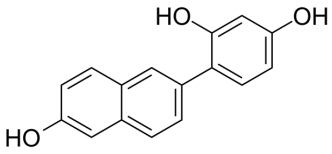
HS-1793

Cat. No.:	HY-129156
CAS No.:	927885-00-5
Molecular Formula:	$C_{16}H_{12}O_3$
Molecular Weight:	252.26
Target:	Apoptosis
Pathway:	Apoptosis

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	6 months
	-20°C	1 month



BIOLOGICAL ACTIVITY

Description

HS-1793 is a Resveratrol (HY-16561) analogue with antitumor activities in a variety of cancer cell lines[1]. HS-1793 induces cell apoptosis[2].

In Vitro

HS-1793 (0-100 μM; 24 h) suppresses proliferation of MCF-7, MDA-MB-231 and HCT116 cells[1][2].

HS-1793 (0-50 μM; 4 h) inhibits hypoxia-induced HIF-1α protein in MCF-7 and MDA-MB-231 cells unrelated to cell death, downregulates hypoxia-induced VEGF expression, and suppresses hypoxia-induced mRNA expression of VEGF at the transcriptional level[1].

HS-1793 (0-100 μM; 24 h) induces apoptosis, promotes G2/M cell cycle arrest, and inhibits Akt and ERK phosphorylation in HCT116 cells[2].

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

Cell Proliferation Assay[1]

Cell Line:	MCF-7, MDA-MB-231 and MCF-10A
Concentration:	0-100 μM
Incubation Time:	24 h
Result:	Showed antiproliferation activity with IC_{50} values of 26.3±3.2, 48.2±4.2 and >100 μM against MCF-7, MDA-MB-231 and MCF-10A, respectively.

Western Blot Analysis[1]

Cell Line:	MCF-7, MDA-MB-231
Concentration:	12.5, 25 and 50 μM
Incubation Time:	4 h
Result:	Downregulated HIF-1α expression in a concentration-dependent manner in both cell lines.

RT-PCR[1]

Cell Line:	MCF-7, MDA-MB-231
Concentration:	12.5, 25 and 50 μM
Incubation Time:	4 h
Result:	Downregulated the expression of VEGF mRNA, with the more marked results observed in MDA-MB-231 cells.

Cell Proliferation Assay[2]

Cell Line:	HCT116
Concentration:	12.5, 25, 50 and 100 μM
Incubation Time:	1, 2 and 4 days
Result:	Significantly reduced the cell viability concentration- and time-dependently. Significantly suppressed proliferation of colon cancer cell line HCT116.

Apoptosis Analysis[2]

Cell Line:	HCT116
Concentration:	12.5, 25, 50 and 100 μM
Incubation Time:	24 h
Result:	Induced cell apoptosis in a dose-dependent manner. Caused chromatin condensation and fragmentation.

Western Blot Analysis[2]

Cell Line:	HCT116
Concentration:	12.5, 25, 50 and 100 μM
Incubation Time:	24 h
Result:	Effectively induced the reduction of pro-caspase-8 and pro-caspase-3 at 100 μM. Activated caspase-8 and caspase-3. Caused the PARP cleavage. Slightly downregulated the level of antiapoptotic protein Bcl-2 at 100 μM. Promoted an increase in the release of cytochrome c from the mitochondria into the cytosol. Decreased the expression of G2/M cell cycle regulatory protein cyclin B1, Cdc2 and Cdc25C. Decreased the level of CDK4 and CDK6. Decreased Akt phosphorylation and reduced total Akt at high-concentration. Decreased the phosphorylation of ERK1/2 without affecting the protein level.

Cell Cycle Analysis[2]

Cell Line:	HCT116
Concentration:	12.5, 25 and 50 μM
Incubation Time:	24 h
Result:	Induced the accumulation of cells in the G2/M phase in a concentration-dependent manner.

In Vivo

HS-1793 (5 and 10 mg/kg; i.p.; twice a week, 4 weeks) significantly inhibits MDA-MB-231 xenograft tumor growth and in a dose-dependent manner and relatively hampers angiogenesis with non-toxicity[1].

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

Animal Model:	Five-week-old female BALB/c nude mice injected with MDA-MB-231 cells[1]
Dosage:	5 mg/kg and 10 mg/kg (dissolved in PBS containing 0.1% v/v dimethyl sulfoxide (DMSO))
Administration:	Intraperitoneal injection, twice a week, 4 weeks
Result:	Significantly inhibited MDA-MB-231 xenograft tumor growth in a dose-dependent manner with non-toxicity. Significantly lowered Ki-67 (a proliferation marker) and CD31 expression. Successfully suppressed the expression of HIF-1α and VEGF in tumor tissues.

REFERENCES

[1]. Kim DH, et al. HS-1793, a resveratrol analogue, downregulates the expression of hypoxia-induced HIF-1 and VEGF and inhibits tumor growth of human breast cancer cells in a nude mouse xenograft model. Int J Oncol. 2017 Aug;51(2):715-723.

[2]. Kim DH, et al. Resveratrol analogue, HS-1793, induces apoptotic cell death and cell cycle arrest through downregulation of AKT in human colon cancer cells. Oncol Rep. 2017 Jan;37(1):281-288.

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