DIZ-3

Cat. No.: HY-146812

CAS No.: 2675490-72-7

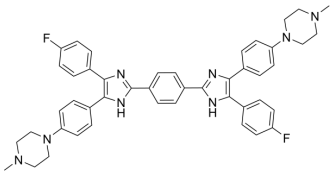
Molecular Formula: $C_{46}H_{44}F_2N_8$

Molecular Weight: 746.89

Target: G-quadruplex

Pathway: Cell Cycle/DNA Damage

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



BIOLOGICAL ACTIVITY

Description

DIZ-3 is a selective multimeric G4 ligand based on a G4-ligand-dimerizing strategy. DIZ-3 intercalates into the G4-G4 interface, stabilizing the higher-order structure. DIZ-3 induces cell cycle arrest and apoptosis, and thus inhibits cell proliferation in alternative lengthening of telomere (ALT) cancer cells[1].

In Vitro

DIZ-3 (0-40 μM; 24 hours) inhibits the proliferation in an ALT cancer cell line[1].
DIZ-3 (0.6-2.5 μM; 24 hours) induces U2OS cell cycle arrest and Apoptosis in ALT cancer cells[1].
DIZ-3 (0.12, 0.25, 0.5 μM; 7 days) causes colony formation and would healing assays carried out in U2OS cells[1].
DIZ-3 (0.12, 0.25, 0.5 μM; 24 h) significantly inhibits migration of U2OS cells[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Proliferation Assay[1]

Cell Line:	Human bone osteosarcoma U2OS cells, normal BJ fibroblasts
Concentration:	0-40 μM
Incubation Time:	24 hours
Result:	Caused a significant dose-dependent cytotoxic effect on U2OS cancer cells with an IC_{50} of 2.1 μM. Induced much weaker growth inhibition on normal BJ fibroblasts with an IC_{50} of 29.3 μM.

Apoptosis Analysis[1]

Cell Line:	U2OS cells
Concentration:	0.6, 1.2, 2.5 μM
Incubation Time:	24 hours
Result:	Induced significant apoptosis in U2OS cells (the percentage of apoptotic cells increased from 10.1% to 24.9%).

Cell Cycle Analysis[1]

Cell Line:	U2OS cells

Concentration:	0.6, 1.2, 2.5 μM
Incubation Time:	24 hours
Result:	Induced the apparent accumulation of cells in the S phase (increasing from 24.0% to 32.2%) in a dose-dependent manner.

REFERENCES

[1]. Ming-Hao Hu, et al. Dimeric aryl-substituted imidazoles may inhibit ALT cancer by targeting the multimeric G-quadruplex in telomere. Eur J Med Chem. 2020 Jan 15;186:111891.

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