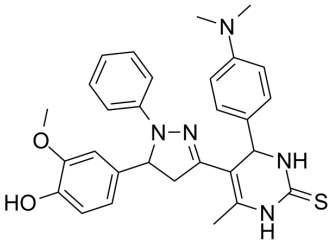
Antitumor agent-86

Cat. No.:	HY-152774
CAS No.:	2907704-65-6
Molecular Formula:	$C_{29}H_{31}N_5O_2S$
Molecular Weight:	513.65
Target:	Akt; PI3K
Pathway:	PI3K/Akt/mTOR
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

Antitumor agent-86 (compound 5a) inhibits MCF-7 breast cancer cells with an IC_{50} value of 2.62 μM. Antitumor agent-86 induces cell apoptosis and cell cycle arrest, and shows antineoplastic activity by targeting RAS/PI3K/Akt/JNK signaling cascades[1].

In Vitro

Antitumor agent-86 (0-200 μM; 48 h) dose-dependently suppresses MCF-7, MDA-MB-231, Caco-2, and PANC-1 cancer cell proliferation with IC_{50} values of 2.617, 6.778, 14.8 and 23.58 μM, respectively[1].

Antitumor agent-86 (2.62 μM; 48 h) induces cell apoptosis, cell cycle arrest and decreases the levels of p-RAS proteins, mRNA transcript level of PI3K and Akt and p-JNK protein expression of MCF-7 cells[1].

Antitumor agent-86 (2.62 μM; 48 h) up-regulates p21 gene expression level[1].

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

Cell Proliferation Assay[1]

Cell Line:	MCF-7, MDA-MB-231, Caco-2 and PANC-1 cell lines
Concentration:	0-200 μM
Incubation Time:	48 hours
Result:	Dose-dependently suppressed cell proliferation of human cancer cell lines.

Western Blot Analysis[1]

Cell Line:	MCF-7 cell line
Concentration:	2.62 μM
Incubation Time:	48 hours
Result:	Decreased levels of p-JNK and p-RAS in MCF-7 cells.

Apoptosis Analysis[1]

Cell Line:	MCF-7 cell line
Concentration:	2.62 μM

Incubation Time:	48 hours
Result:	Induced cell apoptosis with morphological changess such as cell rounding and shrinkage with decreased cell number detachment and cytoplasmic condensation.

REFERENCES

[1]. Salem MM, et al. Synthesis, molecular docking, and in-vitro studies of pyrimidine-2-thione derivatives as antineoplastic agents via potential RAS/PI3K/Akt/JNK inhibition in breast carcinoma cells. Sci Rep. 2022 Dec 22;12(1):22146.

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