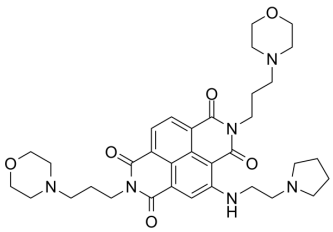
CM03

Cat. No.:	HY-121862
CAS No.:	2101208-44-8
Molecular Formula:	$C_{34}H_{44}N_6O_6$
Molecular Weight:	632.75
Target:	DNA/RNA Synthesis
Pathway:	Cell Cycle/DNA Damage
Storage:	Powder -20°C 3 years In solvent -80°C 6 months -20°C 1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 2 mg/mL (3.16 mM; ultrasonic and warming and heat to 60°C)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	1.5804 mL	7.9020 mL	15.8040 mL
	5 mM	---	---	---
	10 mM	---	---	---

Please refer to the solubility information to select the appropriate solvent.

BIOLOGICAL ACTIVITY

Description

CM03 is a potent DNA G-quadruplexes (G4s) ligand. CM03 can stabilise G4s, downregulating more G4-containing genes as well as increasing incidence of double-strand break events (DSBs) due to torsional strain on DNA and chromatin structure. CM03 has selective potency for pancreatic cancer cells[1][2].

IC_{50} & Target

DNA synthesis[1]

In Vitro

CM03 (0.4 μM; 24 or 48 h) increases the level of γ-H2AX protein when in combination with SAHA (HY-10221) in MIA PaCa-2 and PANC-1[1].

CM03 (0-100 nM; 96 h) exhibits highly anti-proliferative activity against pancreatic cancer cell lines[2].

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

Western Blot Analysis[1]

Cell Line:	MIA PaCa-2 and PANC-1
Concentration:	0.4 μM

Incubation Time:	24 h for MIA PaCa-2, 48 h for PANC-1
Result:	Significantly increased the level of γ-H2AX protein when in combination with SAHA (HY-10221) (1 μM).

Cell Proliferation Assay[2]

Cell Line:	MIA PaCa-2, PANC-1, Capan-1 and BxPC-3
Concentration:	0-100 nM
Incubation Time:	96 h
Result:	Exhibited highly anti-proliferative activity against pancreatic cancer cell lines with GI_{50}s of 9.0 nM, 15.6 nM, 26.5 nM and 15.5 nM in MIA PaCa-2, PANC-1, Capan-1 and BxPC-3, respectively.

REFERENCES

[1]. Ahmed AA, et al. A G-Quadruplex-Binding Small Molecule and the HDAC Inhibitor SAHA (Vorinostat) Act Synergistically in Gemcitabine-Sensitive and Resistant Pancreatic Cancer Cells. Molecules. 2020 Nov 19;25(22):5407.

[2]. Ahmed AA, et al. Asymmetrically Substituted Quadruplex-Binding Naphthalene Diimide Showing Potent Activity in Pancreatic Cancer Models. ACS Med Chem Lett. 2020 Jul 16;11(8):1634-1644.

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