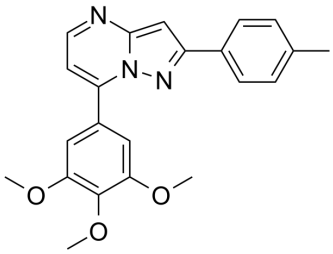
Tubulin inhibitor 24

Cat. No.:	HY-146711
CAS No.:	2415761-65-6
Molecular Formula:	$C_{22}H_{21}N_3O_3$
Molecular Weight:	375.42
Target:	Microtubule/Tubulin
Pathway:	Cell Cycle/DNA Damage; Cytoskeleton
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

Tubulin inhibitor 24 is a potent tubulin inhibitor. Tubulin inhibitor 24 inhibits tubulin polymerization. Tubulin inhibitor 24 induces cell cycle arrest at the G2/M phase in a concentration-dependent manner. Tubulin inhibitor 24 shows antitumor activity with no obvious toxicity[1].

In Vitro

Tubulin inhibitor 24 (compound 1b) () shows high antiproliferative activity with IC_{50}s of 0.021, 0.047, 0.003, 0.048 μM for Hela, MCF-7, A549, HCT-116, B16-F10 cells, respectively[1].
Tubulin inhibitor 24 inhibites tubulin polymerization with an IC_{50} value of 2.1 μM[1].
Tubulin inhibitor 24 (5, 10 nM) induces cell cycle arrest at the G2/M phase in a concentration-dependent manner[1].
Tubulin inhibitor 24 (10, 20, 40 nM; 24 h) inhibits MCF-7 cancer cells migration in a dose-dependent manner[1].
Tubulin inhibitor 24 (40 nM; 6 h) destabilizes microtubule by inhibiting tubulin polymerization and disturbing microtubule networks in B16-F10 cells[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Proliferation Assay[1]

Cell Line:	Hela, MCF-7, A549, HCT-116, B16-F10 cells
Concentration:	0.00098, 0.0039, 0.016, 0.0625, 0.25, 1.0, 4.0, 16, 64 μM
Incubation Time:	48 h
Result:	Showed high antiproliferative activity with IC_{50}s of 0.021, 0.047, 0.003, 0.048 μM for Hela, MCF-7, A549, HCT-116, B16-F10 cells, respectively.

Cell Cycle Analysis[1]

Cell Line:	MCF-7 cells
Concentration:	5, 10 nM
Incubation Time:	48 h
Result:	Cells were arrested at the G2/M phase in a concentration-dependent manner.

In Vivo

Tubulin inhibitor 24 (10, 20 mg/kg; i.p.; per day for 16 days) shows antitumor activity with no obvious toxicity[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	4-6 weeks, male C57/BL mice (B16e-10 tumor model)[1]
Dosage:	10, 20 mg/kg (formulated in 5% DMSO, 40% PEG-300 and 55% saline)
Administration:	I.p.; per day, 16 days
Result:	Showed antitumor activity with no obvious toxicity.

REFERENCES

[1]. Li G,et al. Design, synthesis, and bioevaluation of pyrazolo[1,5-a]pyrimidine derivatives as tubulin polymerization inhibitors targeting the colchicine binding site with potent anticancer activities. Eur J Med Chem. 2020; 202:112519.

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