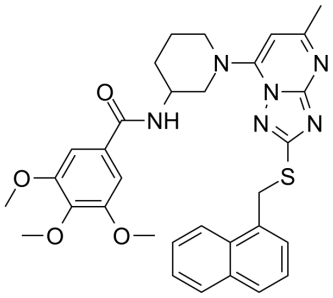
Antitumor agent-55

Cat. No.:	HY-146038
CAS No.:	2522594-49-4
Molecular Formula:	$C_{32}H_{34}N_6O_4S$
Molecular Weight:	598.72
Target:	Apoptosis; ROS; MDM-2/p53; Bcl-2 Family
Pathway:	Apoptosis; Protein Tyrosine Kinase/RTK
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

Antitumor agent-55 (compound 5q) is a potent antitumor agent. Antitumor agent-55 effectively inhibits PC3, with an IC_{50} of 0.91 μM. Antitumor agent-55 effectively inhibits the colony formation, suppresses the cell migration in PC3. Antitumor agent-55 induces G1/S phase arrest and apoptosis in PC3[1].

In Vitro

Antitumor agent-55 (compound 5q) shows inhibitory activity against MCF-7, PC3, MGC-803, PC9, and WPMY-1 (normal human prostatic stromal myofibroblast cell line), with IC_{50} values of 11.54 ± 0.18, 0.91 ± 0.31, 8.21 ± 0.50, 34.68 ± 0.67, and 48.15 ± 0.33, respectively[1].

Antitumor agent-55 (0-10 μM, 24-72 h) significantly inhibits the proliferation of PC3 cells dose- and time-dependently[1].

Antitumor agent-55 (0-4 μM, 24 h) increases the G1/S phase population, and dose-dependently elevates the expression of p27 protein[1].

Antitumor agent-55 (0-4 μM, 24-48 h) dose-dependently induces the accumulation of ROS, and induces apoptosis of PC3 cells through activating the two apoptotic signaling pathways simultaneously[1].

Antitumor agent-55 (0-1 μM, 48 h) effectively inhibits the wound healing and the migration of PC3 cells in a dose-dependent manner[1].

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

Cell Viability Assay

Cell Line:	PC3 cells[1]
Concentration:	0, 0.156, 0.313, 0.625, 1.25, 2.5, 5, 10 μM
Incubation Time:	24, 48, 72 h
Result:	Significantly inhibited the proliferation of PC3 cells dose- and time-dependently, formed fewer and smaller colonies.

Cell Cycle Analysis

Cell Line:	PC3 cells[1]
Concentration:	0, 1, 2, 4 μM
Incubation Time:	24 h
Result:	Significantly increased the G1/S phase population while decreased G2/M content at high

	concentration in PC3 cells.
Western Blot Analysis	
Cell Line:	PC3 cells[1]
Concentration:	0, 1, 2, 4 μM
Incubation Time:	24 h⊠ 48 h
Result:	Dose-dependently elevated the expression of p27 protein, markedly elevated the expression of pro-apoptotic Bax and P53 while anti-apoptotic Bcl-2 expression was down-regulated, and significantly increased the expression of cleaved caspase 3/9 and cleaved PARP in a dose-dependent manner.
Apoptosis Analysis	
Cell Line:	PC3 cells[1]
Concentration:	0, 1, 2, 4 μM
Incubation Time:	48 h
Result:	Dose-dependently led to significant increase of apoptotic population, and the apoptotic percentage was up to 70.7% at 4 μM, which was far higher than the control group (3.5%).

REFERENCES

[1]. Lu N, Huo JL, Wang S, Yuan XH, Liu HM. Drug repurposing: Discovery of troxipide analogs as potent antitumor agents. Eur J Med Chem. 2020;202:112471.

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