Antitubulin agent 1

Cat. No.: HY-151953

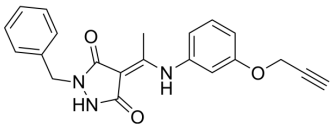
Molecular Formula: $C_{21}H_{19}N_3O_3$

Molecular Weight: 361.39

Target: Microtubule/Tubulin

Pathway: Cell Cycle/DNA Damage; Cytoskeleton

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



BIOLOGICAL ACTIVITY

Description

Antitubulin agents-1 is an antitubulin agent that induces disruption of the microtubules (Microtubule/Tubulin) and increases α-tubulin acetylation. Antitubulin agents-1 has anticancer effects[1]. Antitubulin agent 1 is a click chemistry reagent, it contains an Alkyne group and can undergo copper-catalyzed azide-alkyne cycloaddition (CuAAc) with molecules containing Azide groups.

In Vitro

Antitubulin agents-1 (compound 143) shows cytotoxic in human neuroblastoma SH-SY5Y cells with an EC_{50} of 102 nM[1].
Antitubulin agents-1 (compound 143; 1 μM; for 16 h) is able to induce a statistically significant G2/M cell cycle arrest at 1 μM.
Antitubulin agents-1 also inhibits polymerization[1].
Antitubulin agents-1 (compound 143; 0.1-1 μM; for 16 h) leads to a significant increase in tubulin acetylation[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Cycle Analysis[1]

Cell Line:	SH-SY5Y cells
Concentration:	1 μM
Incubation Time:	16 h
Result:	Induced a statistically significant G2/M cell cycle arrest at 1 μM.

Western Blot Analysis[1]

Cell Line:	SH-SY5Y cells
Concentration:	100 nM, 300 nM, 500 nM, 1000 nM
Incubation Time:	16 h
Result:	Increased the acetylated α-tubulin levels.

REFERENCES

[1]. Arash Foroutan, et al. Identification of novel aza-analogs of TN-16 as disrupters of microtubule dynamics through a multicomponent reaction. Eur J Med Chem. 2023

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