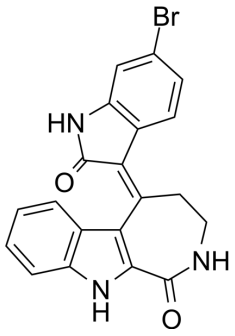
Topo I-IN-1

Cat. No.:	HY-145859
CAS No.:	2763655-68-9
Molecular Formula:	$C_{20}H_{14}BrN_3O_2$
Molecular Weight:	408.25
Target:	Topoisomerase; Apoptosis; Reactive Oxygen Species
Pathway:	Cell Cycle/DNA Damage; Apoptosis; Immunology/Inflammation; Metabolic Enzyme/Protease; NF-κB
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Topo I-IN-1 (Compound 14d) is a potent Topo I inhibitor with antitumor activity and DNA intercalative capability. Topo I-IN-1 induces cell apoptosis[1].
IC_{50} & Target	Topoisomerase I

In Vitro

Topo I-IN-1 (Compound 14d) (0-50 μM, 48 h) shows antiproliferative activity against human cancer cells and has low toxicity toward normal rat kidney epithelial cells[1].

Topo I-IN-1 (0-4 μM, 48 h) shows a dose-dependent apoptotic effect, induces ROS generation, and inhibits cell migration[1].

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

Cell Cytotoxicity Assay[1]

Cell Line:	A549, HCT116, MCF7, SK-MEL-28, and NRK (normal rat kidney epithelial cells)
Concentration:	0-50 μM
Incubation Time:	48 h
Result:	Showed in vitro cytotoxicity with IC_{50} values of 2.33 ± 1.52, 2.85 ± 0.83, 26.23 ± 2.48, 3.86 ± 0.33, and 29.99 ± 0.95 μM against A549, HCT116, MCF7, SK-MEL-28, and NRK cells, respectively.

Apoptosis Analysis[1]

Cell Line:	A549
Concentration:	2, 2.33 and 4 μM
Incubation Time:	48 h
Result:	Resulted in the morphological changes typical to apoptosis.

REFERENCES

[1]. Manasa Kadagathur, et al. Synthesis of indolo/pyrroloazepinone-oxindoles as potential cytotoxic, DNA-intercalating and Topo I inhibitors. Bioorg Chem. 2022 May;122:105706.

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