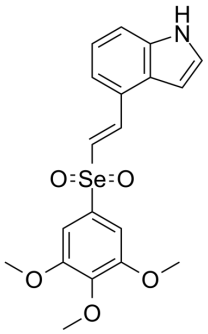
Tubulin polymerization-IN-9

Cat. No.:	HY-146718
CAS No.:	2485020-93-5
Molecular Formula:	$C_{19}H_{19}NO_5Se$
Molecular Weight:	420.32
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-9 is a potent tubulin inhibitor with IC_{50} of 1.82 μM. Tubulin polymerization-IN-9 causes cell cycle arrest at G2/M phase, and induces cell apoptosis and depolarized mitochondria of K562 cells. Tubulin polymerization-IN-9 has potent anti-vascular and antitumor activities[1].
IC_{50} & Target	IC_{50}: 1.82 μM (tubulin)[1]

In Vitro

Tubulin polymerization-IN-9 (compound 11k) (0.1, 1, 10 μM; 72 hours) has potent activity against these three cancer cell lines with IC_{50} values ranging from 0.287 to 0.621 μM[1].

Tubulin polymerization-IN-9 (0.15, 0.3 and 0.6 μM; 24 hours) induces a dose-dependent collapse of the microtubule networks[1].

Tubulin polymerization-IN-9 (0.15, 0.3 and 0.6 μM; 48 hours) observes a gradual accumulation of cells at G2/M phase in K562 cells[1].

Tubulin polymerization-IN-9 (0.15, 0.3 and 0.6 μM; 72 hours) effectively induces cell apoptosis in K562 cells in a concentration-dependent manner[1].

Tubulin polymerization-IN-9 (0.15, 0.3 and 0.6 μM; 24 hours) causes mitochondrial depolarization of K562 cells in the process of apoptosis[1].

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

Cell Proliferation Assay

Cell Line:	K562 HepG2 and HCT-8 cells[1]
Concentration:	0.1, 1, 10 μM
Incubation Time:	72 hours
Result:	Showed potent activity against these three cancer cell lines with IC_{50} values ranging from 0.287 to 0.621 μM.

Immunofluorescence

Cell Line:	K562 cells[1]
Concentration:	0.15, 0.3 and 0.6 μM

Incubation Time:	24 hours
Result:	Induced a dose-dependent collapse of the microtubule networks.

Cell Cycle Analysis

Cell Line:	K562 cells[1]
Concentration:	0.15, 0.3 and 0.6 μM
Incubation Time:	48 hours
Result:	Observed a gradual accumulation of cells at G2/M phase in K562 cells.

Apoptosis Analysis

Cell Line:	K562 cells[1]
Concentration:	0.15, 0.3 and 0.6 μM
Incubation Time:	72 hours
Result:	Effectively induced cell apoptosis in K562 cells in a concentration-dependent manner.

In Vivo

Tubulin polymerization-IN-9 (15 and 30 mg/kg; IV; once a day, for 21 days) effectively suppresses the tumor volume and reduces tumor weight by 71.1% at a dose of 30 mg/kg[1].

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

Animal Model:	Male ICR mice (5 weeks; injected with H22 cells; n=6)[1]
Dosage:	15 and 30 mg/kg
Administration:	IV; once a day, for 21 days
Result:	Effectively suppressed the tumor volume and reduced tumor weight by 71.1% at a dose of 30 mg/kg.

REFERENCES

[1]. Zhu H, Sun H, Liu Y, et al. Design, synthesis and biological evaluation of vinyl selenone derivatives as novel microtubule polymerization inhibitors. Eur J Med Chem. 2020;207:112716.

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA