CDK1-IN-3

Cat. No.: HY-151407

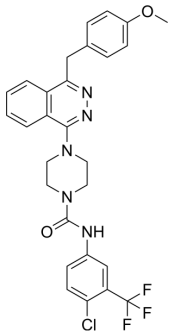
Molecular Formula: $C_{28}H_{25}ClF_3N_5O_2$

Molecular Weight: 555.98

Target: CDK

Pathway: Cell Cycle/DNA Damage

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



BIOLOGICAL ACTIVITY

Description

CDK1-IN-3 (8g) is a selective CDK1 inhibitor with IC_{50}s of 36.8, 305.17 and 369.37 nM for CDK1, CDK2 and CDK5, respectively. CDK1-IN-3 inhibits the growth of cancer cells by affecting cell cycle. CDK1-IN-3 can be used for the research of cancer[1].

IC_{50} & Target

CDK1	CDK2	CDK5
36.8 nM (IC_{50})	305.17 nM (IC_{50})	369.37 nM (IC_{50})

In Vitro

CDK1-IN-3 (0-10 μM; 24 h) inhibits the growth of PDAC, melanoma, leukemia, colon and breast cancer cells[1].

CDK1-IN-3 (0-1 μM) inhibits CDK1, CDK2 and CDK5 with IC_{50}s of 36.8, 305.17 and 369.37 nM, respectively[1].

CDK1-IN-3 (0-10 μM) inhibits AXL, PTK2B, FGFR, JAK1, IGF1R and BRAF kinases with IC_{50}s of 5655, 3632, 4626, 5265, 5514 and 2829 nM, respectively[1].

CDK1-IN-3 (0.51 μM; 24 h) decreases CDK1 protein level in virto and affects cell cycle[1].

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

Cell Proliferation Assay[1]

Cell Line:	PDAC, melanoma, leukemia, colon and breast cancer cell lines
Concentration:	0-10 μM
Incubation Time:	24 hours
Result:	Inhibited cell growth of PDAC, melanoma, leukemia, colon, and breast cancer cells over 61%, and inhibited MDA-PATC53 and PL45 cells with IC_{50}s of 0.51 and 0.74 μM, respectively.

Western Blot Analysis[1]

Cell Line:	MDA-PATC53 cell line
Concentration:	0.51 μM
Incubation Time:	24 hours
Result:	Downregulated CDK1 protein level compared to untreated cells.

Western Blot Analysis[1]

Cell Line:	MDA-PATC53 cell line
Concentration:	0.51 μM
Incubation Time:	24 hours
Result:	Significantly arrested in G2/M phase of the cell cycle compared with the untreated cells.

REFERENCES

[1]. Akl L, et al. Identification of novel piperazine-tethered phthalazines as selective CDK1 inhibitors endowed with in vitro anticancer activity toward the pancreatic cancer. Eur J Med Chem. 2022 Aug 31;243:114704.

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