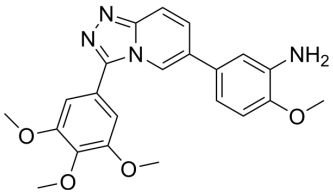
Tubulin polymerization-IN-11

Cat. No.:	HY-146817
CAS No.:	2470063-59-1
Molecular Formula:	$C_{22}H_{22}N_4O_4$
Molecular Weight:	406.43
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 polymerization-IN-11 is a potent tubulin polymerization inhibitor with an IC_{50} value of 3.4 μM. Tubulin polymerization-IN-11 shows antiproliferative activity. Tubulin polymerization-IN-11 induces Apoptosis and cell cycle arrest at G2/M phase. Tubulin polymerization-IN-11 decreases the expression of cyclin B1, p-cdc2, and Bcl-2 protein levels and increases the expression of cleaved PARP[1].

In Vitro

Tubulin polymerization-IN-11 (compound 7i) (0-100 μM; 48 h) shows antiproliferative activity with IC_{50}s of 0.012, >100, 10.40, 40.40, 27.91 μM for HeLa, HEK-293, A549, MCF-7, T47D cells, respectively[1].

Tubulin polymerization-IN-11 (12, 24, 48 nM; 24 h) induces apoptosis and cell cycle arrest at G2/M phase in a dose-dependent manner[1].

Tubulin polymerization-IN-11 (12, 24, 48 nM; 24 h) decreases the expression of cyclin B1, p-cdc2, Bcl-2 protein levels and increases the expression of cleaved PARP in a dose-dependent manner[1].

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

Cell Proliferation Assay[1]

Cell Line:	HeLa, HEK-293, A549, MCF-7, T47D cells
Concentration:	0-100 μM
Incubation Time:	48 h
Result:	Showed antiproliferative activity with IC_{50}s of 0.012, >100, 10.40, 40.40, 27.91 μM for HeLa, HEK-293, A549, MCF-7, T47D cells, respectively.

Cell Cycle Analysis[1]

Cell Line:	HeLa cells
Concentration:	12, 24, 48 nM
Incubation Time:	24 h
Result:	Induced cell cycle arrest at G2/M phase with the percentage of cells was 13.90%, 26.00%, and 92.65% at 12, 24, 48 nM, respectively.

Western Blot Analysis[1]

Cell Line:	HeLa cells
Concentration:	12, 24, 48 nM
Incubation Time:	24 h
Result:	Concentration-dependently decreased cyclin B1 and p-cdc2 protein levels.

Apoptosis Analysis[1]

Cell Line:	HeLa cells
Concentration:	12, 24, 48 nM
Incubation Time:	24 h
Result:	Induced apoptosis with the total numbers of early and late apoptotic cells were 8.44%, 26.87% and 53.3% at 12, 24, and 48 nM, respectively.

REFERENCES

[1]. Yang F, et al. Synthesis, and biological evaluation of 3,6-diaryl-[1,2,4]triazolo[4,3-a]pyridine analogues as new potent tubulin polymerization inhibitors. Eur J Med Chem. 2020 Oct 15;204:112625.

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