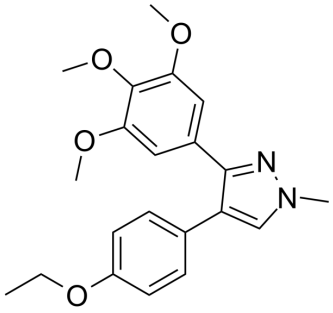
Tubulin inhibitor 1

Cat. No.:	HY-112607
CAS No.:	2237054-53-2
Molecular Formula:	$C_{21}H_{24}N_2O_4$
Molecular Weight:	368.43
Target:	Microtubule/Tubulin; Apoptosis
Pathway:	Cell Cycle/DNA Damage; Cytoskeleton; Apoptosis
Storage:	Powder -20°C 3 years 4°C 2 years In solvent -80°C 2 years -20°C 1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : ≥ 125 mg/mL (339.28 mM)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	2.7142 mL	13.5711 mL	27.1422 mL
5 mM	0.5428 mL	2.7142 mL	5.4284 mL
10 mM	0.2714 mL	1.3571 mL	2.7142 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 (5.65 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.08 mg/mL (5.65 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (5.65 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Tubulin inhibitor 1 is a tubulin inhibitor, inhibits tubulin polymerization. Tubulin inhibitor 1 shows potent anti-tumor activity, casues cellular mitotic arrest in the G2/M phase, and induces cellular apoptosis[1].

IC_{50} & Target

Tubulin[1]

In Vitro

Tubulin inhibitor 1 (Compound 7a3) is a tubulin inhibitor, inhibits tubulin polymerization[1].

Tubulin inhibitor 1 has potent anti-proliferative activity against SK-OV-3, MDA-MB-231, HeLa, A549, CT26 and MCF-7 cells, with IC_{50}s of 16.7 ± 3.0, 31.4 ± 0.7, 32.8 ± 2.9, 67.0 ± 0.8, 58.0 ± 2.4 and 35.4 ± 5.6 nM, respectively[1].
Tubulin inhibitor 1 (40, 80, and 160 nM, 48 hours) markedly causes cellular mitotic arrest in the G2/M phase, induces apoptosis in SK-OV-3 cells[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Apoptosis Analysis[1]

Cell Line:	SK-OV-3 cells
Concentration:	40, 80, and 160 nM
Incubation Time:	48 h
Result:	Induced apoptosis in SK-OV-3 cells after treatment for 48 h.

In Vivo

Tubulin inhibitor 1 (50 mg/kg, i.p., every two days three times for 20-25 days) is well tolerated, significantly reduces tumour growth in Balb/c nude mice bearing SK-OV-3 cells[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Six-week-old Balb/c nude mice (18-20 g) beraring SK-OV-3 cells[1]
Dosage:	50 mg/kg
Administration:	I.P., every two days three times for 20-25 days
Result:	Significantly reduced tumour growth in Balb/c nude mice bearing SK-OV-3 cells, without obvious body weight loss.

REFERENCES

[1]. Lai Q, et al. Design, synthesis and biological evaluation of a novel tubulin inhibitor 7a3. Eur J Med Chem. 2018 Aug 5;156:162-179.

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com
Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA