Taccalonolide A

Cat. No.: HY-N2416

CAS No.: 108885-68-3

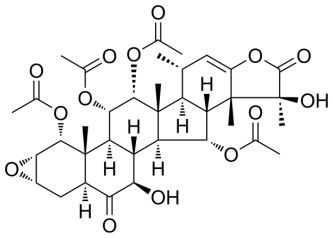
Molecular Formula: $C_{36}H_{46}O_{14}$

Molecular Weight: 702.74

Target: Microtubule/Tubulin; Apoptosis

Pathway: Cell Cycle/DNA Damage; Cytoskeleton; Apoptosis

Storage: 4°C, sealed storage, away from moisture and light
* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture and light)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (142.30 mM; Need ultrasonic)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	1.4230 mL	7.1150 mL	14.2300 mL
	5 mM	0.2846 mL	1.4230 mL	2.8460 mL
	10 mM	0.1423 mL	0.7115 mL	1.4230 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: ≥ 2.5 mg/mL (3.56 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (3.56 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (3.56 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Taccalonolide A is a microtubule stabilizer, which is a steroid isolated from Tacca chantrieri, with cytotoxic and antimalarial activities[1][2]. Taccalonolide A causes G_2-M accumulation, Bcl-2 phosphorylation and initiation of apoptosis[1]. Taccalonolide A is effective in vitro against cell lines that overexpress P-glycoprotein (Pgp) and multidrug resistance protein 7 (MRP7), with an IC_{50} of 622 nM for SK-OV-3 cells[3].

IC_{50} & Target

microtubule[1]

REFERENCES

[1]. Tinley TL, et al. Taccalonolides E and A: Plant -derived steroids with microtubule-stabilizing activity. Cancer Res. 2003 Jun 15;63(12):3211-20.

[2]. Risinger AL, et al. Taccalonolides: Novel microtubule stabilizers with clinical potential. Cancer Lett. 2010 May 1;291(1):14-9.

[3]. Risinger AL, et al. The taccalonolides: microtubule stabilizers that circumvent clinically relevant taxane resistance mechanisms. Cancer Res. 2008 Nov 1;68(21):8881-8.

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