Autophagy-IN-1

Cat. No.: HY-150636

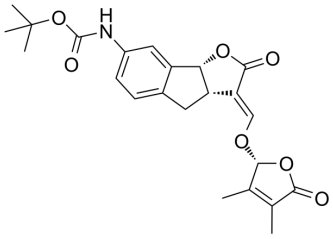
Molecular Formula: $C_{23}H_{25}NO_7$

Molecular Weight: 427.45

Target: Autophagy; Apoptosis

Pathway: Autophagy; Apoptosis

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



BIOLOGICAL ACTIVITY

Description

Autophagy-IN-1 is a potent autophagy/mitophagy inhibitor, acts by selectively increasing the autophagic flux while blocking the autophagosome-lysosome fusion in cancer cells. Autophagy-IN-1 can induce apoptosis and cell cycle arrest. Autophagy-IN-1 significantly inhibits tumor growth in an HCT116 xenograft mouse model and with low toxicity. Autophagy-IN-1 can be used for researching colorectal cancer[1].

IC_{50} & Target

Autophagy, Apoptosis[1]

In Vitro

Autophagy-IN-1 (compound 6) (1 and 5 μM; 8 h) induces apoptosis of HCT116 cells concentration-dependently[1].
Autophagy-IN-1 (0.5, 1, 5 and 10 μM; 6 h) decreases pro-PARP1, pro-caspase 8 and pro-caspase 3; increases Cleaved-PARP1, Cleaved-caspase 8 and Cleaved-caspase 3 concentration-dependently[1].
Autophagy-IN-1 increases LC3B-II, p62, and LAMP1 in HCT116 and SW620 cells, and increases number of autophagic/mitophagic vacuoles in HCT116 cells[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Apoptosis Analysis[1]

Cell Line:	HCT116 cells
Concentration:	1 and 5 μM
Incubation Time:	8 h
Result:	Induced 10.11% and 33.52% apoptosis of HCT116 cells at 1 μM and 5 μM.

Western Blot Analysis[1]

Cell Line:	HCT116 cells
Concentration:	0.5, 1, 5 and 10 μM
Incubation Time:	24 h
Result:	Decreased pro-PARP1, pro-caspase 8 and pro-caspase 3; increased Cleaved-PARP1, Cleaved-caspase 8 and Cleaved-caspase 3 concentration-dependently.

Cell Autophagy Assay[1]

Cell Line:	HCT116, SW620, and NCM460 cells
Concentration:	0.5, 1, 5 and 10 μM
Incubation Time:	0, 1, 2, 4, 9, 12 and 24 h
Result:	Led to a time- and dose-dependent increase of the levels of LC3B-II, p62, and LAMP1 in HCT116 and SW620 cells, and increased number of autophagic/mitophagic vacuoles in HCT116 cells.

In Vivo

Autophagy-IN-1 (50 and 100 mg/kg; IP, daily for 15 days) significantly inhibits tumor growth in an HCT116 xenograft mouse model[1].

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

Animal Model:	Male BALB/c nude mice[1]
Dosage:	50 and 100 mg/kg
Administration:	IP, daily for 15 days
Result:	Significantly inhibited tumor growth and did not observe weight loss.

REFERENCES

[1]. Yang ST, et al. Development of Strigolactones as Novel Autophagy/Mitophagy Inhibitors against Colorectal Cancer Cells by Blocking the Autophagosome-Lysosome Fusion. J Med Chem. 2022 Jul 19.

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