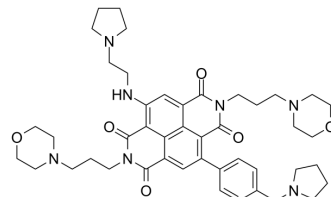


SOP1812

Cat. No.:	HY-148012		
CAS No.:	2546091-70-5		
Molecular Formula:	C ₄₅ H ₅₇ N ₇ O ₆		
Molecular Weight:	791.98		
Target:	G-quadruplex		
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 : 200 mg/mL (252.53 mM; Need ultrasonic)

Solvent	Mass	Concentration		
		1 mg	5 mg	10 mg
Preparing Stock Solutions	1 mM	1.2627 mL	6.3133 mL	12.6266 mL
	5 mM	0.2525 mL	1.2627 mL	2.5253 mL
	10 mM	0.1263 mL	0.6313 mL	1.2627 mL

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

BIOLOGICAL ACTIVITY

Description

SOP1812 (QN-302) is a naphthalene diimide (ND) derivative with anti-tumor activity. SOP1812 binds to quadruplex arrangements (G4s), and down-regulates several cancer gene pathways. SOP1812 shows great affinity to hTERT G4 and HuTel21 G4 with K_D values of 4.9 and 28.4 nM, respectively. SOP1812 can be used for the research of cancer^[1].

In Vitro

SOP1812 (0-50 nM; 96 h) inhibits the proliferation of many cancer cells^[1].
 SOP1812 (0-800 nM; 6-24 h) shows great affinity to hTERT G4 and HuTel21 G4^[1].
 SOP1812 (40 nM; 6-24 h) affects Wnt/ β -catenin, axon guidance, Hippo, MAPK and Rap1 pathways^[1].
 MCE has not independently confirmed the accuracy of these methods. They are for reference only.
 Cell Proliferation Assay^[1]

Cell Line:	MIA PaCa-2, PANC-1, Capan-1 and BxPC-3 cell lines
Concentration:	0-50 nM
Incubation Time:	96 hours
Result:	Showed anti-proliferation ability to MIA PaCa-2, PANC-1, Capan-1 and BxPC-3 cells with GI

50 values of 1.3, 1.4, 5.9 and 2.6 nM, respectively.

Cell Viability Assay^[1]

Cell Line:	PANC-1 cells
Concentration:	0, 100, 400 and 800 nM
Incubation Time:	6 and 24 hours
Result:	Binded to hTERT G4 and HuTel21 G4 with K_D values of 4.9 and 28.4 nM, respectively.

Cell Viability Assay^[1]

Cell Line:	MIA PaCa-2 Cells
Concentration:	40 nM
Incubation Time:	6 and 24 hours
Result:	Affected WNT5B, DVL1, AXIN and APC2 expression which includes in Wnt/ β -catenin pathway and also showed effects on axon guidance, Hippo, MAPK, and Rap1 pathways.

In Vivo

SOP1812 (1 mg/kg; i.v. once or twice per week for 28 days) shows anti-tumor activity in MIA PaCa-2 xenografts mice and KPC mice^[1].

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

Animal Model:	Female athymic nude mice with MIA PaCa-2 xenografts ^[1]
Dosage:	1 mg/kg
Administration:	Intravenous injection; 1 mg/kg once or twice per week; for 28 days
Result:	Showed complete tumor regression and no significant tumor regrowth after day 28 on several animals.

Animal Model:	KPC mice with PDAC symptoms ^[1]
Dosage:	1 mg/kg
Administration:	Intravenous injection; 1 mg/kg once per week; for 3 weeks
Result:	Significantly extended survival of KPC mice and showed a better effect than gemcitabine.

REFERENCES

[1]. 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.

Caution: Product has not been fully validated for medical applications. For research use only.

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