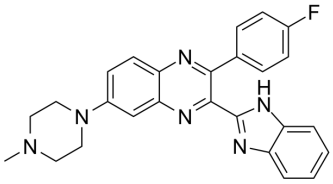
Antitumor agent-74

Cat. No.:	HY-151292
CAS No.:	2827065-28-9
Molecular Formula:	$C_{26}H_{23}FN_6$
Molecular Weight:	438.5
Target:	DNA/RNA Synthesis
Pathway:	Cell Cycle/DNA Damage
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

Antitumor agent-74 (compound 13da) is a quinoxalines derivative, an antitumor agent. Antitumor agent-74 exhibits more potent efficacy on tumor inhibition, mixed with regioisomer Antitumor agent-75 (HY-151295, compound 14 da) (mriBIQ 13da/14da). mriBIQ 13da/14da attests cell cycle at S phase, inhibits DNA synthesis, and induces mithochondrial apoptosis[1].

In Vitro

Antitumor agent-74 (compound 13da) shows lower cytotoxicity (IC_{50}s=56.7-86.3 μM) against cancer cells than mriBIQ 13da/14da (IC_{50}s=2.8-34.0 μM)[1].

mriBIQ 13da/14da shows high selectivity on A549 cells over normal embryonic lung cells (Wi38), with selectivity index of 12 (IC_{50} of Wi38/A549)[1].

mriBIQ 13da/14da (1-100 μM; 48 h) inhibtis A549 cells proliferation and decreases the rate of cell division in A549 cells[1].

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

Cell Viability Assay[1]

Cell Line:	M-HeLa, MCF-7, HuTu-80, PANC-1, A549, PC3, T98G, Wi38 cells
Concentration:	0-100 μM
Incubation Time:	48 hours
Result:	Showed low cytotoxicity and inhibited cancer cells with IC_{50}s of 58.7, 67.3, 75.6, 86.3, 65.6, 63.2, 68.7, and 56.7 μM, respectively.

Cell Proliferation Assay[1]

Cell Line:	A549
Concentration:	mriBIQ 13da/14da: 1, 5, 25, 50, 100 μM
Incubation Time:	48 hours
Result:	Decreased the rate of cell division, associated with induction of apoptosis in A549 cells.

Cell Cycle Analysis[1]

Cell Line:	A549

Concentration:	mriBIQ 13da/14da: 1, 2.5, 5 μM
Incubation Time:	12 hours
Result:	Increased the number of cells in the S-phase at 1, 2.5, and 5 μM of 49.0%, 66.3%, and 68.0%, respectively.

REFERENCES

[1]. Vakhid AM, et al. Synthesis of Morpholine-, Piperidine-, and N-Substituted Piperazine-Coupled 2-(Benzimidazol-2-yl)-3-arylquinoxalines as Novel Potent Antitumor Agents. ACS Pharmacol. Transl. Sci. 2022, XXXX, XXX, XXX-XXX.

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