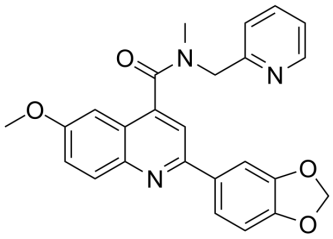
Tubulin inhibitor 13

Cat. No.:	HY-143251
Molecular Formula:	$C_{25}H_{21}N_3O_4$
Molecular Weight:	427.45
Target:	Microtubule/Tubulin; Apoptosis
Pathway:	Cell Cycle/DNA Damage; Cytoskeleton; Apoptosis
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

Tubulin inhibitor 13 (E27) is a potent tubulin inhibitor with an IC_{50} value of 16.1 μM for the tubulin polymerization inhibition. Tubulin inhibitor 13 inhibits migration and invasion of cancer cells, induces apoptosis and has anticancer activity[1].

In Vitro

Tubulin inhibitor 13 (E27) (0-100 μM, 72 h) exhibits antitumor activity with the IC_{50} values of 9.32 μM, 10.36μM and 7.81 μM against HepG2, A549 and HCT116, respectively, and shows cytotoxic effect on 293 T (human embryonic kidney cell) with an IC_{50} value of 49.30 μM[1].

Tubulin inhibitor 13 (E27) (5 or 10 μM, 24 h) causes destruction, fragmentation and disintegration of microtubules, and significantly reduces cell migration in a dose-dependent manner in A549 cells[1].

Tubulin inhibitor 13 (E27) (5 or 10 μM, 24 h) induces apoptosis in a dose-dependent manner and blocks the cell cycle in the G2/M phase in A549 cells[1].

Tubulin inhibitor 13 (E27) (5 or 10 μM, 24 h) promotes the expression of pro-apoptotic markers such as BAX, cleaved caspase-3 and cleaved caspase-9 and decreases the expression of the anti-apoptotic protein Bcl-2 in A549 cells[1].

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

Apoptosis Analysis[1]

Cell Line:	A549 cells
Concentration:	5 and 10 μM
Incubation Time:	24 hours
Result:	Induced cell apoptosis by 42.6% and 54.1% at a concentration of 5 μM and 10 μM, respectively. Showed G2/M phase cells of 31.38% and 37.10% at 5 μM and 10 μM, respectively, compared to 25.08% G2/M phase cells in the control group.

REFERENCES

[1]. Wei Liu, et al. Discovery of novel tubulin inhibitors targeting the colchicine binding site via virtual screening, structural optimization and antitumor evaluation. Bioorg Chem. 2022 Jan;118:105486.

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

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