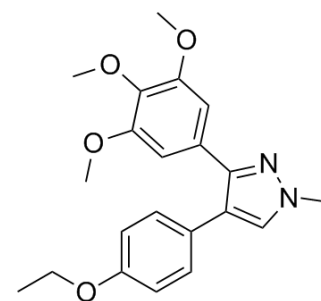


Tubulin inhibitor 1

Cat. No.:	HY-112607		
CAS No.:	2237054-53-2		
Molecular Formula:	C ₂₁ H ₂₄ N ₂ O 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	6 months
		-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : ≥ 125 mg/mL (339.28 mM)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent Concentration	Mass		
		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

- 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
- 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
- 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, causes cellular mitotic arrest in the G2/M phase, and induces cellular **apoptosis**^[1].

IC₅₀ & Target

Tubulin^[1]

In Vitro	<p>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 IC₅₀s 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].</p> <p>Apoptosis Analysis^[1]</p>	
	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	<p>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].</p>	
	Animal Model:	Six-week-old Balb/c nude mice (18-20 g) bearing 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.

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

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