day
Result:	Inhibited tumor growth (46%) and metastasis in brain, lung, liver and bone. Increased the expression of E-cadherin and reduced the expression of MMP-9, vimentin and Twist1 at orthotopic site.

REFERENCES

[1]. Yao Y, et al. Wogonoside inhibits invasion and migration through suppressing TRAF2/4 expression in breast cancer. J Exp Clin Cancer Res. 2017 Aug 3;36(1):103.

[2]. Luo M, et al. Wogonoside induces apoptosis in human non-small cell lung cancer A549 cells by promoting mitochondria dysfunction. Biomed Pharmacother. 2018 Oct;106:593-598.

[3]. Chen Y, et al. Wogonoside induces cell cycle arrest and differentiation by affecting expression and subcellular localization of PLSCR1 in AML cells. Blood. 2013 May 2;121(18):3682-91.

[4]. Yang YZ, et al. Wogonoside displays anti-inflammatory effects through modulating inflammatory mediator expression using RAW264.7 cells. J Ethnopharmacol. 2013 Jun 21;148(1):271-6.

[5]. Sun Y, et al. Wogonoside induces autophagy in MDA-MB-231 cells by regulating MAPK-mTOR pathway. Food Chem Toxicol. 2013 Jan;51:53-60.

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