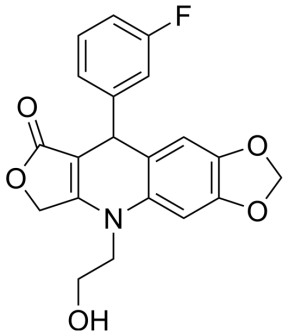
SU056

Cat. No.:	HY-150231
CAS No.:	2376580-08-2
Molecular Formula:	$C_{20}H_{16}FNO_5$
Molecular Weight:	369.34
Target:	YB-1
Pathway:	Cell Cycle/DNA Damage
Storage:	Powder -20°C 3 years 4°C 2 years In solvent -80°C 6 months -20°C 1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 50 mg/mL (135.38 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.7075 mL	13.5377 mL	27.0753 mL
	5 mM	0.5415 mL	2.7075 mL	5.4151 mL
	10 mM	0.2708 mL	1.3538 mL	2.7075 mL

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

In Vivo

1. Add each solvent one by one: 50% PEG300 >> 50% saline
   Solubility: 5 mg/mL (13.54 mM); Suspended solution; Need ultrasonic
2. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: 2.5 mg/mL (6.77 mM); Suspended solution; Need ultrasonic
3. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (6.77 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

SU056 is a YB-1 inhibitor. SU056 induces cell-cycle arrest, apoptosis, and inhibits cell migration in ovarian cancer cells. SU056 interacts with YB-1 and inhibits and its associated downstream proteins and pathways. SU056 can enhance the cytotoxic effects of Paclitaxel (HY-B0015)[1].

IC_{50} & Target

YB-1[1]

In Vitro

SU056 (0-10 μM approximately, 48 h) inhibits cell growth in OVCAR3/4/5/8, SKOV3 and ID8 cells[1]

SU056 (1 μM, 5-8 days) inhibits colony formation in a dose-dependent manner in OVCAR-8 and ID8 cells[1].
SU056 (1-5 μM, 6 h) arrests OVCAR8, SKOV3, and ID8 cells in the sub-G1 and G1 phases[1].
SU056 (0-1 μM, 12 h) inhibits cell migration in OVCAR8, SKOV3, and ID8 cells[1].
SU056 (0-5 μM, 24 h) induces apoptotic cell death in OVCAR8, SKOV3, and ID8 cells[1].
SU056 (1-5 μM, 12 h) inhibited the expression of YB-1, TMSB10, SUMO2, and PMSB2 proteins in OVCAR8 cells[1].
SU056 (0.1, 0.5, and 1 μM, 48 h) enhances the cytotoxic effects of Paclitaxel (HY-B0015) (0.1, 0.5, and 1 nM)[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Viability Assay[1]

Cell Line:	OVCAR3/4/5/8, SKOV3 and ID8 cells
Concentration:	0-10 μM approximately
Incubation Time:	48 h
Result:	Inhibited cell growth with IC_{50} values of 1.27, 6.8, 4.33, 3.18, 1.73, 3.75 μM.

Cell Migration Assay [1]

Cell Line:	OVCAR8, SKOV3, and ID8 cells
Concentration:	0, 0.5, 1 μM
Incubation Time:	12 h
Result:	Dose-dependently inhibited cell migration.

Western Blot Analysis[1]

Cell Line:	OVCAR8 cell
Concentration:	1-5 μM
Incubation Time:	12 h
Result:	Dose-dependently inhibited the YB-1, TMSB10, SUMO2, and PMSB2 proteins.

In Vivo

SU056 (20 mg/kg, i.p.) inhibits tumor growth in mice implanted with ID8 cells[1].
SU056 (10 mg/kg, i.p., daily) combined with Paclitaxel (HY-B0015) (5 mg/kg, weekly, i.p.) shows a much greater reduction in OC tumor growth in immunodeficiency mice implanted with OVCAR8 OC tumors[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	C57BL/6 mice implanted (s.c.) with luciferase-expressing ID8 cells[1]
Dosage:	20 mg/kg
Administration:	Intraperitoneal injection (i.p.)
Result:	Reduced the tumor weight by 2-fold, and is well-tolerated. Reduced the lung metastases. Inhibited YB-1 expression and downstream MDR1 (IHC assay of tumor sample).

REFERENCES

[1]. Tailor D, et al. Y box binding protein 1 inhibition as a targeted therapy for ovarian cancer. Cell Chem Biol. 2021 Aug 19;28(8):1206-1220.e6.

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

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