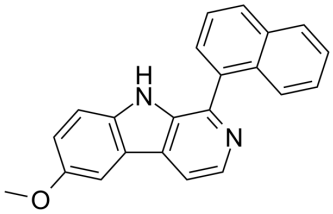
SP-141

Cat. No.:	HY-110182
CAS No.:	1253491-42-7
Molecular Formula:	$C_{22}H_{16}N_2O$
Molecular Weight:	324.38
Target:	MDM-2/p53
Pathway:	Apoptosis
Storage:	Powder -20°C 3 years 4°C 2 years In solvent -80°C 2 years -20°C 1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : 125 mg/mL (385.35 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	3.0828 mL	15.4140 mL	30.8280 mL
	5 mM	0.6166 mL	3.0828 mL	6.1656 mL
	10 mM	0.3083 mL	1.5414 mL	3.0828 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.08 mg/mL (6.41 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (6.41 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

SP-141 is a specific inhibitor of MDM2. SP-141 promotes MDM2 auto-ubiquitination and degradation. SP-141 might be used for the research of pancreatic cancer and breast cancer cells[1].

IC_{50} & Target

MDM2[1]

In Vitro

SP-141 (0.01-10 μM; 72 hours) inhibits human pancreatic cancer cell growth with IC_{50} values of less than 0.5 μM (0.38-0.50 μM) in a p53-independent manner. The IMR90 cells are much less sensitive to SP141 than the pancreatic cancer cells, suggesting that SP141 has a selective cytotoxicity for cancer cells[1].
SP141 induces MDM2 auto-ubiquitination and proteasomal degradation in both HPAC and Panc-1 cells[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Viability Assay[1]

Cell Line:	HPAC, Panc-1, AsPC-1, and Mia-Paca-2 pancreatic cancer cell lines. Human primary fibroblasts (IMR90)
Concentration:	0.01, 0.1, 1, and 10 μM
Incubation Time:	72 hours
Result:	IC_{50}s of 0.38, 0.50, 0.36, 0.41, and 13.22 μM for HPAC, Panc-1, AsPC-1, Mia-Paca-2, and IMR90, respectively.

Western Blot Analysis[1]

Cell Line:	HPAC and Panc-1 cells
Concentration:	0.5 μM
Incubation Time:	120 minutes
Result:	Reduced the MDM2 protein levels. Increased the degradation rate of the MDM2 protein in the presence of Cycloheximide (15 μg/mL).

In Vivo

SP-141 (40 mg/kg; administered by i.p. injection; 5 d/wk for about three weeks) suppresses pancreatic tumor growth in both xenograft and orthotopic mouse models[1].

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

Animal Model:	Nude mice bearing Panc-1 xenograft tumors[1]
Dosage:	40 mg/kg
Administration:	Administered by i.p. injection; 5 d/wk for about three weeks
Result:	Significantly suppressed the growth of pancreatic xenograft tumors. On Day 18, the tumor volume in the treated group was reduced by 75% compared with that in the control group. There were no significant differences in the body weight compared with the control group.

REFERENCES

[1]. Wei Wang , et al. Identification of a New Class of MDM2 Inhibitor That Inhibits Growth of Orthotopic Pancreatic Tumors in Mice. Gastroenterology. 2014 Oct;147(4):893-902.e2.

[2]. Wei Wang, et al. The Pyrido[b]indole MDM2 Inhibitor SP-141 Exerts Potent Therapeutic Effects in Breast Cancer Models. Nat Commun. 2014 Oct 1;5:5086.

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA