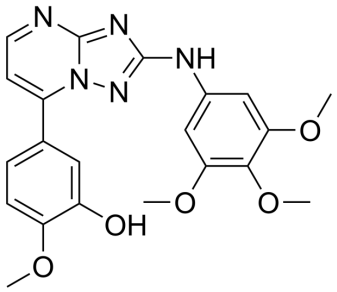
Tubulin polymerization-IN-39

Cat. No.:	HY-151982
Molecular Formula:	$C_{21}H_{21}N_5O_5$
Molecular Weight:	423.42
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

Tubulin polymerization-IN-39 is a tubulin polymerization inhibitor (IC_{50}: 4.9 μM). Tubulin polymerization-IN-39 occupies the colchicine-binding site. Tubulin polymerization-IN-39 inhibits cancer cell proliferation[1].

In Vitro

Tubulin polymerization-IN-39 (compound 4k) shows antiproliferative activity toward HeLa, HCT116, A549, and T47D, with the IC_{50} values of 0.31, 1.28, 3.99 and 10.32 μM, respectively[1].
Tubulin polymerization-IN-39 (0.15-0.6 μM, 24 h) increases percentages of HeLa cells at the G2/M phase[1].
Tubulin polymerization-IN-39 (0.15-0.6 μM, 24 h) induces HeLa cells apoptosis by increasing cleaved PARP[1].
Tubulin polymerization-IN-39 (0.2-0.8 μM, 24 h) inhibits the migration and the tube formation of HUVEC[1].
Tubulin polymerization-IN-39 (10 μM) inhibits tubulin polymerization by 78%[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Viability Assay[1]

Cell Line:	HeLa cells
Concentration:	0.15, 0.3, 0.6 μM
Incubation Time:	24 h
Result:	Increased cyclin B1 protein level and cleaved PARP. Decreased p-cdc2 (the inactive form of cdc2).

Cell Migration Assay [1]

Cell Line:	HUVEC
Concentration:	0.2, 0.4, 0.8 μM
Incubation Time:	24 h
Result:	Dose-dependently inhibited HUVEC migration. Prevented HUVEC motility and migration (wound healing assay).

REFERENCES

[1]. Chen L, et al. Rational design, synthesis and biological evaluation of novel 2-(substituted amino)-[1,2,4]triazolo[1,5-a]pyrimidines as novel tubulin polymerization inhibitors. Eur J Med Chem. 2022 Dec 15;244:114864.

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