Topoisomerase II inhibitor 18

Cat. No.: HY-162380

CAS No.: 2382959-65-9

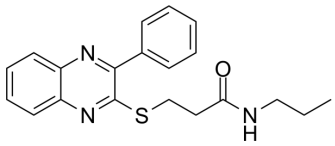
Molecular Formula: $C_{20}H_{21}N_3OS$

Molecular Weight: 351.47

Target: Topoisomerase

Pathway: Cell Cycle/DNA Damage

Storage: Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

Topoisomerase II inhibitor 18 (Compound IV) is a Quinoxaline derivative, which inhibits topoisomerase II with IC_{50} of 7.5 μM. Topoisomerase II inhibitor 18 inhibits proliferation, cell cycle at S phase and induces apoptosis in PC-3 cells. Topoisomerase II inhibitor 18 reveals antitumor activity against cancer[1].

IC_{50} & Target

Topoisomerase II
7.5 μM (IC_{50})

In Vitro

Topoisomerase II inhibitor 18 (0-100 μM) inhibits proliferations of cancer cells PC-3 and HepG2 with IC_{50}s of 2.11 and 11.03 μM, without significant cytotoxicity in normal cells Vero (IC_{50} is 23.12 μM)[1].

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

Western Blot Analysis[1]

Cell Line:	PC-3
Concentration:	0-100 μM
Incubation Time:	48 h
Result:	Increased levels of p53, cleaved caspase-3 and cleaved caspase-8. Decreased levels of Bcl-2.

Cell Proliferation Assay[1]

Cell Line:	HepG2, PC-3
Concentration:	0-100 μM
Incubation Time:	48 h
Result:	Inhibited proliferations of PC-3 and HepG2

In Vivo

Topoisomerase II inhibitor 18 (5 mg/kg, i.m. for 21 days) exhibits antitumor activity in Ehrlich solid tumor bearing albino mice, exhibits kidney protective efficacy[1].

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

Animal Model:	Ehrlich solid tumor bearing albino mice[1]
Dosage:	5 mg/kg
Administration:	i.m. for 21 days
Result:	Inhibited tumor growth.

REFERENCES

[1]. Elsakka MEG, et al., A quinoxaline-based derivative exhibited potent and selective anticancer activity with apoptosis induction in PC-3 cells through Topo II inhibition. J Biomol Struct Dyn. 2024 Mar 14:1-19.

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