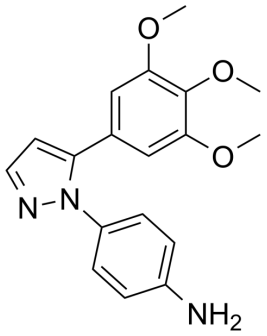
Tubulin inhibitor 32

Cat. No.:	HY-149252
CAS No.:	2923531-39-7
Molecular Formula:	$C_{18}H_{19}N_3O_3$
Molecular Weight:	325.36
Target:	Apoptosis; Microtubule/Tubulin
Pathway:	Apoptosis; Cell Cycle/DNA Damage; Cytoskeleton
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

Tubulin inhibitor 32 is a potent and orally active tubulin inhibitor. Tubulin inhibitor 32 shows anti-proliferative activity and inhibits microtubule polymerization. Tubulin inhibitor 32 induces Apoptosis and cell cycle arrest at G2/M phase. Tubulin inhibitor 32 shows anti-tumor activity[1].

In Vitro

Tubulin inhibitor 32 (compound 6y) (0-2 μM; 24 h) suppresses the formation of colonies in a dose-dependent manner in HCT-116 cells[1].

Tubulin inhibitor 32 (0-100 μM; 24 h) inhibits microtubule polymerization with an IC_{50} of 8.4 μM[1].

Tubulin inhibitor 32 (0-2 μM; 24, 48 h) induces apoptosis and cell cycle arrest at G2/M phase[1].

Tubulin inhibitor 32 shows metabolic stability with $T_{1/2}$ values of 106.2, 6.9 min in human liver microsomes and Rat liver microsomes, respectively[1].

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

Cell Proliferation Assay[1]

Cell Line:	HepG2, SW480, Hela, MDA-MB-231 cells
Concentration:	0-64 μM
Incubation Time:	48 h
Result:	Showed anti-proliferative activity with IC_{50}s of 1.54, 37.53, 24.61, 11.41 μM for HepG2, SW480, Hela, MDA-MB-231 cells, respectively.

Cell Cycle Analysis[1]

Cell Line:	HCT-116 cells
Concentration:	0, 0.5, 1, 2 μM
Incubation Time:	48 h
Result:	Caused cell cycle arrest in G2/M phase in a dose-dependent manner.

Apoptosis Analysis[1]

Cell Line:	HCT-116 cells

Concentration:	0, 0.125, 0.5, 2 μM
Incubation Time:	24 h
Result:	Induced cell apoptosis in a dose dependent manner.

In Vivo

Tubulin inhibitor 32 (50, 100 mg/kg; p.o.; daily for 20 days) shows anti-tumor activity in mice[1].

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

Animal Model:	4-6 weeks old male nude mice (HCT-116 tumor model)[1]
Dosage:	50, 100 mg/kg
Administration:	P.o.; daily for 20 days
Result:	Decreased the tumor volume and tumor weight by 44.1% and 27.0% at the dose of 50 mg/kg, respectively

REFERENCES

[1]. Li G, et al. Design, synthesis, and biological evaluation of diaryl heterocyclic derivatives targeting tubulin polymerization with potent anticancer activities. Eur J Med Chem. 2023 Apr 5;252:115284.

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